

Public-Private Partnerships (PPPs) for Infrastructure Development in Developing Countries: A Case Study of Pakistan

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Table of Contents

TABLE OF CONTENTS.....	2
LIST OF FIGURES.....	6
LIST OF TABLES.....	7
ABSTRACT 9	
DECLARATION	10
COPYRIGHT STATEMENT	11
DEDICATION 12	
ACKNOWLEDGEMENTS	13
ABBREVIATIONS.....	14
CHAPTER 1 16	
INTRODUCTION.....	16
1.1 RESEARCH OVERVIEW.....	17
1.2 CONCEPTUAL FRAMEWORK OF THE STUDY:.....	20
1.3 RESEARCH PROBLEM	23
1.4 RESEARCH AIM AND OBJECTIVES	24
1.5 RESEARCH QUESTIONS.....	24
1.6 RESEARCH PROCESS	25
1.7 RESEARCH METHODOLOGY.....	28
1.8 THESIS STRUCTURE	31
CHAPTER 2 33	
LITERATURE REVIEW	33
2.1 INTRODUCTION	34
2.2 THE RISING PREVALENCE OF PPPs	34
2.3 PUBLIC PRIVATE PARTNERSHIPS: POLICY CONTEXT	36
2.3.1 NEW PUBLIC MANAGEMENT.....	36
2.4 PPPs IN DEVELOPING CONTEXT.....	41
2.5 PROJECT FINANCE AND RISK MANAGEMENT IN PPPs	43
2.6 STRUCTURE OF PPPs.....	44
2.7 MODES OF PUBLIC PRIVATE PARTNERSHIPS	46
2.8 CRITICAL FACTORS OF SUCCESS IN PPPs INFRASTRUCTURE PROJECTS.....	50
2.9 PPPs: A CRITICAL VIEW.....	59
2.10 STAKEHOLDER THEORY	60
2.11 STAKEHOLDER THEORY AND PROJECT MANAGEMENT	61
2.12 SUMMARY.....	68
CHAPTER 3 69	
RESEARCH METHODOLOGY.....	69
3.1 INTRODUCTION	70
3.2 RESEARCH AIMS AND OBJECTIVES	70
3.2.1 RESEARCH QUESTIONS.....	70
3.3 RESEARCH PROCESS	71

3.4	RESEARCH PHILOSOPHY	72
3.5	RESEARCH APPROACH AND STRATEGY.....	75
3.5.1	RESEARCH APPROACH	75
3.5.2	RESEARCH STRATEGY.....	77
3.6	RESEARCH DESIGN: CHOICE OF QUALITATIVE, QUANTITATIVE AND MIXED METHODS	79
3.6.1	QUALITATIVE RESEARCH.....	79
3.6.2	QUANTITATIVE RESEARCH	80
3.6.3	MIXED METHODS RESEARCH	81
3.6.4	SELECTION OF RESEARCH DESIGN FOR CURRENT RESEARCH	83
3.7	DATA COLLECTION AND ANALYSIS	85
3.7.1	INTERVIEWS: 1 ST PHASE OF RESEARCH.....	86
3.7.1.1	INTERVIEW SAMPLING.....	87
3.7.1.2	ADMINISTRATION OF INTERVIEWS	88
3.7.2	QUESTIONNAIRE SURVEY: 2 ND PHASE OF RESEARCH.....	90
3.7.2.1	QUESTIONNAIRE SAMPLING AND ADMINISTRATION	91
3.7.2.2	QUESTIONNAIRE DESIGN.....	94
3.7.2.3	MEASUREMENT SCALE.....	95
3.7.2.4	QUANTITATIVE DATA ANALYSIS	96
3.8	RESEARCH QUALITY AND ETHICS.....	98
3.8.1	RESEARCH QUALITY.....	98
3.8.2	RESEARCH ETHICS.....	99
3.9	SUMMARY.....	101
CHAPTER 4 102		
QUALITATIVE DATA ANALYSIS.....		102
PUBLIC-PRIVATE PARTNERSHIPS (PPPs) IN DEVELOPING COUNTRIES: A PERSPECTIVE FROM PAKISTAN ..		103
4.1	INTRODUCTION.....	103
4.2	PUBLIC-PRIVATE PARTNERSHIPS (PPPs): AN OVERVIEW	104
4.3	DIFFUSION OF PPPs IN PAKISTAN	109
4.3.1	NATURE AND PROCESS OF DIFFUSION OF PPPs IN PAKISTAN.....	109
4.3.2	ROLE OF INTERNATIONAL STAKEHOLDERS IN DIFFUSION OF PPPs.....	114
4.4	DIFFUSION OF PPPs IN DEVELOPING COUNTRIES: IMPORTANCE OF LOCAL CONTEXT.....	117
4.4.1	POLITICAL/ LEGAL CONTEXT:.....	117
4.4.2	SOCIO-ECONOMIC CONTEXT	119
4.5	EXOGENOUS/ ENDOGENOUS REASONS FOR ADOPTION OF PPPs IN PAKISTAN	121
4.6	CRITICAL SUCCESS FACTORS (CSFs) FOR PPPs IN PAKISTAN	125
4.7	SUMMARY.....	127
CHAPTER 5 132		
QUANTITATIVE DATA ANALYSIS		132
KEY DRIVERS AND CRITICAL SUCCESS FACTORS (CSFs) FOR PPPs IN PAKISTAN: STAKEHOLDERS' PERSPECTIVES		133
5.1	INTRODUCTION	133
5.2	INTERNAL RELIABILITY – CHRONBACHS' COEFFICIENT (ALPHA).....	134
5.3	KEY DRIVERS FOR ADOPTION OF PPPs.....	135
5.3.1	KEY DRIVERS FOR PPPs IN PAKISTAN.....	136
5.3.2	STAKEHOLDERS' PERSPECTIVES	137
5.4	CRITICAL SUCCESS FACTORS (CSFs) FOR PPP PROJECTS.....	138
5.4.1	MEAN RANKING SCALE AND ANALYSIS OF VARIANCE FOR CSFs	141

5.4.1.1	MEAN RANKING OF CSFs.....	141
5.4.1.2	ANALYSIS OF VARIANCE (ANOVA) FOR CSFs	141
5.5	FACTOR ANALYSIS OF CRITICAL SUCCESS FACTORS (CSFs).....	142
5.5.1	STEP 1: CORRELATION MATRIX OF 40 CSFs	143
5.5.2	STEP 2: FACTOR EXTRACTION AND ROTATION	148
5.5.3	LABELLING AND INTERPRETATION OF THE RESULTANT FACTORS.....	152
5.5.3.1	FACTOR 1 – GOVERNANCE OF PPP PROJECTS	152
5.5.3.2	FACTOR 2 – STAKEHOLDER ENGAGEMENT IN THE PLANNING PROCESS	153
5.5.3.3	FACTOR 3 - RISK AND FINANCIAL MANAGEMENT IN PPP PROJECTS	154
5.5.3.4	FACTOR 4 - ENABLING SOCIO-ECONOMIC ENVIRONMENT FOR PPP PROJECTS	155
5.5.3.5	FACTOR 5 - PROACTIVE STAKEHOLDER MANAGEMENT DURING LIFECYCLE OF PPP PROJECTS.....	156
5.5.3.6	FACTOR 6 - WELL DEVELOPED LEGAL FRAMEWORK FOR PPPs.....	156
5.5.3.7	FACTOR 7 – EFFICIENCY GAINS, TRUST AND PUBLIC ACCEPTANCE	157
5.5.3.8	FACTOR 8 - AFFORDABILITY OF SERVICES FOR END USERS	158
5.6	CRITICAL SUCCESS FACTORS (CSFs) FOR PUBLIC, PRIVATE AND OTHER STAKEHOLDER GROUPS: STAKEHOLDER PERCEPTION INDEX (SPI).....	159
5.6.1	SPI OF CRITICAL SUCCESS FACTORS FOR PUBLIC SECTOR PARTNERS IN PPP PROJECTS.....	159
5.6.2	SPI OF CRITICAL SUCCESS FACTORS FOR PRIVATE SECTOR PARTNERS IN PPP PROJECTS.....	160
5.6.3	SPI OF CRITICAL SUCCESS FACTORS FOR OTHER STAKEHOLDER GROUPS IN PPP PROJECTS.....	161
5.7	SUMMARY.....	168
CHAPTER 6 170		
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.....		170
6.1	INTRODUCTION	171
6.2	SUMMARY OF THE STUDY	172
6.2.1	CONCEPTUAL FRAMEWORK OF THE STUDY.....	172
6.2.2	REVIEW OF RESEARCH METHODOLOGY	174
6.2.3	QUALITATIVE AND QUANTITATIVE DATA COLLECTION/ ANALYSIS	175
6.2.3.1	QUALITATIVE DATA COLLECTION/ ANALYSIS.....	175
6.2.3.2	QUANTITATIVE DATA COLLECTION/ ANALYSIS.....	176
6.3	RESEARCH FINDINGS AND CONCLUSIONS	177
6.3.1	PUBLIC-PRIVATE PARTNERSHIPS (PPPs) FOR INFRASTRUCTURE GROWTH: AN OVERVIEW, DIFFUSION PROCESS AND LOCAL CONTEXTUAL FACTORS.....	177
6.3.1.1.1	PUBLIC-PRIVATE PARTNERSHIPS: AN OVERVIEW	183
6.3.1.2	PROCESS & METHOD OF DIFFUSION OF PPPs	183
6.3.1.3	ROLE OF DIFFUSION AND LOCAL CONTEXTUAL FACTORS IN IMPLEMENTATION OF PPPs IN DEVELOPING COUNTRIES.....	185
6.4	CRITICAL SUCCESS FACTORS (CSFs) FOR IMPLEMENTATION OF PPPs	186
6.5	CRITICAL SUCCESS FACTORS (CSFs) FOR PUBLIC, PRIVATE AND OTHER STAKEHOLDER GROUPS: VARIANCE IN PERCEPTIONS AND PERSPECTIVES OF DIFFERENT STAKEHOLDERS.....	188
6.5.1	CRITICAL SUCCESS FACTORS (CSFs) FOR PUBLIC SECTOR IN PPP PROJECTS.....	188
6.5.2	CRITICAL SUCCESS FACTORS (CSFs) FOR THE PRIVATE SECTOR IN PPP PROJECTS	189
6.5.3	CRITICAL SUCCESS FACTORS (CSFs) FOR OTHER STAKEHOLDERS IN PPP PROJECTS.....	190
6.6	CONTRIBUTION TO BODY OF KNOWLEDGE	197
6.7	RESEARCH LIMITATIONS	198
6.8	RECOMMENDATIONS FOR FUTURE RESEARCH.....	199

BIBLIOGRAPHY	201
APPENDICES 216	
ANNEXURE – A CONCEPTUAL FRAMEWORK DEVELOPED BY APPUHAMI ET AL (2011:435)	217
ANNEXURE – B: CONSENT FORM AND PARTICIPANT INFORMATION SHEET FOR SEMI-STRUCTURED INTERVIEWS	218
ANNEXURE – C QUESTIONNAIRE FOR QUANTITATIVE DATA COLLECTION	225

[Word Count= 70096]

List of Figures

FIGURE 1.1	CONCEPTUAL FRAMEWORK OF THE STUDY -----	22
FIGURE: 1.2	RESEARCH PROCESS -----	25
FIGURE. 2.1:	INVESTMENT COMMITMENTS TO INFRASTRUCTURE PROJECTS WITH PRIVATE PARTICIPATION IN DEVELOPING COUNTRIES, BY TYPE OF INVESTMENT, 1990–2008 -----	36
FIGURE 2.2	STRUCTURE OF PRIVATE FINANCE -----	45
FIGURE 2.3	TYPICAL CONTRACT STRUCTURE OF PFI (BOOT) PROJECT -----	46
FIGURE. 2.4	VARIETY OF AVAILABLE PPP ARRANGEMENTS -----	47
FIGURE 2.5	QUALITATIVE CLASSES OF STAKEHOLDERS -----	63
FIGURE 2.6	STAKEHOLDER TYPOLOGY -----	63
FIGURE 2.7	STAKEHOLDERS MAPPING FOR POWER-PREDICTABILITY AND POWER-INTEREST -----	65
FIGURE. 2.8	STAKEHOLDER IMPACT ANALYSIS -----	67
FIGURE 3.1	RESEARCH PROCESS -----	71
FIGURE 3.2	WHEEL OF SCIENCE -----	75
FIGURE 5.1	SCREE PLOT -----	150

List of Tables

TABLE 1.1	RESEARCH MAP	31
TABLE 2.1	PRIVATE PARTICIPATION IN INFRASTRUCTURE INVESTMENT: REGIONAL ANALYSIS (1990-2004)	35
TABLE 2.2	KEY ELEMENTS OF VARIOUS PPP MODELS	48
TABLE 2.3	TYPES OF PPP MODELS IN CHINA.....	49
TABLE 2.4	SUMMARY OF THE STUDIES ON CRITICAL SUCCESS FACTORS (CSFS).....	52
TABLE 2.5	NATURE OF STAKEHOLDERS & STRATEGIC CHOICES	64
TABLE 3.1	COMPARISON OF RESEARCH PARADIGMS	73
TABLE 3.2	DIFFERENCES IN INDUCTIVE AND DEDUCTIVE APPROACHES TO RESEARCH	76
TABLE 3.3	CRITERIA FOR SELECTION OF RESEARCH STRATEGY	78
TABLE 3.4	STRENGTHS AND WEAKNESSES OF QUALITATIVE RESEARCH	80
TABLE 3.5	STRENGTHS & WEAKNESSES OF QUANTITATIVE RESEARCH.....	81
TABLE 3.6	KEY FEATURES OF MIXED METHODS RESEARCH	82
TABLE 3.7	RESEARCH MAP	85
TABLE 3.8	ADVANTAGES AND DISADVANTAGES OF INTERVIEWS	87
TABLE 3.9	SAMPLE FOR SEMI-STRUCTURED INTERVIEWS	89
TABLE 3.10	ADVANTAGES & DISADVANTAGES OF QUESTIONNAIRES	91
TABLE 3.11	RESPONDENTS' PERSONAL INFORMATION	93
TABLE 3.12	LIKERT MEASUREMENT SCALE	95
TABLE 4.1	INTERVIEW THEMES AND RATIONALE	103
TABLE 4.2	KEY DRIVERS FOR ADOPTION OF PPPS IN PAKISTAN.....	124
TABLE 4.3	CRITICAL SUCCESS FACTORS (CSFS) FOR PPPS IN PAKISTAN	126
TABLE 4.4	SUMMARY/ FINDINGS OF THEMATIC ANALYSIS OF QUALITATIVE DATA	128
TABLE 5.1	QUESTIONNAIRE STRUCTURE	133
TABLE 5.2	DATA RELIABILITY TEST (ALPHA)	134
TABLE 5.3	KEY DRIVERS FOR ADOPTION OF PPPS; STAKEHOLDERS' PERSPECTIVES	135
TABLE 5.4	CSFS FOR PPPS IN DEVELOPING COUNTRIES	139
TABLE 5.5	CORRELATION MATRIX OF 40 CSFS FOR PPPS	144
TABLE 5.6	ANTI-IMAGE CORRELATION MATRIX OF 40 CSFS FOR PPPS	145
TABLE 5.7	CORRELATION MATRIX OF 35 CSFS FOR PPPS	146
TABLE 5.8	ANTI-IMAGE CORRELATION MATRIX OF 35 CSFS FOR PPPS	147
TABLE 5.9	INITIAL AND ROTATED FACTOR MATRIX OF 35 CSFS FOR PPPS	149
TABLE 5.10	ROTATED FACTOR MATRIX (LOADING) OF CSFS FOR PPPS.....	151

TABLE 5.11	SPI OF CRITICAL SUCCESS FACTORS FOR PUBLIC SECTOR PARTNERS IN PPP PROJECTS	162
TABLE 5.12	SPI OF CRITICAL SUCCESS FACTORS FOR PRIVATE SECTOR PARTNERS IN PPP PROJECTS	164
TABLE 5.13	SPI FOR CRITICAL SUCCESS FACTORS RELATING TO OTHER STAKEHOLDER GROUPS	166
TABLE 6.1	PPPS IN DEVELOPING COUNTRIES: DIFFUSION PROCESS & LOCAL CONTEXT	178
TABLE 6.2	RESULTS OF FACTOR ANALYSIS FOR CRITICAL SUCCESS FACTORS	187
TABLE 6.3	STAKEHOLDER PERCEPTION INDEX (SPI) OF CRITICAL SUCCESS FACTORS FOR PPP PROJECTS IN DEVELOPING COUNTRIES	192

Abstract

During last quarter of the 20th century, public-private partnerships (PPPs) have emerged as a significant tool for infrastructure growth in developed countries under the aegis of the reforms agenda associated with policy framework of the new public management (NPM) aiming at improved efficiency, effectiveness and economic gains. Such partnerships are considered as a policy innovation in the case of the developed countries which has also been adopted in the case of the developing countries through a process of policy diffusion. This diffusion process is often perceived to be coercive in nature and is facilitated by international financial institutions (IFIs) / donor agencies which act as policy transfer agents for the developed countries. Despite such policy reforms and the growing need for social and economic infrastructure, PPPs have found limited applicability in the developing countries owing to their complex nature, inability to conform to local contexts and difficulties in satisfying divergent interests of stakeholders.

In this context, current research is aiming at analysing the nature and process of diffusion of PPPs, local contextual factors and key drivers for adoption of PPPs in developing countries. Besides, critical success factors (CSFs) for PPPs in developing countries and stakeholder perceptions thereof are also being examined for implementation of PPP projects. For this purpose, a mixed research methodology was used to undertake a case study of PPPs in Pakistan employing semi-structured interviews and questionnaire survey for collecting qualitative and quantitative data. The thematic analysis of qualitative data tends to agree with the findings of the literature review that PPPs are a policy innovation of the developed countries which occurred under the influence of the NPM agenda and IFIs/ donors have a role to play in the diffusion of such reforms agenda into developing countries. But research findings suggest that endogenous factors (associated with local context) have more significance than exogenous factors (reflecting the role of IFIs/ donors and nature of diffusion process) towards influencing the policy adoption of PPPs in developing countries.

Further, eight principal factors comprising of related CSFs have also been derived through quantitative data analysis reflecting the perceptions of all stakeholder groups involved in PPP projects. These factors included governance of PPP projects, the stakeholder engagement during the planning process, risk and financial management, enabling socio-economic environment, proactive stakeholder management during lifecycle of the PPP project, well developed legal framework, efficiency gains – trust and public acceptance, and affordability of service for the end users. A perception analysis for different stakeholder groups reveals that there is not much difference in perception of participants towards the level of significance of these CSFs from the perspective of a single stakeholder group, but for different stakeholder groups, the perception of stakeholders does vary. As the CSFs have been ranked differently for different stakeholder groups, a cumulative stakeholder perception index (SPI) has also been developed for a comparative review of significance of each CSF for different stakeholder groups

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Dedication

TO MY FAMILY, FRIENDS AND LOVED ONES

Who

WERE ALWAYS THERE WHENEVER I NEEDED

THEM THE MOST

And

ENCOURAGED ME THROUGHOUT THIS PROCESS

To Whom

I OWE A LOT OF GRATITUDE

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

IN THE NAME OF ALLAH, THE MOST GRACIOUS, THE MOST MERCIFUL

At this moment when I am finishing my PhD degree, I feel humbled and am thankful to GOD for His blessings which made it possible for me to reach this far and I have no doubt in my mind that His affection and graciousness is the prime reason for my success.

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Abbreviations

ANOVA	Analysis of variance
BOO	Build-Own-Operate
BOT	Build-Operate-Transfer
BOOT	Build-Own-Operate-Transfer
CEO	Chief Executive Officer
CSF	Critical Success Factor
DB	Design-Build
DBB	Design-Bid-Build
DBFO	Design-Build-Finance-Operate
DCMF	Design-Construct-Manage-Finance
GDP	Gross Domestic Product
IFIs	International Financial Institutions
IMF	International Monetary Fund
IPP	Independent Power Producers
IR	Interview Respondent
JV	Joint Venture
KMO	Kaiser-Meyer-Olkin Measure of Sampling Adequacy
LAC	Latin America and Caribbean Region
MTM	Market Type Mechanisms
NPM	New Public Management
ODA	Overseas Development Assistance
OECD	Organization for Economic Cooperation and Development
O&M	Operations and Management
PCA	Principal Component Analysis
PEPCO	Pakistan Electric Power Company

PPIAF	Public-Private Infrastructure Advisory Facility
PSC	Public Sector Comparator
SPI	Stakeholder Perception Index
SPSS	Statistical Package for Social Sciences
SPV	Special Project Vehicle
UNO	United Nations Organization
VFM	Value for Money
WB	World Bank

CHAPTER 1

INTRODUCTION

1.1 Research Overview

Provision of public infrastructure and services has traditionally been considered to be the domain of the public sector alone. However, participation of the private sector in provision of infrastructure in collaboration with the public sector can be traced back to the 17th century in developed countries like France and the UK (Merna and Njiru 2002). In the twentieth century, the USA adopted these partnerships for its education, utilities, urban renewal and social service sectors followed by a substantial increase in the adoption of these partnerships between public and private sectors during the last quarter of the 20th century in the wake of changing socio- economic and political environment, globalization and budgetary constraints faced by the public sector (Yescombe 2007; Siemietycki 2010; Akintoye 2009). These partnerships, generally referred to as public-private partnerships (PPPs) are described as 'a long term contractual arrangement for delivery of public services where there is a significant degree of risk sharing between public and private sectors' (Yong 2010:8). Such partnerships can take different forms and approaches ranging from BOO/ BOT arrangements, joint ventures to leasing and management contracts (Grimsey and Lewis 2004).

The underlying reason for this substantial growth in use of PPPs for public infrastructure projects is the reforms agenda carried out under the conceptual framework of new public management (NPM). Under the umbrella of NPM, the traditional role of the state and public sector organizations has changed with emphasis upon market like mechanisms for bridging the public sector deficits and introducing the concepts of performance based systems of the private sector into the public sector for enhancing its efficiency (Joyner 2007; Homburg et al 2007; Mc Laughlin et al 2002). The PPP philosophy is closely associated with the NPM drive as it also aims at increased involvement of the private sector, enhancing efficiency and value for money while seeking to produce efficient policy outcomes and products (Klijn et al 2007; Ferlie et al 1996). PPP policy reforms under the NPM enables the governments to procure public infrastructure at lower cost through utilization of private sector expertise, innovation and effectiveness besides shifting of the associated risks to the private sector (Froud 2003).

Despite growing use of PPPs across the world, the reasons for adoption of these arrangements are different for developed and developing countries. Developed countries are adopting these partnerships to deliver better services for their economic efficiency

and the developing countries usually consider PPPs as an alternative financing solution for their growing infrastructure needs (Akintoye 2009). The developing countries usually need to invest 40% - 60% of their public investment upon infrastructure procurement on an annual basis (Merna and Njiru 2002) but still they face huge challenges in coping with their demand for infrastructure for overall development. As in the case of Pakistan, the existing demand for infrastructure is estimated to be around US \$ 110 billion during the next five years with an annual allocation not exceeding US \$ 5 billion each year (IPDF 2009).

Despite the varying reasons and levels of investment requirements towards their respective infrastructure growth, it is generally agreed that PPPs are in practice in developed as well as developing countries. Though the early spread of the PPP policy originated from the industrialized countries in its early years (especially in USA) and grew rapidly in the 1990s (like in case of the UK, Italy, Ireland, Japan, Netherlands etc) (Appuhami et al 2011), yet diffusion of PPP policy in developing countries has also been significant during the last two decades (PPIAF 2008). This diffusion of PPPs in developing countries is often induced through international financial institutions (IFIs) like World Bank, International Monetary Fund (IMF) and donor countries as a tool for promoting market liberalization, privatization and redefining the roles of the state itself (Jamali 2004).

In this backdrop, the study of PPPs for infrastructure procurement as a viable option for developing countries is a significant area of study. Earlier research in the case of developing countries has shown that PPPs have mostly been able to deliver positive results in terms of their contribution to fiscal stabilization and improved efficiency gains from a more competitive environment, yet on certain counts (like increase in investment levels, contribution to growth, better access and affordability and improved governance), the results have either been mixed or less favorable (Estache 2005). This might be attributed to certain impeding factors which are usually faced by the developing countries towards successful implementation of PPPs. These include lack of political acceptability, policy on PPPs and legal/ regulatory/ institutional frameworks, weak capacity of the public sector, high cost and risk for the private sector, lack of private sector players, non availability of long term debts, the size of economy and affordability of such services by the end users (Yong 2010: 55-56). Such local

contextual factors can influence the outcome of the PPPs as well as the policy diffusion and adoption process in the developing countries.

Study of critical success factors (CSF) in PPP projects helps in investigating the factors which influence the success of PPP projects. The term CSF was first used by a research team at MIT's Sloan School of Management and can be described as limited number of areas for any business which must receive continuous and careful attention of the management and in which satisfactory results shall ensure successful competitive performance for the organization (Rockart 1979). In PPP research, many authors have investigated various construction projects in developed countries to draw a list of CSFs which must be given due attention for achieving success for the PPP projects (Li et al 2005; Dixon et al 2005; Yuan et al 2010; Cheung et al 2010). However, criticality of these success factors is not universal i.e. each type of project stakeholders has its own value assigned to different CSFs. A study based upon the CSFs outlined by various researchers showed that each of the four groups of stakeholders (including academia, private sector, public sector and general public) opted for the top five objectives from amongst the CSFs and only one commonality in objectives was found i.e. acceptable quality of the projects. The stakeholders stressed the quality, time and cost of PPP projects with high expectations on public service (Yuan et al 2009).

The PPPs involve a complex web of contractual relationships between multiple stakeholders with often competing goals and priorities, yet stakeholder management has not been significantly integrated into the PPP research. Sufficient literature is available regarding the application of stakeholder theory in project management but most of the studies are limited to stand alone projects with little attention being paid towards assessing the value of stakeholder management in the context of PPPs. Poor involvement of stakeholders and inability of the public sector to manage its private sector partners having their unique strategic agenda in PPPs is often criticized in the literature (Greve and Hodge 2010). Therefore, stakeholder theory can contribute towards better management of long term contractual partnerships between public and private sectors while providing a framework for management of other stakeholders.

Therefore, it can be argued that success of PPPs in delivering infrastructure projects has been mixed in nature and further research is required to create a list of critical success factors which can influence the success of PPP projects in developing countries. Further, management of stakeholders in PPP projects in developing countries also needs

to be integrated into the study of CSFs for improving the effectiveness of such partnerships. Although, CSF for PPP projects and stakeholder management in the context of successful project management have been well researched areas of interest, yet it is an established fact that majority of these studies were carried out in the context of a few developed countries and their findings may not necessarily be generalized in terms of developing countries. A study conducted by Ke et al (2009) to investigate the research trends of PPP in construction journals, has highlighted this research limitation as 79% of the research papers published in 07 selected leading journals originated from the UK, USA, Singapore, Hong Kong, Australia, Germany and China alone and the perspective of the developing countries was not considered in these publications. Therefore, the spread of PPPs in developed and developing countries under the reforms agenda associated with NPM especially needs to be studied with specific focus upon the experience of developing countries.

1.2 Conceptual Framework of the Study:

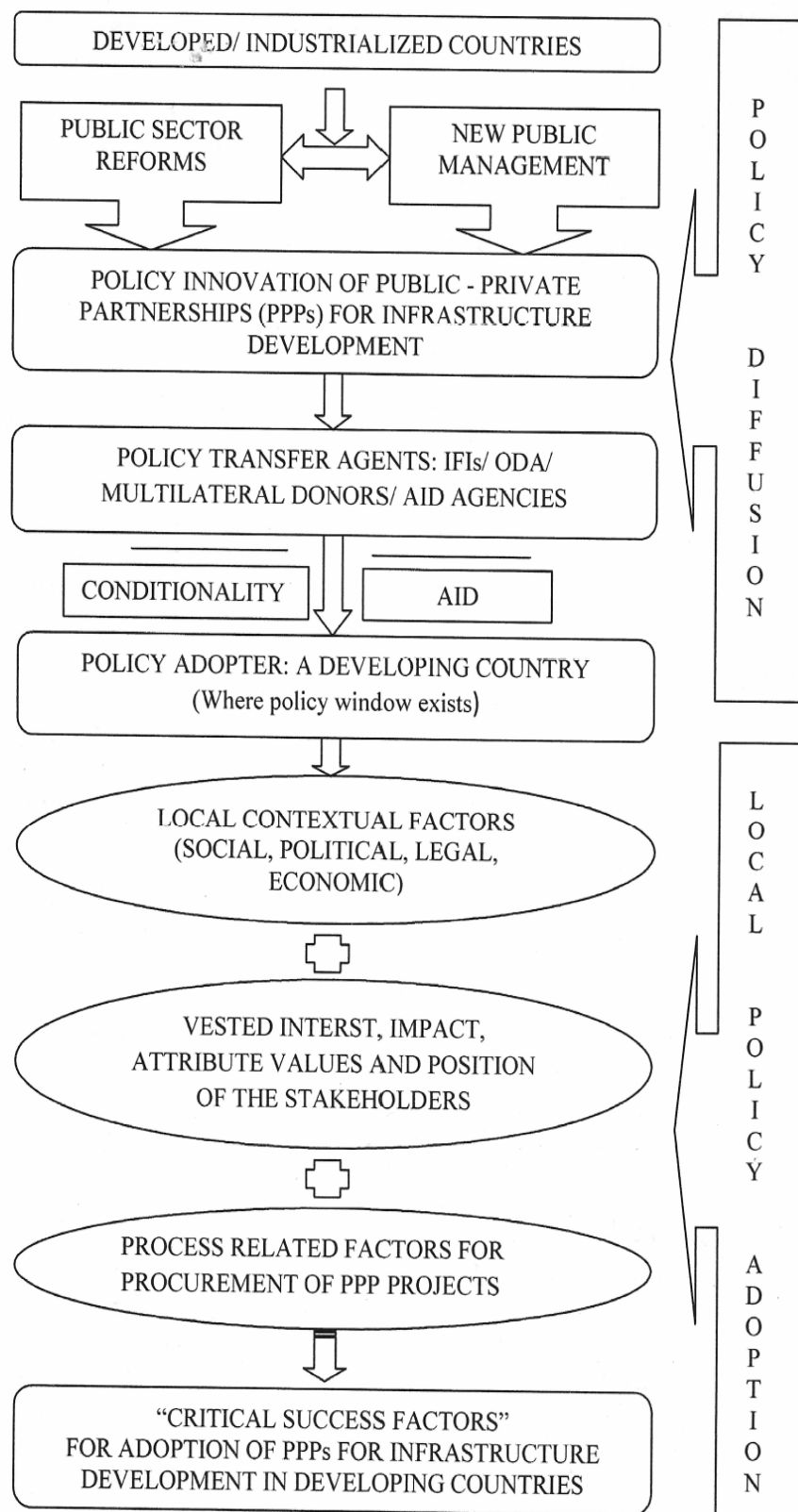
The review of literature suggests that PPPs have gained prominence in the developed/ industrialized countries and these have been adopted in the developed world towards the last quarter of the 20th century under the influence of NPM reforms. These reforms were later on adopted by the developing countries as well under policy diffusion from the developed countries. Results of the studies in the case of developing countries depict a skeptical view of the success of these reforms. In order to analyze the applicability of PPPs in developing countries, it is necessary to understand policy diffusion and local policy adoption processes which in turn affect the outcome of PPPs in the local country context. For the current study, a case study of PPPs for infrastructure development in Pakistan is being undertaken under the broad framework of diffusion theory.

Diffusion can be defined as “*a process in which innovation is communicated through certain channels over time among the members of a social system*” (Rogers 2003:5). An innovation in the policy occurs when a government adopts a new policy under influence of indigenous factors, whereas the policy diffusion occurs when the impetus for policy innovation lies in some exogenous factors resulting in the spread of innovations from one government to the other through learning, economic competition, imitation and coercion (Shipan and Volden 2008). According to Simmons and Elkins (2004), the policy diffusion is described as a process wherein the policy choices of one country are tied with decisions of another country. For the developing countries, policy diffusion is

often characterized by coercion (Holden 2009; Marsh and Sharman 2009) by government, international organizations etc through exploitation of economic factors, information or expertise. Coercive policy diffusion involves change in incentives for the recipient nations or linking these incentives with conditionality for political/ economic reforms in the intended countries (Dobbin et al 2007). Out of the three identified policy transfer approaches (i.e. voluntary transfer, negotiated transfer and direct coercive transfer), the latter two forms of coercive diffusion are common in the case of developing countries whereas voluntary transfer is usually prevalent in case of developed countries (Evans 2009). For effective policy change and adoption, it is necessary that a policy window must be there in the local country context which in the wake of mandate of the government and the criticality of the crisis being faced by it necessitates launch of policy reforms (Jooste et al 2010). Adoption of PPPs by the developing countries has not been solely attributed to endogenous factors like demand for infrastructure related investments exceeding their ability to finance it at their own, rather it has been advocated by the international organizations and official development assistance (ODA). Under this coercive strategy, private participation in infrastructure development is usually facilitated through ODA (Pessoa 2011).

Drawing upon the theoretical framework developed by Appuhami et al (2011) regarding the policy diffusion into a developing country, the author has developed the conceptual framework for the current study (Fig. 1.1). According to this policy diffusion framework, the policy innovation of PPPs was adopted by the developed / industrialized states under the influence of NPM and ancillary public sector reforms for their own endogenous reasons. These reforms were then induced in the developing states through coercive policy diffusion through transfer agents like IFIs, ODA, multilateral donors/ aid agencies through conditionality and aid. Such coercive policy diffusion often fails to deliver the desired policy outcomes as local policy adoption is not ensured keeping in view the indigenous local contextual factors. An effective local policy adoption for PPPs may occur if local contextual factors are catered for and multiple stakeholders involved in PPPs (with often competing and divergent interests) can be successfully managed. For this purpose, study of critical success factors for PPPs in developing countries can help contribute towards successful local policy diffusion.

Figure 1.1 Conceptual Framework of the Study



Adopted from Appuhami et al (2011: 435); modified by the author for the current study. Original framework is available at Annex – A.

This conceptual framework shall be applied for a case study of adoption of PPPs in Pakistan for infrastructure development. Pakistan is a developing country of South Asia with a population size of over 170 million. Like other developing countries, Pakistan faces a huge gap in the demand and supply of infrastructure which is widening with the passage of time. One of the major reasons for this widening gap is lack of resources to finance the growing need for infrastructure procurement. This is evident from the fact that current infrastructure needs of Pakistan for the period between 2007 -12 are estimated to be around \$100 billion (\$ 20 billion per year) against which it has been facing a shortfall of around \$ 15 billion each year (IPDF 2007). Another indicator of such shortfall is the current lack of electricity supply in Pakistan which has risen to 32% of its total demand of 18160 MW as on 19th May 2011 (PEPCO 2011). Although, Pakistan has implemented 11 energy projects in last 2-3 years out of which 08 are rental power plants and 03 are BOT/BOO projects (PPIAF 2010), it is interesting to note in this regard that Pakistan has a capacity to produce 40000MW of electricity from its hydropower resources alone and currently, it is exploiting only 10% of its capacity. Pakistan has adopted PPPs since 1990s for its energy and telecommunication sectors; the indicators reveal that much success has not been achieved in adopting PPPs to cope with the infrastructure development requirements (PMPIU 2009). Therefore, PPPs for infrastructure development in Pakistan is a valid case study selection for examining the conceptual framework of this research.

1.3 Research Problem

As discussed in the research overview, PPPs have produced mixed results in the developing countries against a better experience cited for the developed countries. Lack of indigenous resources to meet the demand for infrastructure in the developing countries coupled with lack of favorable results in the application of PPPs towards this end is creating severe problems for them. As social development has a positively proportional relationship with the infrastructure development, the developing countries badly need to improve their infrastructure at all costs. For this purpose, PPPs can be a possible solution for these countries for which such partnerships need to be implemented and contextualized in the developing country context for their successful adoption and implementation. However, research trends during the last 10 to 15 years have shown significant increase in the study of PPP infrastructure projects especially in the case of developed countries having little or no application towards the developing

countries in the wake of their local contexts. For successful PPP policy adoption, study of CSFs for PPP infrastructure projects in developing countries is important to develop a systematic approach for gauging their potential and limitations towards effective implementation of suitable PPP models. Further, a stakeholder perception index (SPI) for these CSFs needs to be developed for the PPP projects as well which can help developing countries in successfully coping with unique and often competing expectations of multiple stakeholders involved therein.

1.4 Research Aim And Objectives

The aim of the research is to evolve a framework of key factors which influence the successful adoption of PPPs as a tool for infrastructure growth in the developing countries' context. In order to achieve the above said aim, the proposed research has following objectives:-

- I. To study the use of PPPs for infrastructure growth and analyze the process of diffusion of PPPs from developed countries to the developing countries.
- II. To investigate the critical factors for successful implementation of infrastructure related PPP projects and stakeholder perceptions thereof under local context.

1.5 Research Questions

In order to achieve the aforementioned objectives, the following key questions shall be addressed through this proposed research:-

Question 1:

How has the existing state of the PPPs evolved in the advanced and developing countries?

Question 2:

How did PPPs diffuse in Pakistan?

Question 3:

To what extent do the method of diffusion and local contextual factors influence the implementation of the PPP projects for infrastructure development?

Question 4:

What are the critical factors for successful implementation of infrastructure related PPPs?

Question 5:

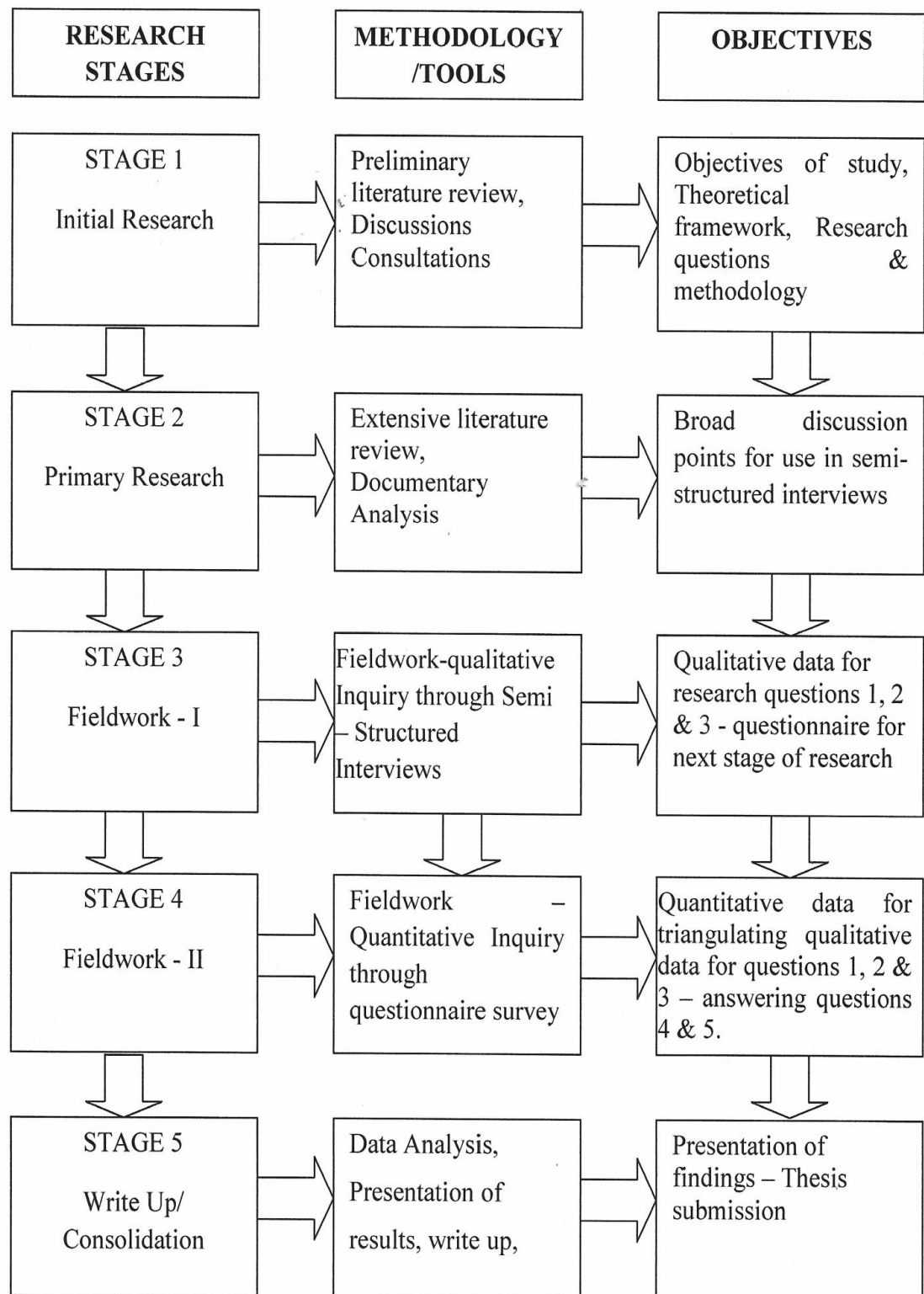
How much variance exists in the perception of different stakeholder groups towards the significance of the critical factors for successful implementation of PPP infrastructure projects?

1.6 Research Process

The research process adopted in this research is outlined in Fig. 1.2 which describes various stages of research and the methodology/ tools to be employed to achieve the desired objectives.

Figure: 1.2 Research Process

Fig: 1.2 Research Process



Source: Developed by the Author

Stage 1: The first stage of the research process involved an initial literature review, discussions and consultations to identify the research problem and establish the research aims/ objectives. Key research questions for achieving the research aim and methodology to be adopted for this purpose was also finalized during this stage of research.

Stage 2: The second stage of this research was mostly dedicated towards primary research through an extensive literature review and documentary analysis. Focus of this exercise was to examine various models adopted for the procurement of infrastructure through PPPs, explore the diffusion of PPPs in context of developing and developed countries under the theoretical framework of new public management (NPM) and find out the reasons for lack of success of PPPs in the case of developing countries. A situation analysis of such partnership projects in the field of energy and road infrastructure sectors in Pakistan was also carried out during this stage with a view to progress towards the next objectives of the study. By the end of this stage, besides completing the literature review, a broad framework of key topics to be discussed during semi-structured interviews was also finalized and a list of CSFs was also prepared as a result of this literature review for use in the next stage.

Stage 3: During this stage of the research, first part of the fieldwork was carried out involving semi-structured interviews with 12 senior executives from public/ private sector having direct relevance towards implementation of PPP projects in Pakistan in the energy and road infrastructure sectors. As limited information was available regarding profiles of the key stakeholders/ target population, selection of participants was done through purposive and snowballing techniques which are established methods used in social science research for finding/ recruiting the research participants in cases where it is difficult to point out key participants prior to start of the field work due to lack of available knowledge. In total, 12 semi-structured interviews were conducted during this phase of research and all participants were senior executives/ top officials from public/ private sector as well as other stakeholder groups having experience or expertise in the field of study. In order to make interviews more meaningful, a pilot interview was conducted and broad discussion points were slightly modified. These interviews were aimed at soliciting maximum information from the participants on the topics selected during the 2nd phase of research and this information was used to find

answers to research questions 1, 2 and 3 besides providing input for developing the questionnaire for the next stage of research.

Stage 4: The fourth stage of this research involved primary data collection through self-completion questionnaire for a select group of PPP infrastructure projects in the energy and road sectors of Pakistan. For the purpose of questionnaire development, critical success factors (CSFs) enlisted through literature review and those extracted during semi-structured interviews shall be compared and those found common between these two sets of CSFs were selected for inclusion in the questionnaire survey. Besides these CSF, another part of the questionnaire was designed to collect quantitative data for triangulating the qualitative data relating to research questions 1, 2 and 3. This questionnaire was administered through email/ post to 160 participants (who were selected through the snowballing technique as in the case of interview participants) on the basis of their relevant experience/ exposure towards implementation of PPP projects in Pakistan in two selected infrastructure sectors. Out of these, 89 valid responses were received by the closing date which shows a healthy response rate of almost 56%. This stage of research was successfully completed and sufficient data was collected to be used in the next stage of the research.

Stage 5: During this final stage of the research process, data collected through the 3rd and 4th stages was analysed to complete the write up and presentation of the findings of the data analysis. Analysis of quantitative data was carried out by using SPSS software (Statistical Package for Social Sciences). After analysis of both qualitative and quantitative data, the results have been discussed and conclusions were drawn to complete the research process.

1.7 Research Methodology

Two basic research paradigms for social science research are Positivist (quantitative, objectivist, scientific, experiments, traditionalists, hypothetico deductive, social constructivism) and Phenomenological (qualitative, subjective, humanistic, interpretivist/ hermeneutic, inductive) paradigms (Mangan et al 2004:568). The current research has attributes of both the research paradigms. The ontological position in this research is based on constructionism which is based on the premise that ‘social entities can and should be considered social constructions built up from the perceptions and actions of social actors’ (Bryman 2008a: 18). As the research intends to study the

diffusion of PPPs from developed to the developing countries under the theoretical framework of NPM reforms and develop a framework of CSFs/ stakeholder perception index for successful implementation of PPPs in Pakistan, the epistemology of this research is inclined towards critical realism which shares some beliefs of positivism but believes that researchers can only understand and change the social world if they can identify the structures at work which generate those events (Bryman 2008a: 14).

As the research is employing a case study approach considering phenomenon of PPPs in Pakistan as a case, the research strategy needs to employ both the qualitative and quantitative analytical methods based upon interviews, questionnaires and documentary records. Case study design is effective in cases where little or nothing is known about the phenomenon of interest and can be used to develop explanatory theories and hypothesis (Thomas 2004: 21; 128). Keeping in view the fact that most of the research questions are of 'how' and 'what' type and the researcher has little control over events, the case study is a preferred approach (Yin 2009). The research is using the inductive approach which is the 'systematic process of establishing a general proposition on the basis of observation or particular facts' (Ghouri and Gronhaug: 2010). Use of the qualitative research method is generally preferred for inductive/ exploratory research at an initial stage where it helps in hypothesis building and explanations. At the later stages, it is advisable to use quantitative methods as these allow empirical testing of the hypothesis. Further, it is quite possible to quantify the qualitative data through coding etc to carry out quantitative analysis. Case study research lies at the centre of the continuum between the qualitative and quantitative research methods and techniques (Ghouri & Gronhaug 2010).

For collecting qualitative data, use of semi-structured interviews has been preferred as it gives a chance to the interviewer to seek elaborate answers and clarifications towards broad discussion agenda. Such interviews are not confined to soliciting answers for pre-defined questions but encourage a probe beyond answers as well and can lead to a dialogue (May 2011). However, for collecting quantitative data, use of self- completion questionnaires is preferred as it allows a broader study in exploration and evaluation research (Popper 1989) and fits the research aims and objectives of the study. Further, it has advantages such as cost effectiveness (Saunders 2003), wide coverage and geographic contact with greater validity through larger and more representative samples. However, there are certain limitations of the questionnaire surveys which may

include the problem of non returns and bias of the sample as a result of significant difference between respondents and non respondents (Miller and Salkind 2002). Besides, all the participants have to be clearly informed about the content and intent of the research, assurance of keeping their identities anonymous (if they so desire) along with assurance of personal data security. These issues have to be addressed as part of the ethical requirements of the research (Jankowicz 2005).

As discussed in this section, the current research does not specifically associate with positivist or phenomenological paradigms and shares certain characteristics of both. It is a generally accepted premise that choosing between one paradigm and the other is not always possible and may be unrealistic in practice. Therefore this research can be associated with a pragmatic research paradigm with mixed method approach (Tashakkori and Teddlie 2008a). In mixed methods research, both qualitative and quantitative data collection techniques are used either simultaneously or sequentially but both techniques are not combined together (Saunders 2009). Use of mixed methods can make the research more difficult, yet this approach can help this research in addressing broader and more complicated research questions than in case studies alone (Yin 2009: 64). Triangulation of qualitative and quantitative data collection methods is considered a vehicle for cross validation when two or more distinct methods are found to be congruent and yield comparable data (Jick 2008).

On this analogy, this research is employing mixed methodology and both qualitative as well as quantitative data has been collected through semi-structured interviews and questionnaire survey respectively. The research map indicating research objectives; questions and methodology adopted for these questions is given in Table 1.1 to create a better understanding of the research methodology.

Table 1.1:- Research Map

OBJECTIVE	RESEARCH QUESTIONS	DOCUMENTS / LITERATURE REVIEW	SEMI- STRUCTURED INTERVIEWS (QUALITATIVE	QUESTIONNAIRE SURVEY (QUANTITATIVE DATA)
To study the use of PPPs for infrastructure growth and analyze the process of diffusion of PPPs from developed countries to the developing countries	How has the existing state of the PPPs evolved in the advanced and developing countries?	<i>YES</i>	<i>YES</i>	<i>NO</i>
	How did PPPs diffuse in Pakistan?	<i>YES</i>	<i>YES</i>	<i>YES</i>
	To what extent do the method of diffusion and local contextual factors influence the implementation of the PPP	<i>YES</i>	<i>YES</i>	<i>YES</i>
To investigate the critical factors for successful implementation of infrastructure related PPP projects and stakeholder perceptions thereof under local context	What are the critical factors for successful implementation of infrastructure related PPPs?	<i>YES</i>	<i>YES*</i>	<i>YES</i>
	How much variance exists in the perception of different stakeholder groups towards the significance of the critical factors for successful implementation of PPP	<i>NO</i>	<i>NO</i>	<i>YES</i>

1.8 Thesis Structure

Chapter one is an introduction of the research which briefly outlines the research rational, aim and objectives of the research, research questions as well as research process and methodology adopted for addressing the research questions. Chapters 2 is dedicated to the literature review which contains the theoretical context of the emergence of public private partnerships for infrastructure related projects especially during the last quarter of the 20th century in the wake of NPM and the resultant administrative reforms. It also covers review of structural and operational frameworks involved in the procurement of PPP infrastructure projects in advanced and developing countries. Diffusion of such PPPs from developed to the developing countries under the aegis of NPM reforms will also be studied to create an understanding of the issues which PPPs are facing in the context of developing countries. The critical review of PPPs shall lead to establishing the underlying problems in the effective management of such projects and development of a comprehensive list of critical success factors for the PPPs in developing countries which will be subjected to assessment by various stakeholders for their significance in the later part of the research.

The research methodology is discussed in detail in Chapter 3. It outlines the research philosophy and research process while providing a rationale for selection of mixed methodology approach for collecting the research data. The analysis of qualitative and quantitative data and selection of appropriate techniques for this purpose are also described in this chapter. Information relating to the respondents / participants of both the qualitative as well as the quantitative data collection exercise is also presented in this chapter.

Chapter 4 presents the thematic analysis of qualitative data collected through semi – structured interviews during first part of the research field work. Themes like overview of PPPs in developing countries under the NPM agenda, the nature and process of diffusion of PPPs, the role of international stakeholders and local contextual factors etc have been discussed in detail in this chapter. Further a list of key drivers for the adoption of PPPs in Pakistan and a list of CSFs will also be finalized through this chapter for use in the questionnaire survey during next phase of the research and validating the results of the qualitative analysis.

Chapter 5 is dedicated to the analysis of quantitative data collected through a questionnaire survey (parts 2 and 3) in order to answer the research questions 4 and 5 and validate the findings of the qualitative part of the research. As this part of the survey was aimed at developing a ranking scale of CSFs for PPP projects in developing countries and stakeholder perceptions thereof; this chapter presents a mean ranking scale and analysis of variance (ANOVA) for 40 CSFs. Besides this, factor analysis of these CSFs is also presented which provided 8 factor groupings for these CSFs for better understanding and discussion. The later part of this chapter presents a stakeholder perception index (SPI) for CSFs.

Chapter 6 is dedicated to the presentation of the research summary, findings and discussion about the implications of this research. Limitations of this research and recommendations for further research are also part of this chapter.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Though provision of infrastructure has traditionally been the responsibility of the state with procurement of such infrastructure being met through public finance alone, yet precedents are there to prove that the private sector has remained involved in provision of some infrastructure related projects in partnership with the public sector since the 17th century as in the case of French canals, bridges and railways in the UK (Merna and Njiru 2002: 115). Such public private partnerships were formally adopted by the United States in the twentieth century for its educational programs, utilities, urban renewal and social services (Yescombe 2007, Siemietycki 2010). During last quarter of the 20th century, public- private partnership (hereinafter referred as PPP) is being practiced widely for procurement of public infrastructure and services in the wake of rapid changes in the socio-economic and political environment, globalization and budgetary constraints being faced by the public sector (Akintoye 2009).

PPP can be generally described as *“a contractual agreement of shared ownership between a public agency and a private company, whereby, as partners, they pool resources together and share risks and rewards, to create efficiency in the production and provision of public or private goods”* (Akintoye 2009:124). Different approaches ranging from simple contracting of services to the involvement of the private sector in design, financing, construction, operations and maintenance, and offering the concessional ownership of major facilities are being adopted to bring the public and private sector together for a mutually beneficial relationship (Li et al 2005). Partnership of the public and private sector creates synergy in realization of mutual goals besides creating new markets for investment companies and allowing more access to the private sector in government decisions (Reijniers 1994).

2.2 The Rising Prevalence of PPPs

During the last two decades, PPPs have played a significant role in the delivery of public sector infrastructure and substantial progress has been reported towards the growth of PPPs in USA, UK, France, Korea, Australia, Spain and South Africa (Yescombe 2009). Regional analysis of private participation in infrastructure investment from the year 1990 to 2004 reveals that Latin America and Caribbean (LAC) region ranked highest in terms of number and value of projects with 36% and 44.4%

score, followed by East Asia and Pacific with 26.1% and 23.4%. The results of this study are shown in Table 2.1 (Akintoye 2009: 130).

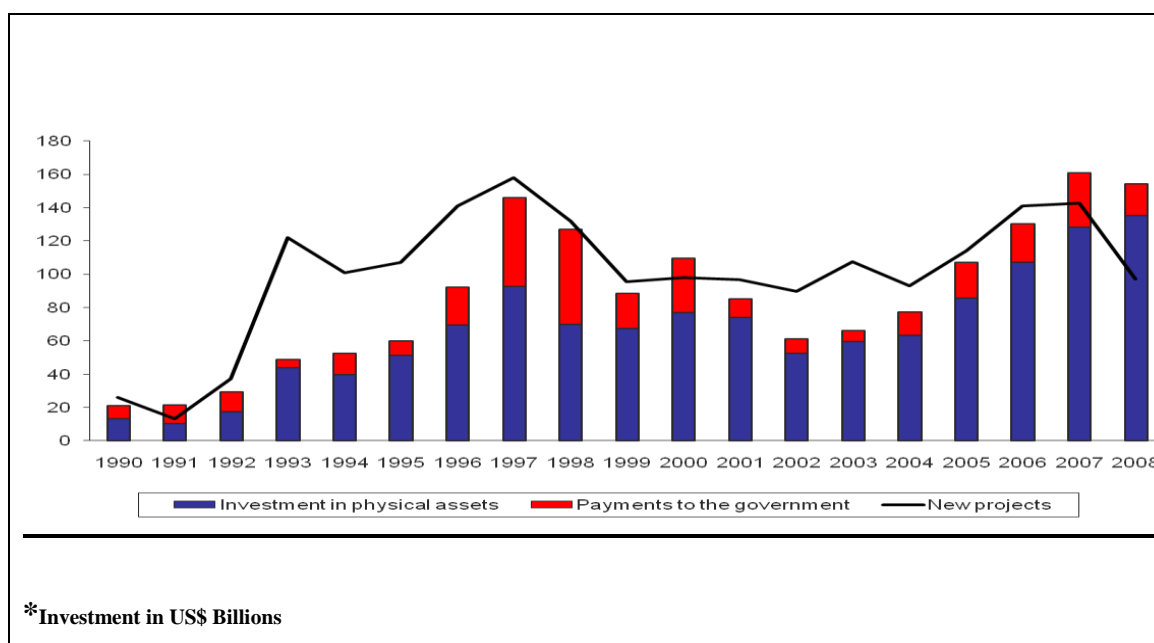
Table 2.1 Private participation in Infrastructure Investment: regional analysis (1990-2004)

Region	Number of projects		Investment	
	Total	%	US \$ (m)	%
East Asia & Pacific	764	26.1	197 282	23.4
Europe & Central Asia	550	18.8	136 911	16.2
Latin America & Caribbean	1051	36.0	374 622	44.4
Middle East & North Africa	87	3.0	42 041	5
South Asia	224	7.7	52 844	6.3
Sub-Saharan Africa	246	8.4	39 291	4.7
Total	2922	100.0	842 991	100.0

Source: (Akintoye 2009:130)

The growth of PPPs is not only confined to the developed countries alone. Rather, its rise is also being witnessed in the developing countries as well. Statistics of the World Bank (public- private infrastructure advisory facility – PPIAF) reveals that the investment commitment to infrastructure projects with private participation in developing countries has risen manifold during the period from 1990 – 2008 and the number of such projects has increased from 29 in 1990 to 216 in 2008. A graphical review of the progress made by the developing countries in terms of total size of their investment in infrastructure projects with private participation and total number of such projects is shown in Fig 2.1.

Figure. 2.1: Investment commitments to infrastructure projects with private participation in developing countries, by type of investment, 1990–2008



Source: World Bank (PPIAF); available at <http://ppi.worldbank.org/>

2.3 Public Private Partnerships: Policy Context

The underlying impetus for enhanced acceptability of public private partnerships during the last quarter of the twentieth century came forth under the policy framework of New Public Management (NPM). The reforms agenda under the new public management outlined a redefined role of the public sector governance with emphasis upon market-like mechanisms to cope with the rising deficits and address the concerns of the public with quality of services being provided by the public sector (Homburg et al 2007). Economic pressures, political commitment for change and a set of ideas to shape such changes in the role of public sector drove the agenda for reforms under NPM (Mc Laughlin et al 2002).

2.3.1 New Public Management

During the 20th century, the role of the state grew as a provider of social services in line with the interventionist model of the state with assumed superiority of the bureaucratic model of the large scale organization (Minogue 2002). However, the perceived failure of the state towards this end owing to an indifferent but all – encompassing role and its over - extended size, necessitated an array of reforms under the banner of new public management (NPM) during the later part of the 20th century with underlying assumption

that the large state bureaucracies are inherently defective and wasteful, and the market is better equipped than the state to provide most goods and services (Minogue 2000). The economic pressures, a highest level of political commitment to bring change and set ideas to bring such changes also contributed towards induction of NPM reforms, especially in the UK and New Zealand where the newly elected governments (in 1979 and 1984 respectively) were inclined to step away from the interventionist ideology to revive their economies and public services (Borins 2002).

These public management reforms in the UK have been linked to four stages of development i.e. the stage of minimal state, unequal partnerships, the welfare state and the plural state. Under the stage of minimal state, the government provision of services was seen as a compulsory evil during the later part of the 19th century and the majority of public services were provided by the charitable or private sectors. During the second stage, unequal partnership between the state and the other sectors prevailed till 1940 wherein the state was supposed to provide the minimum essential services while other sectors provided services beyond this. However, the state was acknowledged to have a legitimate responsibility towards basic provisions. The third stage saw an extended role of the state towards provision of all services to fulfil the ideals of a welfare state, while the role of the charitable/ private sector was diminished due to their perceived failures and inefficiencies. The final stage of the plural state reverted this trend and moved away from the provision of minimum standard of services through its public sector alone towards provision of services designed to meet the individual needs. This era brought the private sector back into the business of service provision through marketization allowing user preference in service provision. The NPM reforms are considered to be part of this fourth stage of public management (Osborne and McLaughlin 2002).

The rise of NPM since then has been linked to the following four administrative megatrends (Hood 1991:3):

- I. Reduction in the size of the government through cuts in its human and fiscal resources.
- II. Shift towards privatization and quasi-privatization with emphasis upon subsidiarity in service provision.
- III. Integration of information technology in production and distribution of public services.

- IV. Development of an international agenda of reforms on issues relating to public management, policy design, decision styles and intergovernmental cooperation on top of individual country specialism in public administration.

The NPM reforms, according to Hood (1991:4), comprise of the following seven doctrines:

- I. Hands on professional management in the public sector; with clearly assigned responsibilities and managerial authority in the organizations.
- II. Explicit standards and measures for performance.
- III. An emphasis on output controls; need to stress results than procedures.
- IV. Disaggregation of units in the public sector into manageable units for gaining efficiency; use of franchise arrangements within and outside the public sector.
- V. Shift towards greater competition in the public sector through contracting/tendering creating rivalry to lower the costs and improve standards.
- VI. Use of private sector management tools (like flexibility in hiring and rewards, PR techniques etc) in the public sector.
- VII. Stress on greater discipline and prudence in resources; public sector must do more with less.

NPM reforms are not a 'homogeneous whole' but are overlapping elements representing various manifestations of the public sector reforms ranging between two different strands i.e managerialism and economic related public choice, transaction cost or principal-agent theories (Larbi 2006:26-27). The reforms packaged under the NPM were not new but were in place before these were grouped together and retrospectively labelled as NPM. Commonality in these reforms lies in the fact that these have been influenced by private sector administrative practice (Anderson 2002). Therefore, NPM has also been described as a 'shopping basket' of the following eight elements of reforms which can be found to have been in practice in different countries under NPM either singularly or collectively depending upon the their local contexts (Pollit 1995:134):

- I. Cost cutting, capping budgets and seeking more transparency in resource allocation.
- II. Disaggregation of traditional bureaucratic organizations into separate agencies.
- III. Decentralization of management authority within public agencies.
- IV. Separation of functions of public service provisioning and their purchase.

- V. Introduction of market and quasi market-type mechanisms (MTMs).
- VI. Performance management through indicators and output objectives.
- VII. Moving towards a system of performance related pay and term contracts instead of permanency and standard national pay.
- VIII. Increasing emphasis upon service quality, standards settings and customer responsiveness.

The public choice theorists believe that significant gains can be achieved through adoption of market and quasi-market competition mechanisms, with public sector management of the markets to achieve improved quality of services at competitive costs. The unbundling of services into ‘public interest’ and ‘others’ was promoted under NPM reforms with the belief that the public interest services should be performed by the public sector whereas all other services should be managed through private sector participation in market mechanisms (Bovaird 2010:54). However, the proponents of managerialism seek social progress through enhanced productivity relying upon modern technologies and a skilled manpower under influence of professional managers having managerial autonomy (Horton and Farnham 1999:41). In a broader sense, the NPM reforms can be described as one of the four distinguishing models put forward by Ferlie et al (1006:10-15). The first model, i.e. ‘the efficiency drive’ relates to adoption of private sector management tools for gaining efficiency in the public sector. Downsizing and decentralization (2nd model) seeks marketization of the strategic and non strategic activities of the public sector organizations through contractualism. The third model ‘in search of excellence’ seeks organizational change and development through integration of bottom-up and top-down approaches. The fourth model relates to ‘public service orientation’ emphasizes service quality, user feedback, and accountability in the public management.

However, critics are of the view that the claimed universality of the NPM related reforms is not quite realistic and different countries have adopted different reform packages suiting their local needs and country contexts with varying degree of success (Hood 2005; Polidano 1999; Sarker 2006; Pollit 2007; Larbi 2006; Borins 1998; Rhodes 2000). Countries like Japan, Germany and Switzerland have put much less effort in adopting the NPM reforms than in the case of Sweden, New Zealand and the UK during the 1980’s. Against the tendency for decentralization in other countries, Japan strengthened its National Personnel Authority. Pay for performance reforms were preferred by Sweden, Denmark, New Zealand and UK while the same were discouraged

in Germany and Switzerland (Hood 2005). While admitting that the NPM reforms have global outreach, yet it is true that these reforms have led to diverse effects and interpretations (Greve and Morth 2010). Similar reforms under NPM may have diverse motives and objectives in different countries as is witnessed in the case of Nordic countries where these reforms are adopted by state modernizers to build a strong state with active citizenship while market oriented states like the UK refer to these reforms for reducing the role of the state. Similarly executive agencies are used in the UK for managerial autonomy for policy implementation whereas such agencies are preferred in the Netherlands for being less autonomous than statutory bodies ((Thiel et al 2007:199).

In Europe, there has been widespread divergence in the adoption of NPM related reforms with different countries opting for some selective applications of its elements while rejecting or opposing certain elements at the same time (Pollitt 2007). A study of similar reforms in Asian countries also supports this fact as many of the reforms differed in content and practice owing to different local country contexts. Reforms in Malaysia and Indonesia were not aimed at curtailing the bureaucracies and in the case of India and Philippines, these reforms have proved counterproductive owing to an absence of strong and honest bureaucracies. The state led or dominated models of development reforms in Malaysia and other Asian countries are inconsistent with the ideals of NPM reforms (Cheung 2005). Common (2000) has also similar findings about East Asian countries where the trend of marketization of the state has not taken root and a strong bureaucratic set up is still a prominent feature of their administrative systems; implicitly refuting the universality of reforms associated with NPM.

This diverse nature of adoption of NPM reforms can be attributed to policy transfer between states. Evan (2009) is of the view that policy learning is a common practice amongst the states and such policy transfer would be more common amongst the states which share common features like in case of the UK and USA where governments having similar political ideologies between 1979-1988 sought similar reforms for reducing the size of the state to redress their economic problems with New Zealand, Canada and Australia following suit as well.

However, in the case of developing countries, the results have been mixed in nature with certain success stories and failures as well. But it is important to keep in view that the outcome of every unique NPM initiative depends upon local contingency factors as well (Polidano 1999). Diffusion of NPM related reforms in the developing countries is

also attributed to the external pressure from international organizations and international funding agencies (like UNO, IMF, World Bank, OECD) which insisted upon use of markets in infrastructure provision in developing countries to secure much needed financial assistance (Sarker 2006; Pessoa 2010).

New public management closely relates with the concept of public private partnerships as it envisages greater involvement of the private sector, value for money and output performance and similarly, policy makers assume that public private partnerships can produce more efficient policy outcomes and products (Klijn et al 2007; Ferlie et al 1996). PPPs are also considered as a continuation of the NPM agenda of privatization as governments can achieve the private sector participation and expertise through PPPs instead of adopting direct policies of privatization and outsourcing (Greve and Hodge 2007: 181). Although PPPs may be considered as a continuation of the privatization agenda, yet both have certain differences in practice. In the case of privatization, properties/assets are transferred to the private sector for an unlimited period whereas in the case of PPPs, the private sector is given the right to use property/ physical assets and the anticipated cash flows to be accrued from the operation of such assts/ services for a certain period of time under a concession agreement which can be altered or even terminated by the public sector in certain cases (Anders and Gausch 2008).

Such partnerships are usually considered to be an alternative to a consistent public sector failure during the mid 80s owing to persistent fiscal crisis and availability of low cost private capital / excess supply of funds in the international markets as well as ideological changes during the 90s favoring market oriented reforms (Estache 2004:2-3). Growing realization of the need for quality infrastructure for socio-economic development and traditional dissatisfaction towards the performance of state owned entities also contributed towards such reforms (Grimsey and Lewis 2002). The issues involved in traditional infrastructure procurement including high construction costs, time overruns, poor designing, operational inefficiencies and community dissatisfaction are generally addressed through PPPs as well (Mustafa 1999).

2.4 PPPs in Developing Context

PPPs are now in practice in many developed as well as developing countries with focus upon efficiency, effectiveness and best value for money through developing healthy partnerships between the public and private sectors (Handley and Gao 2003). Although, the underlying impetus for such partnerships comes from the reforms associated with

the NPM aiming at more market orientation for the traditional public sector for greater financial efficiency (Joyner 2007:210), yet the different nations might have different motives for adoption of PPPs as their preferred option for procurement of public infrastructure. For some countries, PPPs are used to reduce the size of the state and its allied fiscal as well as administrative burdens. On the other hand, PPPs are used to achieve 'joined up government for seeking solutions to their problems in collaboration with other organizations and citizens' (Thiel et al 2007:200).

Developed nations are pursuing PPPs to deliver public services, goods and facilities and the developing countries, on the other hand are inclined to use PPPs as an alternate financing solution for their infrastructure development. Further, the public sector dominance is witnessed in the case of socially / politically driven economies and unitary forms of governance as in the case of France and Sweden, whereas the private sector leads the way in profit driven, private economy and associated loose governance as in the case of USA, Canada and Hong Kong (Akintoye 2009:126).

Results of a study conducted by Cheung et al (2009) for determining the relative importance of 09 reasons for implementing PPP projects in Hong Kong, Australia and the United Kingdom, reveals that practitioners have ranked reasons variously. For Hong Kong, the most important reason for implementing PPPs was private incentive, whereas in the case of Australia, requirement for high quality infrastructure was the foremost reason. In the case of UK, shortage of government funding was considered to be the prime motivation for implementing PPPs. However, demand for more facilities owing to economic development pressure was found to be the second highly rated reason for all these countries.

Irrespective of the governance and development status, the need for infrastructure growth is an established priority. Both the developing and developed countries invest a substantial share of their respective national output towards infrastructure development. Developing countries spend 40- 60% of their public investment (i.e. 4% of their national output) on infrastructure, whereas this ratio is around 11% for the developed countries (Merna and Njiru 2002:2). In the case of developing countries, the investment needs for infrastructure range between 1-2% to 4.5% for low and high income countries. These estimates may range between 3% to 10%, if the maintenance costs for existing infrastructure is also coupled with investment required for new infrastructure (Estache 2004:6).

2.5 Project Finance and Risk Management in PPPs

Project finance is mostly used in the PFI projects to secure financing of the same. The project finance is considered to be risk sharing and risk management mode of developing the projects while limiting the impact of such financing upon the balance sheets of the sponsors and promoters. The host governments and the investors are inclined toward utilization of project finance for procurement of the projects owing to the maximum leverage (high debt: equity ratio), transfer of the risks involved from the sponsors to the lenders and the fact that these projects are self contained and Off-Budgets for both the parties (Pollio, G. 1999). Setting up of a special project vehicle (SPV) is the first step in the project financing which requires the sponsors to create a legally independent and separate company which is then responsible for the project debts and physical assets/ income stream of the project and its seed equity is often provided by the sponsors (McCarthy and Tiong 1991). Capital mix of debt and equity can be chosen by the SPV according to its own criteria involving the investment volume, allocation and nature of risks pertaining to the project. The lenders need the equity contribution from the SPV for the purpose of risk coverage and the volume of the equity in the capital structure of the SPV depends upon the susceptibility of the projects to risks involved thereof. Higher the risks, greater is the equity ratio and vice versa. The SPV normally uses higher Debt/Equity ratio (i.e. **Gearing**) than in case of the usual corporate financing (Boussabaine, A. 2007). Strong projects depicting higher cash flows with lower level of risks can have 90% debt and 10 % equity (Akbiyikli et al 2006). In Germany, a Forfeiting Model of financing is used for the PPP projects wherein the private contractors are able to sell off their claims for payments to the banks while the public principal declares the waiver of objection to facilitate the private sector in securing financing for their projects in the PPP model (Daube et al 2008).

Risk management is one of most significant features of the PPP projects which entail transfer/ management of the risks to the party which can best handle them without compromising the project deliverables. Risk can be defined as “the likelihood of something undesirable happening in a given time” (Merna and Al-Thani 2005:11). Risks in project finance are supposed to be allocated in such a manner that “*the individual ability to manage the risk is met*” (Duabe et al 2008:379) and all the perceived risks are handled and allocated to the parties which can best handle it (Abednego and Ogunlana 2006). This requires thorough evaluation of the objectives and abilities of the parties concerned who are going to bear such risks in lieu of certain

risk premium (Smith 2003). Further, the host governments and development agencies play an important role in the risk management by providing risk guarantees for the project investors. The host governments usually provide guarantees which enable the sponsors of the project in securing loans at lower interest rates which ultimately, reduces the financing costs (Lai and Soumar'e 2005).

The risk identification process involves use of different techniques like brainstorming, Delphi technique, interviews and check lists etc (Merna and Njiru 2002) and it is followed by risk analysis stage wherein qualitative (i.e. probability- impact analysis) as well as quantitative techniques of data analysis (i.e. decision trees, monte-carlo simulations, sensitivity analysis and computer added software like CASPER etc) are used to analyze the available data (Merna and Storch 1999; Merna and Owen 1998). Choice of either of these analytical techniques depends upon the quality and volume of the data available for the project. Further, risk response strategies can be broadly categorized as risk avoidance, risk reduction, risk transfer and risk retention (Hodges 2000).

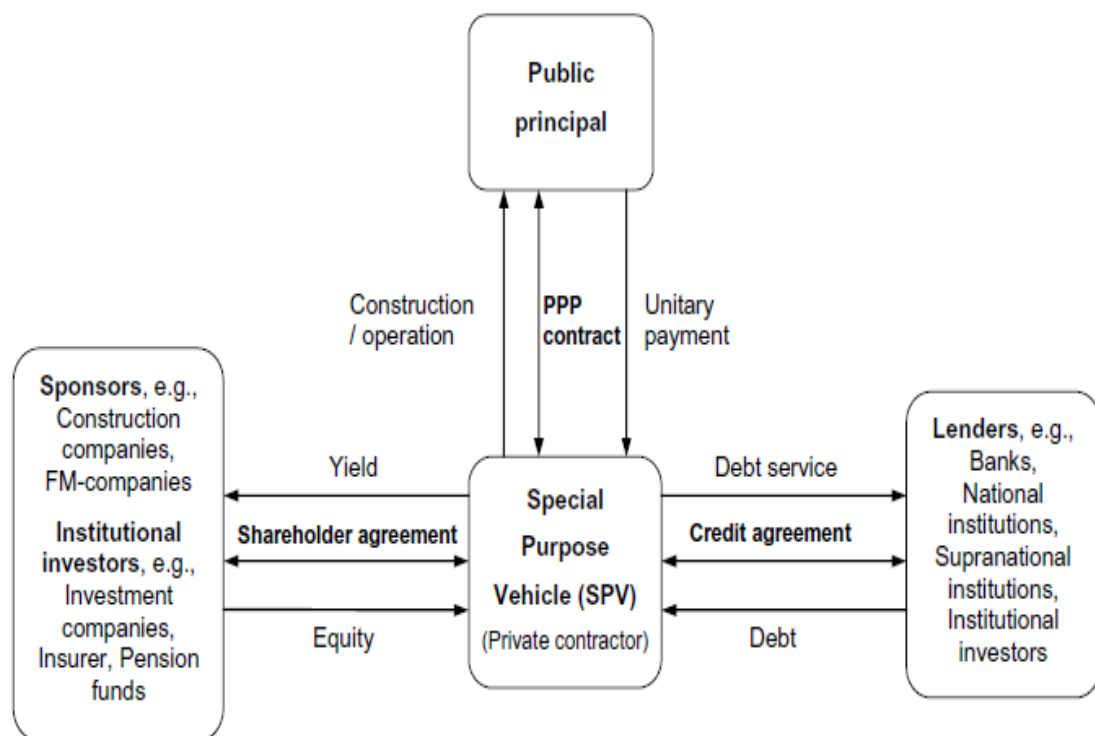
There are two most critical requirements which must be met for any PFI project i.e. substantial risk transfer from public to private sector and achievement of value for the money (VFM). Value for money for the public sector aims at realizing the lowest out-turn cost over the whole life of the contract in comparison with a public sector comparator (PSC) which may serve as the bench mark for evaluation of the PPP projects (Grout 1997). The concept of VFM is used by the public sector to make the decision making process more transparent (Tanaka et al 2005). The concept of VFM has also been associated with three Es i.e. Economy, Efficiency and Effectiveness (Takim et al 2009). The concept of value for money plays an important role in the decision making process for the PPP projects. It is not the choice of goods or services based upon the lowest cost bid. Rather it is an optimum combination of whole-life costs and quality of goods and services to meet the requirements of the end users (HM 2006). Some key factors affecting the value for money include appropriate risk transfer, flexibility, terms of the contract, skills and expertise to handle the scale and complexity of the projects (HM 2008).

2.6 Structure of PPPs

PPPs are generally based upon a highly prescriptive legal framework involving long term agreement between public sector clients and private sector. The private sector

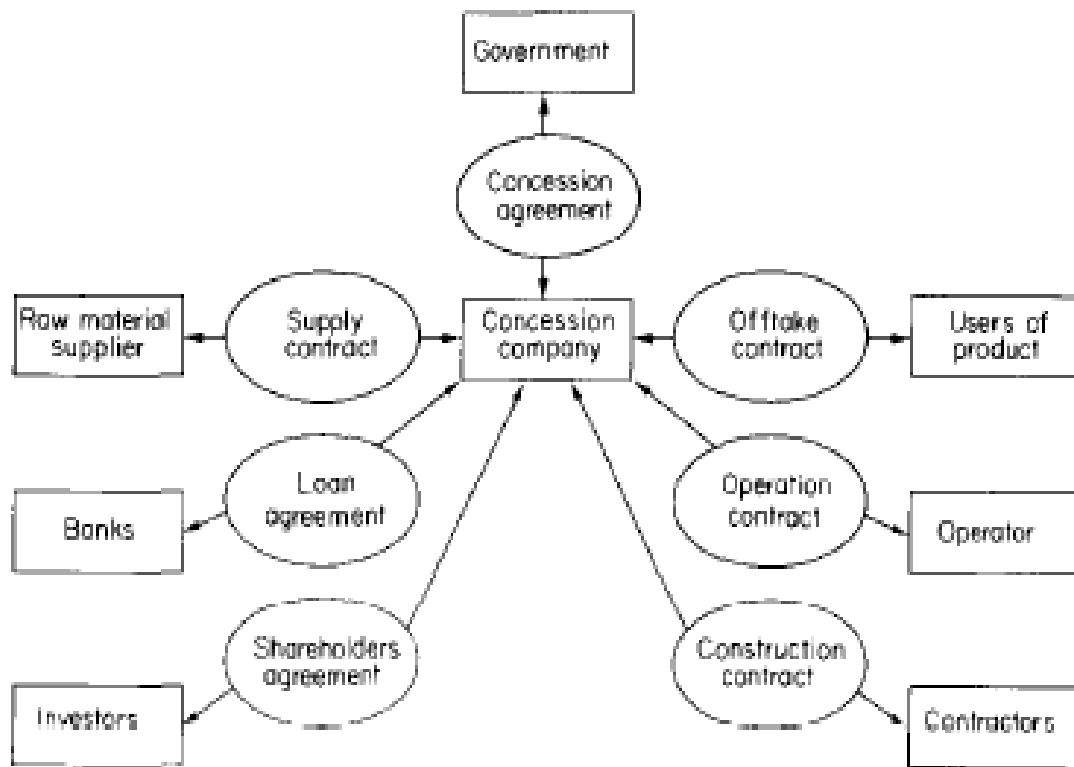
constructs, maintains and operates such facilities besides arranging financing for it (Ball et al 2007). The special company (SPV) formed by the consortium of private sponsors undertakes financing, construction and management of public infrastructure and is considered a separate legal entity which allows non-recourse or limited recourse financing from the debt providers in lieu of the future assets and cash flows of the projects to be procured by the SPV. The SPV is capitalized through 90% of the debt and remaining part is contributed in shape of equity by the sponsors (Boussabaine 2007:89-90). The SPV enters into different contracts with public principals, sponsors and lenders to establish the legal structure of the relationship and explain its position as a separate legal entity under the law as shown in Figure 2.2 (Duabe et al 2008). Similarly, figure 2.3 describes the nature of contractual structure which SPV (the concession holder) creates with other project stakeholders for effective implementation of the projects under the BOOT mechanism (McCarthy & Tiong 1991). The concession awarded by the host government to the SPV entitles it to accept total or partial management of the services or assets along with complete or partial risk ownership in lieu of certain financial consideration (Zverev 2008:163).

Figure 2.2 Structure of Private Finance



Source: Duabe et al 2007

Figure 2.3 Typical Contract Structure of PFI (BOOT) Project



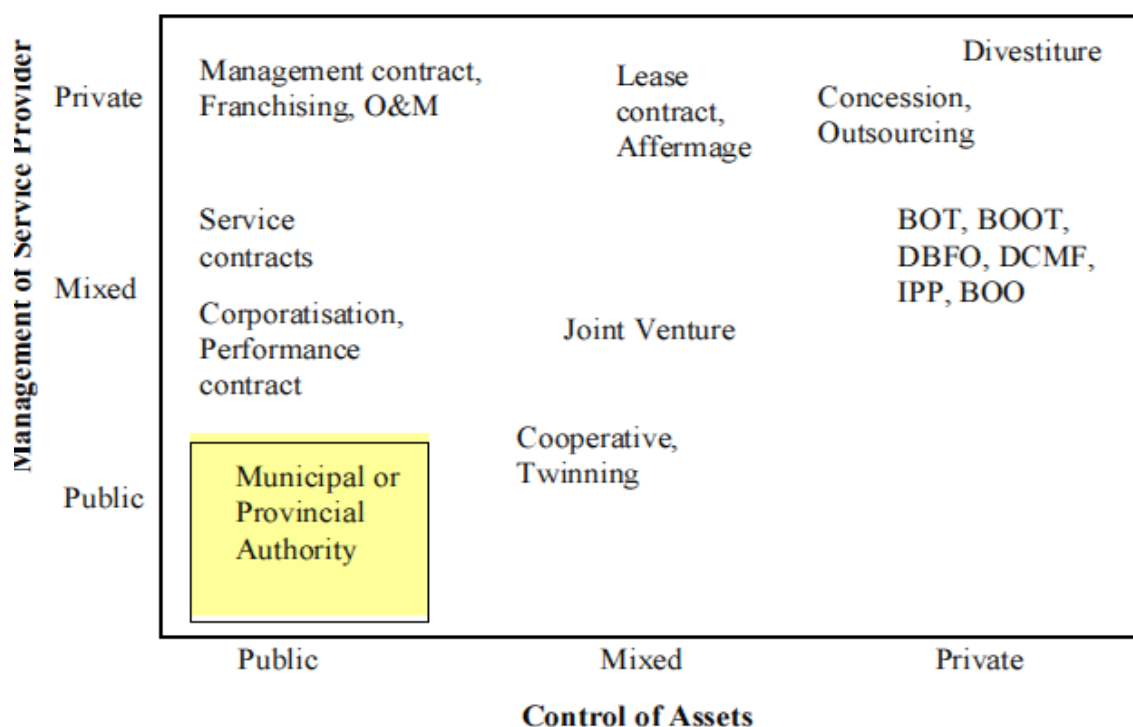
Source: McCarthy and Tiong 1991:223

2.7 Modes of Public Private Partnerships

In the case of UK, the PPP projects carried out under the private finance initiative (PFI) covers three kinds of project, as identified by Merna and Njiru (2002); i.e. financially free standing projects, joint ventures and services sold. Under the first category, projects are financed and managed by the private sector with recovery of investments affected through payments made by the end users. The joint venture involve private sector financing and control with public sector provision of financial subsidies in lieu of public benefits as otherwise such projects may not be commercially viable. Under the third category, public sector pays for the services acquired from privately designed, built, financed and operated projects in lieu of the benefit of escaping the one-off impact of capital expenditure at the time of contract.

Various alternative arrangements available for implementing PPPs with varying degrees of control over assets and management of service providers, are shown in the Figure 2.4 with explanations of the key terms given as under (Delmon 2010:12).

Figure. 2.4 Variety of Available PPP Arrangements



Source: Delmon 2010:12

- I. The O&M / Management contracts are usually for private operation and maintenance for some existing facility through the private sector in lieu of certain fees.
- II. Affermage refers to a situation where a private entity builds or refurbishes/ operates a service directly for consumers for which capital costs are borne by the public sector and fees are collected directly from users.
- III. Lease is usually granted to the private entity for an existing asset or land for construction of assets to provide service to the off-takers or the consumers.
- IV. Concessions are used to allow a private entity to build and operate a service at its own cost to provide services to the consumers.
- V. Divestiture refers to sale of existing public sector assets to the private entity for provision of services directly to the consumers
- VI. Build-Operate-Transfer (BOT) , Build-Own-Operate-Transfer (BOOT), Design-Build-Finance-Operate (DBFO) and Design-Construct-Manage-Finance (DCMF) arrangements are used where a private entity builds/ operates a facility through its own finances for providing required services to single or a small group of off-takers (usually a public utility) or directly to the consumers (e.g. toll roads).

For infrastructure procurement through PPP, the Design-Bid-Build (DBB) was initially used by governments wherein most of the responsibilities remained with the public sector. During the 1980's, Build-Own-Operate (BOO) mechanism was promoted around the world in the wake of reforms linked with privatization and efficient resources utilization for improved service delivery. Since 1990's, the UK adopted another type of PPP i.e. DBFO which meant bundling of designing, construction, financing and operating through a single concession for a considerably long term. Key differences amongst these forms of infrastructure PPPs are elaborated in Table 2.2 (Siemiatycki 2009:45).

Table 2.2 Key Elements of Various PPP Models

	Greater public responsibility ↔ Greater private responsibility			
	Design-Bid-Build (DBB)	Design-Build (DB)	Design-Build-Finance-Operate (DBFO)	Build-Own-Operate (BOO)
Who defines performance specifications?	A government department or public sector agency			Private sector firms
Who designs and constructs the facility?	The public sector works with a team of consultants to design the facility. Then a contractor is sought to build it as designed.	The public sector hires a contractor or concession team to design and build the facility to meet public performance specifications using a competitive tendering process, typically at a fixed cost.		Private sector firms
Who finances the facility?	The public sector, through tax revenue, debt financing, bonds, etc.		The private sector, possibly with some public subsidy.	The private sector
Who operates the facility?	Public sector employees typically operate the facility, but this can also be contracted out to private firms.		The facility is leased to and operated by the private sector over a period of 25 to 50 years.	The private sector
Who owns the facility?	The public sector		Typically the public sector	The private sector in perpetuity
Who gets return on the investment and how?	The public sector through user fees, but such facilities often operate at a financial loss		The private sector through user fees and/or fixed government payments over the life of the operating contract	The private sector owner through user fees and possibly public subsidies
Who controls toll or user fee rates?	The public sector		Contractually negotiated between public sector and private firms	The private sector owner, subject to government regulation

Source: Siemiatycki 2009:45

In the case of China, the experience of PPPs is bit different and more complex than in the case of UK. The PPPs in China are classified under three categories i.e. Outsourcing, Concessions and Divestiture with 14 different types of PPP arrangements having varying life span of the contracts and a commensurate nature of relationship between partners. The types of PPPs in practice in China include service contracts, management contracts, design- build- transfer, design-build-major maintenance, operation and maintenance, DBO, lease- upgrade- operate & transfer, BOOT, DBTO, DBFO, BOO etc are described in Table 2.3 to present the comparative analysis of PPPs in China (Adams et al 2006:389).

Table 2.3 Types of PPP Models in China

PPP type	Explanation	Life of contract
Service contract	Public sector entrusts private companies with providing some services provided traditionally by government such as maintenance of equipment and/or cleaning services and payment for these services are according to contract	1-3 years
Management contract	Public sector entrusts private companies with operating infrastructure or providing management services according to contract. This is used typically in waste management	3-5 years
Design-build-transfer	Private sector designs and builds infrastructure and bears the risks of extension and any additional costs – the standards and the price are set in advance – assets are finally transferred to the public sector	Variable
Design-build-major maintenance	Public sector is responsible for the management of the infrastructure designed and built by private companies and private companies are responsible for major maintenance	Variable
Operation and maintenance	Public sector signs agreement with private sector that will be responsible for operation and maintenance of infrastructure according to contract – payment is in the form of fees from government. This is commonly used in provision of water and waste management services	5-8 years
Design-build-operate	Though private companies are responsible for the design, build and operation of infrastructure, the ownership remains in the hands of government	Variable
Lease-upgrade-operate-transfer	Infrastructure is leased and operated for a certain period by a private company, during this period, the infrastructure will be upgraded and extended and the asset will be transferred to the public sector at end of contract	8-15 years
Purchase-upgrade-operate-transfer	Private companies operate the infrastructure which will be upgraded/extended and possess the ownership of the infrastructure during the life of the contract – ownership is transferred to the public sector at end of contract	8-15 years
Build-lease-operate-transfer	A long-run lease contract is signed in advance between the public and private sector. Infrastructure is built by private companies on public land and operated until the private capital is recovered through fees from users. The ownership of the assets is transferred to the public sector at the end of contract	25-30 years
Build-own-operate-transfer	Private companies invest, build and operate the infrastructure until the capital is recovered through fees under a concession from the government. The ownership of the assets belongs to private companies during the period of concession and is then transferred to government at the end of the life of the concession	25-30 years
Design-build-transfer-operate	The infrastructure is invested in and built by private companies and transferred to government at a pre-agreed price. It is then leased and operated by the private company. In this way the risks from possessing asset ownership are avoided by the private company	20-25 years

Design-build-finance-operate	The private sector is responsible for the investment and establishment of the asset. The public sector is responsible for provision of core services to the asset and the private companies for related services. For example, a hospital is invested in and built by private companies but government provides the core medical service and private companies provide food and cleaning services	20-25 years
Purchase-upgrade-operate	The private sector purchases current infrastructure and operates and upgrades it. The private company possesses the permanent ownership at the end of the contract if the terms of ensuring the public interest can be met – but still under the supervision of government	Permanent
Build-own-operate	Private company invests, builds and possesses permanent ownership of an asset under the terms of ensuring the public interest can be met – but still under the supervision of government	Permanent

Source: Adams et al 2006:389

2.8 Critical Factors of Success in PPPs Infrastructure Projects

Study of critical success factors (CSF) in PPP projects helps in investigating the factors which influence the success of PPP projects. The term CSF was first used by a research team at MIT's Sloan School of Management and can be described as limited number of areas for any business which must receive continuous and careful attention of the management and in which satisfactory results shall ensure successful competitive performance for the organization (Rockart 1979). In PPP research, many authors have investigated various construction projects in developed countries to draw a list of CSFs which must be given due attention for achieving success for the PPP projects (Li et al 2005; Dixon et al 2005; Yuan et al 2010; Cheung et al 2010). However, criticality of these success factors is not universal i.e. each type of project stakeholders has its own value assigned to different CSFs. A study based upon the CSFs outlined by various researchers showed that each of the four groups of stakeholders (including academia, private sector, public sector and general public) opted for top five objectives from amongst the CSFs and only one commonality in objectives was found i.e. acceptable quality of the projects. The stakeholders stressed the quality, time and cost of PPP projects with high expectations on public service (Yuan et al 2009).

A comparative study of the PPP projects carried out in Hong Kong and Australia by Cheung et al (2010) used 18 critical success factors for PPP projects. However, results of the study showed that only two CSFs (i.e. project objectives well defined and partnership spirit/commitment/trust) were found to be commonly selected by respondents from both the countries. For Hong Kong 04 such CSFs were opted which were not selected by respondents from Australia and similarly, 07 unique CSFs were

marked by Australian respondents which were ignored by respondents from Hong Kong.

The criticality of the success factors is not universal i.e. each type of project stakeholders has its own value assigned to different CSFs. A study based upon the CSFs outlined by various researchers showed that each of the four groups of stakeholders (including academia, private sector, public sector and general public) opted for top five objectives from amongst the CSFs and only one commonality in objectives was found out i.e. acceptable quality of the projects. The stakeholders stressed the quality, time and cost of PPP projects with high expectations on public service (Yuan et al 2009).

As the PPP models often involve a large number of stakeholders with their unique competencies, it is necessary for success of these projects to bring together these individual competencies of multiple stakeholders to develop collective competence. A study conducted by Ruuska and Teigland (2009) investigated these issues to find out challenges involved in developing collective competence in PPPs and an effective mode of handling such issues. Differing goals, resource scarcity and interdependence of tasks posed the biggest challenges towards development of collective competence and the same were overcome by co-developing a project charter under leadership of a strong project leader and a joint problem solving technique while ensuring effective communication between all the stakeholders.

A summary of various research findings about CSFs in PPP projects is presented in the following table (Table 2.4):-

Table 2.4 Summary of the Studies on Critical Success Factors (CSFs)

Sr #	Names of the Authors	Factor Grouping	Critical Success factors
1	Li et al 2005	Effective procurement	<ol style="list-style-type: none"> 1. Transparency in the procurement process 2. Competitive procurement process 3. Good governance 4. Well organized public agency 5. Social support 6. Shared authority between public & private sectors 7. Thorough & realistic cost/benefit analysis
		Project implementability	<ol style="list-style-type: none"> 1. Project technical feasibility 2. Appropriate risk allocation and risk sharing 3. Commitment/responsibility of public/private sectors 4. Strong & good private consortium 5. Favorable legal framework
		Government guarantee	<ol style="list-style-type: none"> 1. Government involvement by providing guarantees 2. Multi-benefit objectives 3. Political support
		Favorable economic	<ol style="list-style-type: none"> 1. Stable macro-economic conditions 2. Sound economic policy
		Available financial markets	<ol style="list-style-type: none"> 1. Available financial market
2	Dixon et al 2005		<ol style="list-style-type: none"> 1. A robust & financially viable business case 2. Clearly drafted output specifications 3. Consultation with end users to reflect their needs in the output specifications 4. Balanced performance measurement system coupled with clear and appropriate risk transfer 5. Commitment & adequate resourcing of projects by awarding authorities 6. Involving project financiers at earlier stage of project 7. Good communication between awarding authority & SPV 8. Good project management & composition of project team

3	Yuan et al 2010	<p>More public benefit</p> <p>Better public service</p> <p>Avoidance of financial & risk management constraints</p> <p>Performance improvement of projects</p> <p>Commercialization</p>	<ol style="list-style-type: none"> 1. Acceptable quality of the project 2. Project within budget or under budget in construction & operation 3. Quality public service 4. On- time or early project completion 5. Solving public sector budget constraints 6. Provide timely and convenient service for the general public 7. Satisfying the need for public facilities 8. Life cycle cost reduction 9. Introducing business & profit generating skills to the public sector 10. Transferring risk to private sector 11. Promoting local economic development 12. Making profit from public service 13. Improving technology level or allowing technology transfer 14. Public sector can acquire additional facilities/ services beyond the minimum requirement from the private sector 15. Private sector can earn government sponsorship, guarantees and tax reduction
4	Cheung et al 2010		<ol style="list-style-type: none"> 1. Champion 2. Large project capital value 3. Well prepared contract/ document 4. Partnership spirit/commitment/trust 5. Transparent process 6. Project objectives well defined 7. Public consultation 8. Appropriate risk allocation 9. Large operating element 10. Development potential 11. Economic business case 12. Effective negotiation between parties 13. Competitive procurement process 14. Government support 15. Skilled & experienced parties 16. Clear milestones, 17. Initiate projects 18. Value for money.

5	Cheung et al 2012	Equitable allocation of risk	1. Appropriate risk allocation
		Strong Private consortium	1. Strong private consortium 2. Good partners' relationship 3. Technology transfer 4. Effective management control
		Judicious government control	1. Government guarantees 2. Consultations with end users 3. Appropriate project identification
		Transparent and efficient procurement process	1. Competitive and transparent procurement process 2. Clear project brief and client requirements
		Project economic viability	1. Project economic viability 2. Business diversification
		Adequate legal framework & stable political environment	1. Strong government support 2. Stable and transparent political/social situation
		Available financial market	1. Available financial markets
6	Zhang 2005	Favorable investment environment	1. Stable political system 2. Favorable economic system 3. Adequate local financial market 4. Predictable currency exchange risk 5. Predictable and reasonable legal framework 6. Government support 7. Supportive and understanding community 8. Project is in public interest 9. Predictable risk scenarios 10. Project is well suited for privatization 11. Promising economy
		Economic viability	1. Long-term demand for products/services offered by the projects 2. Limited competition from other projects 3. Sufficient profitability of the project to attract investors 4. Long term cash flow that is attractive for lenders 5. Long-term availability of supplies needed for normal operation of the project

		Reliable concessionaire consortium with string technical strength	<ol style="list-style-type: none"> 1. Leading role by a key enterprise or entrepreneur 2. Effective project organization structure 3. Strong and capable project team 4. Good relationship with host government authorities 5. Partnering skills 6. Rich experience in international PPP project managements 7. Multidisciplinary participants 8. Sound technical solutions 9. Innovative technical solutions 10. Cost effective technical solutions 11. Low environmental impact 12. Public safety and health considerations
		Sound financial package	<ol style="list-style-type: none"> 1. Sound financial analysis 2. Investment, payment and drawdown schedules 3. Source and structure of main loans and standby facility 4. Stable currencies of debts and equity finance 5. High equity/debt ratio 6. Low financial charges 7. Fixed and low rate financing 8. Long term debt financing that minimizes refinancing risk 9. Abilities to deal with fluctuations in interest/exchange rates 10. Appropriate toll/tariff levels and suitable adjustment formula
		Appropriate risk allocation via reliable contractual arrangements	<p>Appropriate and reliable risk allocation in :</p> <ol style="list-style-type: none"> 1. Concession agreement 2. Shareholder agreement 3. Design and construct contract 4. Loan agreement 5. Insurance agreement 6. Supply agreement 7. Operation agreement 8. Off-take agreement 9. Guarantees/support/ comfort letters

7	Toor and Ogunlana 2008	Comprehension	<ol style="list-style-type: none"> 1. Requiring use of facts and data to support actions at all levels of decision making 2. Knowing what client really wants 3. Client acceptance of plans 4. Clear prioritization of project goals by the client
		Competence	<ol style="list-style-type: none"> 1. Competent team members 2. Competent project managers 3. Awarding bids to the right designers/contractors
		Commitment	<ol style="list-style-type: none"> 1. Effective project planning and control 2. Clearly defined goals and priorities of all stakeholders
		Communication	<ol style="list-style-type: none"> 1. Regular client consultation
8	S.T. Ng et al 2012	Technical Factors	<ol style="list-style-type: none"> 1. Project size is technically manageable by single consortium 2. Possibility of innovative solutions (leading to time/ cost savings) 3. Availability of government experience in packaging similar PPP projects 4. Availability of experienced, strong and reliable private consortium 5. Service quality can be easily defined and objectively measured 6. Contract is flexible enough for frequent changes in output specifications 7. Project is not susceptible to fast paced changes (e.g. technology changes)
		Financial & Economic factors	<ol style="list-style-type: none"> 1. Project is more cost effective than traditional forms of project delivery 2. Project can be substantially self funded or a non recourse basis 3. Project value is sufficiently large to avoid procurement disproportionate procurement costs 4. Project is of financial interest to private sector 5. Project can attract foreign capital 6. Project is bankable & profitability of the project is sufficient to attract investors and lenders 7. Economic environment is stable and favorable 8. Existence of a sound governmental economic policy

		Social factors	<ol style="list-style-type: none"> 1. There is long term demand of the products/ services in the community 2. The community is understanding and supportive 3. Delivery of service is stable and reliable 4. Level of toll/ tariff is acceptable 5. Project can create more job opportunities 6. Project is environmentally sustainable
		Political & legal factors	<ol style="list-style-type: none"> 1. Project is not politically sensitive 2. Political environment is stable 3. There is political support for the project 4. Project is compatible with current statutory and institutional arrangement 5. There is a favorable legal framework (mature, reasonable and predictable)
		Others factors (staff issues & possible management action)	<ol style="list-style-type: none"> 1. Fairness of new conditions to the employees 2. Possibility of significant redundancy 3. Existence of a resolution for any civil service staff redundancy 4. Supportiveness and commitment of staff to the project 5. Flexibility to decide appropriate risk allocation 6. Support from the government (guarantee or loan) is available 7. Authority can be shared between the public and private sectors 8. Possibility of an effective control mechanism over the private consortium 9. Matching government s' strategic and long term objectives
9	Hwang et al 2012		<ol style="list-style-type: none"> 1. Well organized public agency 2. Appropriate risk allocation and sharing 3. Strong private consortium 4. Transparency in procurement process 5. Clear defined responsibilities and roles 6. Clarification of contract documents 7. Favorable legal framework 8. Shared authority between public and private sector

10	Jefferies, M. et al 2002		<ol style="list-style-type: none"> 1. Environmental impact 2. Approval process efficiency/ complicated negotiations 3. Technical innovation / complexity 4. Developed legal/ economic framework 5. Political stability – opposed/ support 6. Selecting the right project 7. Existing JV/ strategic alliances 8. Organizational size-resource management ability 9. Trust 10. Community support 11. Feasibility study 12. Transfer of technology 13. Financial capability 14. Compatibility / complimentary skills 15. Consortium structure
11	Yang et al 2010		<ol style="list-style-type: none"> 1. Managing stakeholders with social responsibilities (economic, legal, environment and ethics) 2. Exploring stakeholder needs to the project 3. Communicating with and engaging stakeholders properly and frequently 4. Understanding area of stakeholder interest area 5. Properly identifying stakeholders 6. Keeping and promoting a good relationship 7. Analyzing conflicts and coalitions among stakeholders 8. Accurately predicting the influence of the stakeholders 9. Formulating appropriate strategies for management of stakeholders 10. Assessing attributes (urgency, power & proximity) of the stakeholders 11. Effectively resolving conflicts between stakeholders 12. Formulating a clear statement of project mission 13. Predicting stakeholders reaction to implementation of the strategies 14. Analyzing the changes in the stakeholder influence and relationships 15. Assessing stakeholder behavior

2.9 PPPs: A Critical View

The critics of the idea of PPP are of the view that such contractual arrangements are inappropriate for the provision of public services over the medium term owing to uncertainty avoidance on the part of the state which can be positively handled by the state alone. Further, the risk identification, realization of risk transfer and value for money are also difficult to achieve in the PPP models (Froud 2003). Under estimation and poor allocation of risks can result in increased costs and project delays with services failing to deliver the desired value for money (Loosemore 2007). PPPs are also viewed as a language game alone coined as an alternative for concepts of privatization and contracting out which usually attract opposition. Though some of the policy promises for PPPs have been delivered, yet evaluations in UK have delivered contradictory results which needs more careful evaluations in future (Hodge and Greve 2007:553-554).

The viability of PPP projects is largely dependent upon robust futuristic cash flows over a longer period of time besides fulfilling the conditions of value for money and risk transfer (Grimsey and Lewis 2002). Therefore, projects with lower expected revenue cash flows cannot be procured through these arrangements (Loosmore 2007) and further, long term availability of robust cash flows is in itself an uncertainty beyond the control of either of the parties. Complex contractual frameworks under the PPPs are also difficult to handle in view of the multiplicity of stakeholders and their allied but competing interests (Smith 2009).

Joyner (2007) has opined that it is always better for the public sector to go for the middle path of partnerships instead of going for mere contracting out of infrastructure or complete ownership and operation of the private sector. Elimination of the role of the state in large capital projects can be often misguided. Therefore, involvement of the state is critically required either as a partner or as a regulator and PPPs should not be considered as its substitute, though such partnerships may redefine the role of the state (Jamali 2004). Such partnerships are often found lacking in accountability of transnational corporations and monitoring/ enforcement mechanisms which could ensure that the PPPs are mutually beneficial for the partners and not just the private sector (Thomson 2007:2).

For developing countries, PPPs have been successful in delivering the short term goals of public savings and efficiency gains at the cost of reduced role of the public sector. However, results of such partnerships in delivering the long term goals of increase in the private investment levels across various sectors, improved access and affordability, impact on the overall investment climate and associated growth effects have remained mixed (Estache 2004:7-10). Most of the developing countries have to rely upon foreign lenders which expose them to currency risks. Such countries may rely upon their internal non- bank lenders like pension funds or insurance companies but usually this is not possible as well because of state ownership of such companies which restricts their investments in government securities alone instead of private investments (Merna et al 2010:26). Further, developing countries may not be able to successfully implement the PPPs in the wake of following limiting factors (Yong 2010:55-56):

- Lack of political acceptability of PPPs
- Lack of clear policy statement
- Weak capacity of the public sector
- Lack of legal, regulatory and institutional frameworks and enabling environment
- High cost and risks for the private sector
- Lack of private sector players
- Absence of long term debt
- Inability of users to afford the service fees
- Small size of the economy/ sector

2.10 Stakeholder Theory

The involvement of multiple stakeholders, with varying degree of stakes in the outcomes of the public private partnerships, makes the task of stakeholder management very critical. The very nature of contractual partnerships spanning over 20 to 30 years in most of cases, makes it difficult to handle the often competing expectations of the stakeholders effectively during the life of the contract. In this backdrop, the study of stakeholder management has gained significance in the project management literature and organizational studies.

The stakeholders were initially described as groups without which the organizations would fail to exist. However, other groups which can affect the organization or are

affected by it are also considered stakeholders (Freeman 1984). Freeman (2000) has described the stakeholders concept as an attempt to developing the strategic management approach for the organizations suggesting the groups and individuals who can affect the organizations and guiding the managerial behaviors taken in response to these stakeholders. Although, the stakeholder theory started emerging as a part of strategic business management, it has evolved over the last 25 years towards finding its usage in disciplines like finance, accounting, management and marketing.

Freeman (1994 409-10, 417) considers stakeholder theory a ‘genre’ suggesting one of the many ways of blending business with ethics to resolve the paradox of doing business without ethics or ethics without business. Stakeholders may benefit from the ‘doctrine of fair contracts’ based upon following six principles:

- I. The principle of entry and exit
- II. The principle of governance
- III. The principle of externalities
- IV. The principle of contracting costs
- V. The agency principle
- VI. The principle of limited immorality

However, this view is associated with the philosophy of pragmatism which regards practical consequences to be the test of truth and associates with dynamic values as socially and biologically evolving means of adaptation and control. Freeman disregards normative, descriptive and instrumental theories while considering these to be different uses of stakeholder theories. In a way, his views are influenced by postmodern thinking (Friedman and Miles 2006:38). Freeman et al (2010) further argue that through adoption of stakeholder theory, a mindless pursuit by the business for creating value for shareholders at the expense of stakeholders can be avoided which otherwise can lead to ultimate loss for both the shareholders and stakeholders. Failing to attend to the information and concerns of the stakeholders often leads to poor performance, failure or even disaster for the organizations (Bryson 2004).

2.11 Stakeholder Theory and Project Management

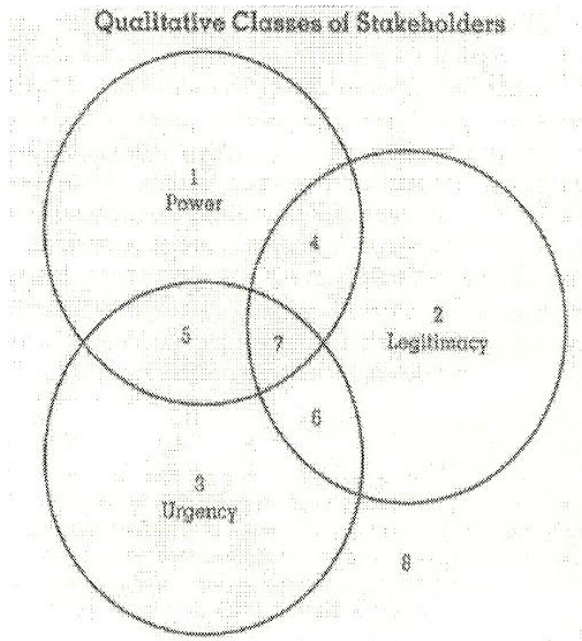
Stakeholder management has gained sufficient attention in the fields of general and project management studies during the last 25 years and is generally viewed as a management technique, ethical requirement or as a forum for dialogue for social

learning for conceptualizing the theory in the field of project management (Mathur et al 2008). Most of the literature on stakeholder theory in the project management literature has been focused towards project stakeholder identification, analysis and response strategies or impact analysis, thereof, for successful management of projects. Stakeholder terminology is moving towards more comprehensive and multilateral view with significant importance being given to this concept in the project management context. The drivers for development of stakeholder theory are mostly related to project evaluation and project strategies (Assudani & Kloppenborg 2010; Zhai et al 2009; Olander & Landin 2008; Ackermann and Eden 2011; Littau et al 2010).

The project stakeholders can be classified into three categories based upon their respective (or collective) attributes like power to influence, legitimacy of relationships and the urgency of their claims (Fig 2.5). Seven broad categories of the stakeholders based upon their respective attributes (Fig 2.6) are classified as “dormant, discretionary, demanding, dominant, dangerous, dependant and definitive stakeholders”. These classes of stakeholder can then be grouped together into following three categories (Mitchell et al 1997:872, 873):

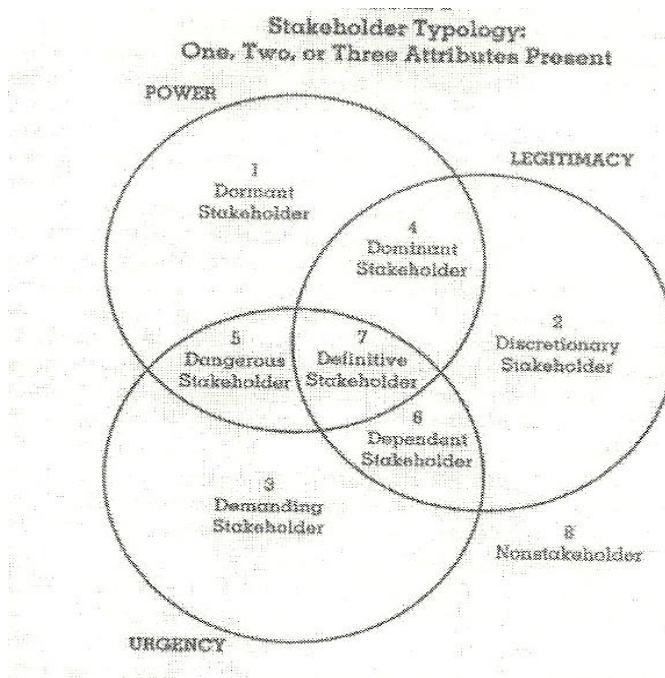
- a) Latent Stakeholders [dormant, discretionary and demanding stakeholder: low salience group having either of the attributes of power, legitimacy and urgency].
- b) Expectant Stakeholders [dominant, dangerous and dependant stakeholders: moderate salience group possessing a combination of two attributes from amongst power, legitimacy and urgency].
- c) Salient Stakeholders [definitive stakeholders having a combination of all three attributes of power, legitimacy and urgency].

Figure 2.5 Qualitative Classes of Stakeholders



Source: Mitchell et al 1997:872

Figure 2.6 Stakeholder Typology



Source: Mitchell et al 1997: 873

Strategic choice to be adopted for specific stakeholders varies with the varying degree of their relative cooperative potential vis a vis their relative competitive threat and can lead to certain defensive, offensive, hold or swing strategies. (Freeman 2000: 143, 145). Table 2.4 lays down relationship between relative status of stakeholders and the respective choice of strategies to be adopted for their management.

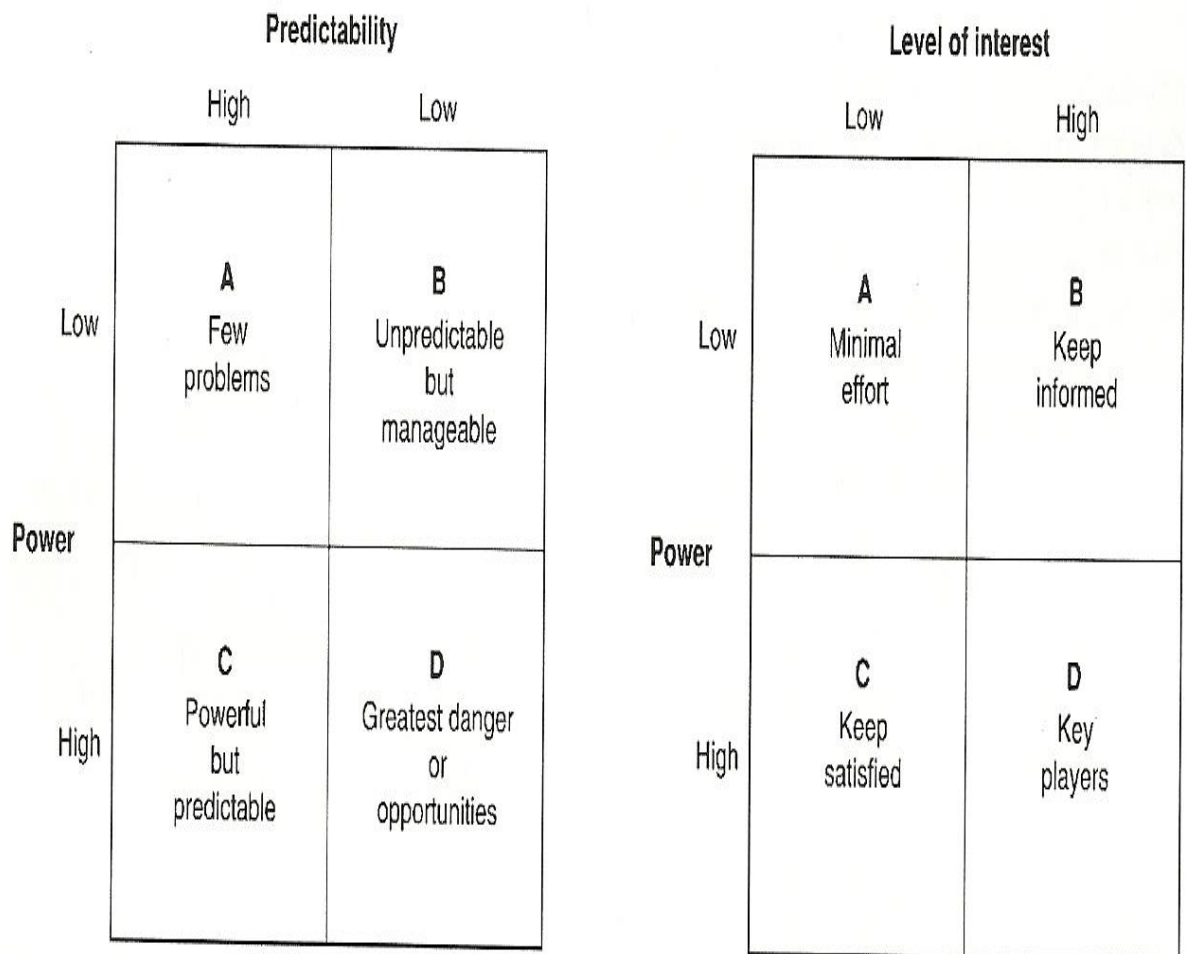
Table 2.5 Nature of Stakeholders & Strategic Choices

	RELATIVE COOPERATIVE POTENTIAL VS COMPETITIVE THREAT	STRATEGIC CHOICE	SPECIFIC STAKEHOLDER PROGRAMMES
1	Stakeholders with high relative cooperative potential and high competitive threat	Swing	<u>CHANGE THE RULES PROGRAMS</u> <ul style="list-style-type: none"> • Formal rules changes through government • Change the decision forum • Change the kinds of decisions that are made • Change the transaction process
2	Stakeholders with high relative cooperative potential and low competitive threat	Offensive	<u>EXPLOIT (OFFENSIVE PROGRAMS)</u> <ul style="list-style-type: none"> • Change the beliefs about the firm • Do something (anything) different • Try to change the stakeholder's objective • Adopt the stakeholder's position • Link the program to others that the stakeholder views more favorably • Change the transaction process
3	Stakeholders with low relative cooperative potential and high competitive threat	Defensive	<u>DEFEND (DEFENSIVE PROGRAMS)</u> <ul style="list-style-type: none"> • Reinforce current beliefs about the firm ("Preach to the Choir") • Maintain the existing programs • Link issues to others that stakeholders see more favorably • Let stakeholder drive the transaction process
4	Stakeholders with low relative cooperative potential and low competitive threat	Hold	<u>HOLD CURRENT POSITION (HOLDING PROGRAMS)</u> <ul style="list-style-type: none"> • Do nothing and monitor the existing programs • Reinforce the current beliefs about the firm • Guard against the changes in the transaction process

Source: Adapted from: Freeman, R.A. 2000

In the context of stakeholder management in projects, it is important to know how likely a stakeholder group can enforce its expectations on the project and have they got the power to do so. Similarly, impact of the stakeholder expectations on the project strategies is also very important. For this purpose, Newcombe (2003) has presented a model for stakeholder mapping and measuring their respective power- predictability and power- interest through a matrix system (Fig 2.7)

Figure 2.7 Stakeholders Mapping for Power-Predictability and Power-Interest



Similarly, various other methods have also been developed and used for stakeholder assessment/ evaluations and measurement of the stakeholder impact/ vested impact index (Nguyen et al 2009; Bourne and Walker 2005; Olander 2007; Olander and Landin 2008). The vested interest- impact index (ViII) is based upon vested interest level highlighting the probability of impact and influence impact levels indicating the level of impact. Both the factors V & i are assessed qualitatively between a range of 1 to 5 with

5 being rated as very high and 1 as very low. The ViII is then calculated as $ViII = \sqrt{V \cdot i / 25}$ (Bourne & Walker 2005: 653).

Olander (2007) added further factors of stakeholder attribute value (A) and position value (Pos) with the vested interest- impact index (ViII) to compute stakeholder impact index (SII) as:

$$SII = ViII \cdot A \cdot Pos$$

- $A = P + L + U$ P, L & U refer to weighted scores for power, legitimacy and urgency respectively – ranging between 0 & 1 with sum of the attributes weighing as 1.
- Pos are numerically assessed as: active opposition = -1, passive opposition = -0.5, not committed = 0, passive support = 0.5 and active support = 1.

Total stakeholder impact index for the projects is:

$$SII_{proj} = \sum SII_{\kappa}$$

- Whereas κ is the number of project stakeholders (from 1 to n)

Olander (2007) further suggests that if the overall value of SII_{proj} is positive, then the project shall have a favorable stakeholder impact but if it is in the negative zone, then such impact shall be negative for the project. Application of ‘sufficient’ stakeholder management should ensure raising the value of SII_{proj} throughout the project lifecycle.

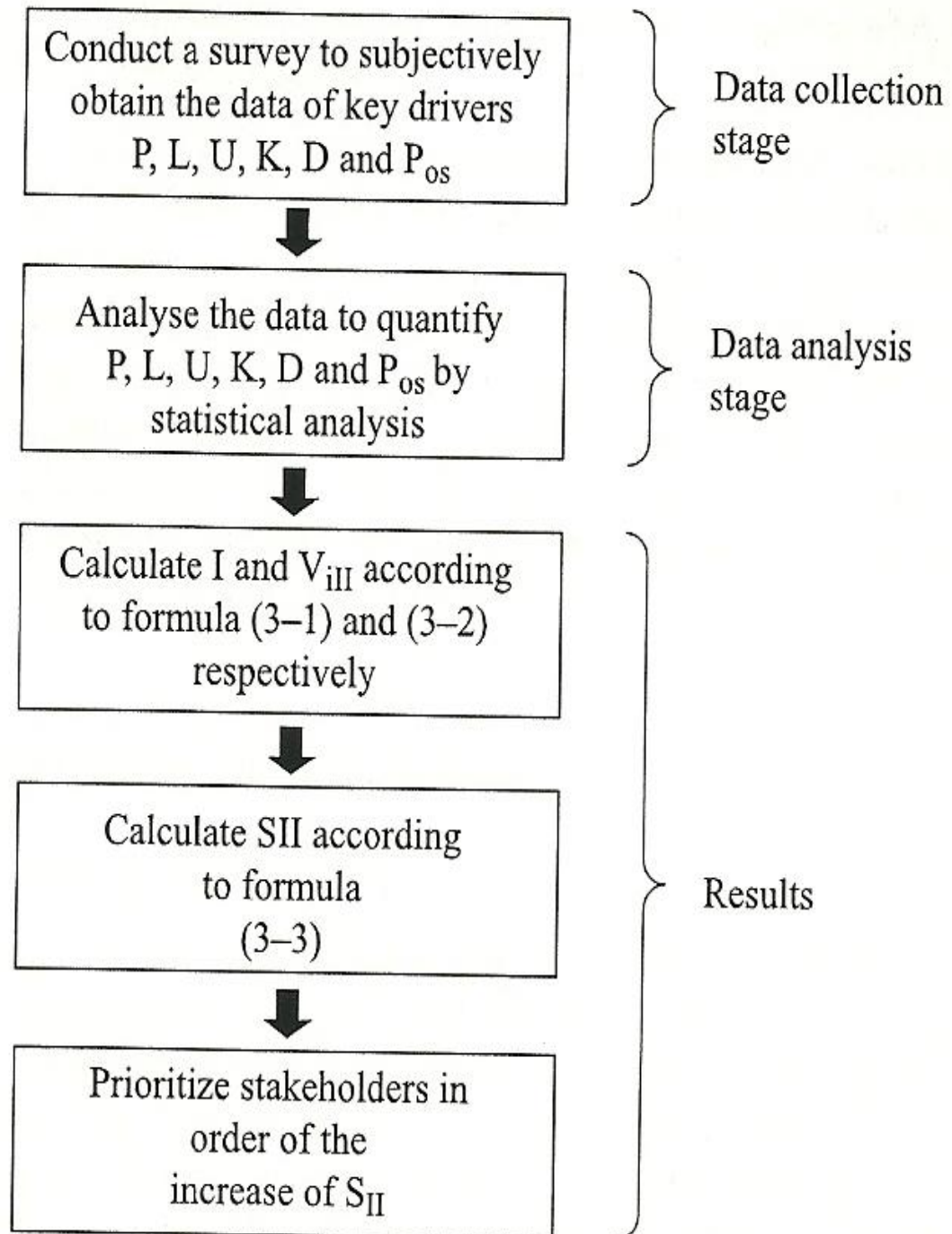
Building upon this work of Bourne and Walker (2005) and Olander (2007), Nguyen et al (2009) have further added two more factors into the calculation of impact of stakeholders. These factors are stakeholder knowledge level (K) and stakeholder proximity level (D). Accordingly, impact (i) is calculated as:

$$i = P + K + U + K + D$$

The vested interest – impact index (ViII) and Stakeholder impact index (SII) are calculated by method described earlier while using a modified value of stakeholder impact (i). The evaluation model used by Nguyen et al (2009) is reflected in Fig. 2.8.

Figure. 2.8 Stakeholder Impact Analysis

Stakeholder impact analysis



Source: Nguyen et al (2009)

Although sufficient literature on stakeholder theory and management is available in the field of project management, yet the author has not been able to find any substantial research literature based upon stakeholder management specifically in the context of public private partnerships. Further, following gaps have been identified in the existing literature on stakeholder management (Yang et al 2010: 9):

- I. A comprehensive list of factors affecting the success of stakeholder management has yet to be fully developed.
- II. A systematic framework for stakeholder management needs to be further developed
- III. A range of practical approaches that can be used for stakeholder management has yet to be consolidated
- IV. Most studies focus only on issues of promotion of relationships themselves, but few focus on analyzing the impact of the projects resulting from those stakeholder relationship networks.

2.12 Summary

This chapter has presented a broad discussion about key concepts relating to this research. Through discussions, it is evident that the conceptual framework of the study (presented in the first chapter) developed on the basis of initial review of literature holds good for the study. Therefore, it was decided to proceed further with this research framework. Detailed research methodology and results of qualitative and quantitative data analysis are presented in the following chapters.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology and research methods used in this research. The research methodology outlines the philosophy of research besides outlining various approaches and strategies to address the main research aim and objectives. The second part of the chapter outlines the choice of research methods, time horizon of the study, selection of tools for data collection and data analysis. Though both terms (i.e. research methods and research methodology) are often used interchangeably yet Saunders et al (2009:2) view both these terms differently. The term ‘method’ is used for techniques and procedures which researchers use to obtain and analyse the data whereas the ‘methodology’ outlines the theory behind the research. As the research methodology represents the whole process of solving a research problem and methods represent the analytical tools used for problem solving, it can be argued that research methods form part of a broader perspective of research methodology (Sahu 2013).

3.2 Research Aims and Objectives

Before explaining the research methodology and methods, it is necessary to recapitulate the research aims, objectives and questions to create a background for further discussion. As discussed in Chapter 1, aim of the research is to develop a framework of key factors which influence the successful adoption of PPPs as a tool for infrastructure growth in the developing countries context. In order to achieve the above said aim, the proposed research has the following objectives:-

- III. To study the use of PPPs for infrastructure growth and analyze the process of diffusion of PPPs from developed countries to the developing countries.
- IV. To investigate the critical factors for successful implementation of infrastructure related PPP projects and stakeholder perceptions thereof under the local context.

3.2.1 Research Questions

In order to achieve the aforementioned objectives, the following key questions shall be addressed through this proposed research:-

Question 1: How has the existing state of the PPPs evolved in the advanced and developing countries?

Question 2: How did PPPs diffuse in Pakistan?

Question 3: To what extent do the method of diffusion and local contextual factors influence the implementation of the PPP projects for infrastructure development?

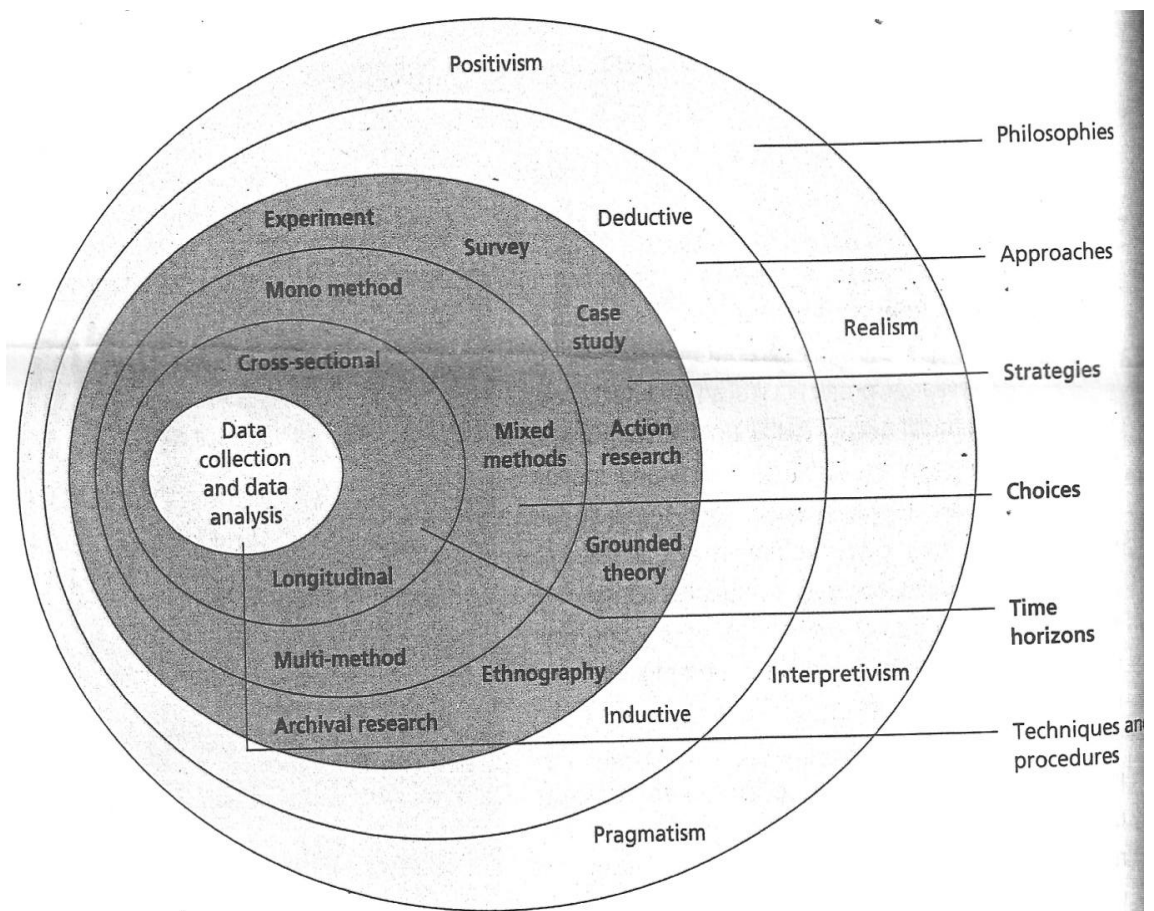
Question 4: What are the critical factors for the successful implementation of infrastructure related PPPs?

Question 5: How much variance exists in the perception of different stakeholder groups towards the significance of the critical factors for successful implementation of PPP infrastructure projects?

3.3 Research Process

The research process has been described as an ‘onion’ containing 6 layers (Saunders et al 2009) each of which relates to a unique research perspective:-

Figure 3.1 Research Process



Source: Saunders et al (2009:108)

3.4 Research Philosophy

Knowledge and understanding of philosophical context is important for social science research as such assumptions affect the research perspective as well as nature of investigation and findings. There are alternative philosophies available in social science research which view the nature of research differently and often are in conflict with each other. Therefore, it is important for the social researchers to know these philosophies to make an informed decision about the research (Denscombe 2010a). Research paradigm is a term used to “*describe a cluster of beliefs and dictates.....which influence what should be studied, how research should be done, and how results should be interpreted*” (Bryman 2012).

Four main research paradigms (i.e. positivism, realism, interpretivism and pragmatism) have different ontological and epistemological considerations which make them alternative research philosophies with often competing and/or conflicting assumptions. Ontology is the theory of the nature of social entities and refers to the nature of social realities/ beliefs of the researcher about this reality. Epistemology on the other hand relates to the theory of knowledge and refers to creation of human knowledge about the social world and questions the basis upon which researchers claim to have knowledge of social reality (Bryman 2012, Denscombe 2010a). A comparison of four major research paradigms on the basis of their respective ontology, epistemology, axiology (researchers view on the role of values in research) and data collection techniques reveals sharp contrast amongst these alternative paradigms as shown in Table 3.1.

Table 3.1 Comparison of Research Paradigms

	POSITIVISM	REALISM	INTERPRETIVISM	PRAGMATISM
Ontology: the researcher's view of the nature of reality or being	External, objective and independent of social actors	Is objective, exists independently of human thoughts and beliefs or knowledge of their existence (realist), but is interpreted through social conditioning (critical realist)	Socially constructed, subjective, may change, multiple	External, multiple, view chosen to best enable answering of research question
Epistemology: the researchers' view regarding what constitutes acceptable knowledge	Only observable phenomena can provide credible data, facts. Focus on causality and law like generalisations, reducing phenomena to simplest elements	Observable phenomena provide credible data, facts. Insufficient data means inaccuracies in sensations (direct realism). Alternatively, phenomena create sensations which are open to misinterpretation (critical realism). Focus on explaining within a context or contexts	Subjective meanings and social phenomena. Focus upon details of situation, a reality behind these details, subjective meanings motivating action	Either or both observable phenomena and subjective meanings can provide acceptable knowledge dependent upon the research questions. Focus on practical applied research, integrating different perspectives to help interpret the data
Axiology: the researcher's view of the role of values in research	Research is undertaken in a value-free way, the researcher is independent of the data and maintains an objective stance	Research is value laden; the researcher is biased by world views, cultural experiences and upbringing. These will impact on the research	Research is value bound, the researcher is part of what is being researched, cannot be separated and so will be subjective	Values play a large role in interpreting results, the researcher adopting both objective and subjective points of view
Data collection techniques most often used	Highly structured, large samples, measurement, quantitative, but can use qualitative	Methods chosen must fit the subject matter, quantitative or qualitative	Small samples, in-depth investigations, qualitative	Mixed or multiple method designs, quantitative and qualitative

Saunders et al (2009:119)

According to Mangan et al (2004:568), there are two basic paradigms in social science research which include:

- *Positivist Paradigm which is qualitative, objectivist, scientific, experiments, traditionalists, hypothetico-deductive, social constructivism in nature and*
- *Phenomenological Paradigm is mostly inclined towards qualitative, subjective, humanistic, interpretivist/hermeneutic and inductive modes of enquiry.*

Keeping the research aims/ objectives and questions in view, it can be opined that selection of any particular paradigm would be difficult for this study. For this research, public private partnership projects in Pakistan in energy and road infrastructure sectors are being studied where no earlier research has been carried out and little is known about the reality of such partnerships besides scarce target population as well as literature. Most of the questions are of 'What' and 'How' nature and may require different methods or treatment for finding realistic answers based upon use of qualitative and/or quantitative methods. It is interesting to note that various paradigms prefer either of these methods but none of these supports combined use of these methods in a single study. Therefore this study does have elements of various paradigms. Its ontological position is based upon constructivism which considers that '*social entities can and should be considered social constructions built up from the perceptions and actions of the social actors*' (Bryman et al 2008a:18). The researcher has to construct the reality of PPPs in Pakistan upon the perception/ experiences and actions of the stakeholders involved therein. Similarly, the epistemological position of this research is more or less inclined towards realism which shares some beliefs of positivism as well and believes that researcher can only understand and change the social world through identification of the structures at work which generates those events (Bryman et al 20008a:14).

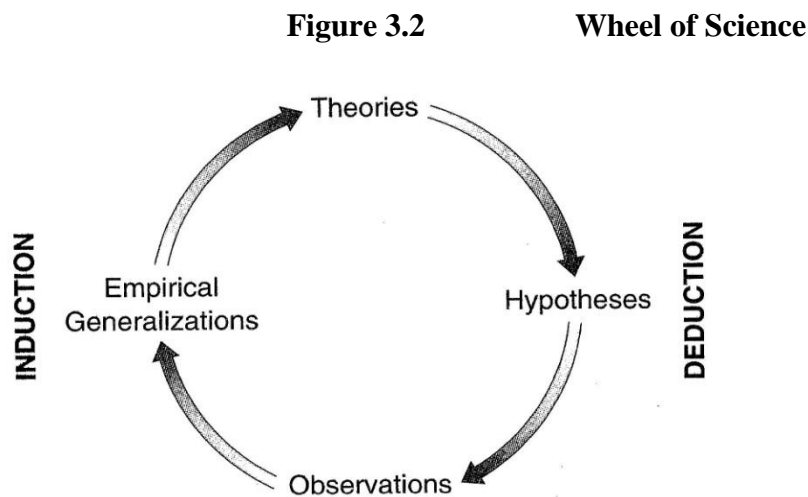
In this backdrop, it would be very difficult to associate this research with any one specific paradigm and any attempt to do so would be unrealistic. Therefore, the research questions will shape the ontology, epistemology and axiology of research as one of these may be more apt than the other in answering the questions. This aspect of research is supported under pragmatism (Saunders 2009:109) and researcher is also inclined to associate this research under pragmatism and would describe this study as an applied, interpretative, constructivist and positivist in one way or the other. This kind of research is often associated with mixed methods; is pluralistic and focuses upon research

questions than the research methods used therein (Creswell and Clark 2011). This is also supported by Teddlie and Tashakkori (2012:779) who describe this kind of research as paradigm pluralism and suggest that multiple paradigms may support the philosophical underpinnings behind multi-method research without linking the paradigms to a specific method or underlying assumptions of these paradigms.

3.5 Research Approach and Strategy

3.5.1 Research Approach

Another classification of social science research is described as inductive research and deductive research. Babbie (2007:23) has cited Wallace (1971) to describe this classification as a wheel of science (Fig 3.2). In this wheel, the theory and research cycle has been compared to a relay race wherein researchers do not start or stop at same points though they share a common goal to examine social life.



Source: Babbie, (2007:23)

As illustrated in Fig 3.2, the induction research starts with observation and moves along the cycle of empirical generalizations, theories and hypothesis testing. Babbie (2007:22) describes induction as “*the logical model in which general principles are developed from specific observations*” and develops some sort of problem statement without seeking to accept or reject the research hypothesis (Perri and Bellami 2012). Similarly, Somekh and Lewin (2011:324) defines induction as a “*process of constructing theories from empirical data by searching for themes and seeking to make meanings from the evidence*”.

On the other hand, the wheel of science describes deductive research getting started with theory based hypothesis building which is then tested for its correctness through observation and empirical generalizations to add to the theoretical knowledge. Deductive research can be defined as “*the process of using established theories as framework to interpret empirical data*” (Somekh and Lewin 2011:322).

Saunders et al (2009:127) have summarised the main differences in both the inductive and deductive approaches towards social science research which are presented in Table 3.2.

Table 3.2 Differences in Inductive and Deductive Approaches to Research

DEDUCTION EMPHASIS	INDUCTION EMPHASIS
<ul style="list-style-type: none"> • Scientific principles • Moving from theory to data • The need to explain causal relationships between variables • Collection of quantitative data • Application of controls to ensure validity of data • Operationalisation of concepts to ensure clarity of definition • Highly structured approach • Researcher independence of what is being researched • Necessity to select samples of sufficient size in order to generalise conclusions 	<ul style="list-style-type: none"> • Gaining an understanding of the meanings humans attach to events • Close understanding of the research context • Collection of qualitative data • More flexible structure to permit changes of research emphasis as the research progresses • Realisation that the researcher is part of the research process • Less concern with the need to generalise

Source: Saunders et al (2009:127)

As in case of paradigms, it is difficult to describe this research as inductive or deductive in nature. At preliminary stage, an inductive approach is being used to ascertain the diffusion of public private partnerships (PPPs) for infrastructure development from developed to the developing countries under the theoretical lens of new public management (NPM) and for this purpose qualitative data has been collected through semi structured interviews. At the later stage, quantitative data has been collected using self completion questionnaire and this part of the study has the attributes of the deductive research approach.

3.5.2 Research Strategy

Saunders et al (2009) suggest that there are various research strategies available for social research (like experiment, survey, case study, action research, grounded theory, ethnography and archival research) which may belong to inductive or deductive research approach. However it is usually not possible to allocate these strategies to one of these approaches exclusively. Selection of the research strategy is often guided by the research questions and research objectives. Various strategies have been defined by various authors (Babbie 20007, Bryman 2008a, Charmaz & Bryant 2011 Yin 2009, Sahu 2013, Gobo 2011 and Saunders et al 2009) which are briefly stated as follows:-

- **Experiment** - Study of causal links mostly in natural and often in social science research, rules out alternative causal explanations of findings deriving from it by having at least one experimental group and a control group, often conducted in laboratory settings rather than in the field.
- **Survey** – often used for exploratory and descriptive research, deductive approach, uses self completion questionnaires and structured interviews, collects qualitative or quantitative data with two or more variables, and establishes relationship between variables.
- **Case Study** – Detailed and intensive analysis of single case or cases, rich understanding of the context, entrenched in a specific physical/ socio-cultural context, existing phenomenon examined (meaningfully and holistically) within real life context.
- **Action Research** – research in action, collaboration between researcher and client, iterative diagnoses, implications beyond the immediate research project and could inform other contexts, does not involve theoretical basis, directing towards immediate problem under given situation.
- **Grounded Theory** – an iterative approach of data collection and analysis simultaneously using comparative methods, data generated through series of observations, often inductive and qualitative in nature, focuses upon theory formulation rather than hypothesis testing.
- **Ethnography** – inductive approach focuses upon detailed and accurate description rather than explanation, direct observation which can be either participant observation or non participant observation, more inclusive sense than participant observation, flexible process responsive to changes.

- **Archival Research** - administrative records and documents serve as data source; considered part of reality being studied but not collected for research purpose exclusively.

In social science research practice, either of the above or a combination of more than one research strategy can be used depending upon nature of the research objectives and research questions. As the current research is investigating the spread of PPPs in developing countries and developing a framework of critical factors for successful adoption of such partnerships in developing countries for infrastructure growth, a case study strategy was selected by the researcher.

Table 3.3 Criteria for Selection of Research Strategy

METHOD	FORM OF RESEARCH QUESTIONS	REQUIRES CONTROL OF BEHAVIOR EVENTS?	FOCUS ON CONTEMPORARY EVENTS?
EXPERIMENT	How, why?	Yes	Yes
SURVEY	Who, What, Where, How many, How much?	No	Yes
ARCHIVAL ANALYSIS	Who, What, Where, How many, How much?	No	Yes/ No
HISTORY	How, Why?	No	No
CASE STUDY	How, Why?	No	Yes

Source: Yin (2009:8)

Chaderton and Torrance (2011:53) have defined case study as an approach “*which seeks to engage with and report the complexity of social and educational activity, in order to represent the meanings that individual social actors bring to those settings.....and assumes that social reality is created through social interaction, albeit situated in particular context and histories, and seeks to identify and describe before trying to analyse and theorize*”. Yin (2009:18) characterizes case study as an empirical enquiry which undertakes an in depth study of a current phenomenon in its real life context, has reliance upon multiple sources of data which need convergence in a triangulating manner and is considered more suitable for studies with pre-developed theoretical propositions to guide data collection and analysis.

The selection of research strategy needs to be made on the basis of types of research questions; extent of control the researcher has over behavioural events and the degree of focus on contemporary events as shown in Table 3.3. Case study strategy is preferred in the case of research wherein research questions are usually of “how” and “why” nature relating to a contemporary set of events where the researcher has little or no control. (Yin 2009:13). Case study is an effective research strategy in situations where little or nothing is known about the phenomenon of interest and can be used to develop explanatory theories and hypothesis (Thomas 2004: 21; 128). Case study research may use qualitative, quantitative or mixed methods of data collection and analysis but use of mixed methods is usually favoured for triangulating multiple sources of data. Data triangulation can be achieved by using semi-structured interviews (qualitative data) to add value to the data collected through questionnaire (quantitative data) and make the data more meaningful towards seeking answers to the research questions (Saunders et al 2012, Yin 2009). However, for case study research, Bryman (2012) is of the view that survey research and qualitative interviews are typical forms of quantitative and qualitative research designs.

As most of the research questions in the current research were of ‘how’ or ‘how much’ nature, case study method was selected as the principal research strategy wherein infrastructure projects in Pakistan (in energy and road network sectors) procured under public private partnership mode were selected as ‘a case’ for current study. Semi-structured interviews and questionnaire survey methods were chosen as tools for collection of qualitative and quantitative data. Rationale for selection of these tools for data collection is presented in the following sections.

3.6 Research Design: Choice of Qualitative, Quantitative and Mixed Methods

There are three distinct research designs which can be used in social science research. These include qualitative, quantitative and mixed methods research designs. Following section presents a brief description of these designs.

3.6.1 Qualitative Research

Qualitative research involves an interpretive, naturalistic approach towards the world and requires studying phenomena of interest in natural settings to interpret or make sense by capturing the individuals’ point of view, embedding constraints of social

world and securing rich description (Denzin and Lincoln 2008:4;16). Though linked to interpretive philosophy, qualitative research can also be used within realist and pragmatist philosophies. Similarly, in terms of research approach, qualitative research is considered to be inductive in nature but in certain cases, a deductive approach can also be used for such research. Flexible tools of data collection and analysis are used to conduct action research, case study research, ethnography, grounded theory and narrative research (Saunders et al 2012:163-164). In qualitative research, analysis of personal experiences of individuals or groups, interactions between researcher and participants of research, and documentary evidence is used to construct meanings which in turn can be used to develop models, typologies and theories to describe social issues (Gibbs 2007). Johnson and Onwuegbuzie (2004:20) have summarized the major strengths and weaknesses of qualitative research which are presented in the following table:-

Table 3.4 Strengths and Weaknesses of Qualitative Research

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> • Suitable for in depth study of small samples • Useful in describing complex phenomena • Can be used for cross-case comparisons and analysis • Provides understanding of peoples own experience of phenomena • Qualitative approaches are responsive to local situations, conditions and stakeholders' needs • Qualitative data in the words and categories of participants lend themselves to exploring how and why phenomena occur • Can use important cases to demonstrate vividly a phenomenon to the readers of the report • Determine idiographic causation (i.e. determination of causes of a particular event) 	<ul style="list-style-type: none"> • Knowledge produced may not generalize to other people or other settings (i.e. findings may be unique to the relatively few people included in the research study). • It is difficult to make quantitative predictions. • It is more difficult to test hypothesis and theories • It may have lower credibility with some administrators and commissioners of programs. • It generally takes more time to collect data when compared to quantitative research. • Data analysis is often time consuming. • The results are more easily influenced by the researcher's personal biases and idiosyncrasies.

Source:(Johnson and Onwuegbuzie (2004:20)

3.6.2 Quantitative Research

Quantitative research is generally perceived to be associated with positivism and interpretivist paradigms but can also be used within a realist and pragmatist philosophies. This research design uses numerical data to test theories and therefore is considered deductive in nature. It examines relationships between predefined variables

which are measurable numerically while ensuring validity of data. Such research designs are suitable for experimental and survey research strategies (Saunders et al 2012:162-163). According to Bergman (2008:13), quantitative research believes in single reality, advocates separation of the researcher from respondents and emphasizes upon conducting research in a value free manner. There is general tendency to work with large representative samples to gain numerical data for hypothesis testing through deductive approaches and identifying universal causal laws which can be generalized beyond specific contextual limits. A summary of strengths and weaknesses of qualitative research has been presented in Table 3.5 (based on work of Johnson and Onwuegbuzie 2004:19, Silverman 2011:16 and Denscombe 2010a:132) to help create a better understanding about use of quantitative research.

Table 3.5 Strengths & Weaknesses of Quantitative Research

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> • Precision- measurement consists of exact amounts rather than vague proportions • Statistical Analysis- data can be statistically analysed on mathematical principles • Rigour- research design and data collection tools can be tested and validated • Repeatability- research procedures can be checked and results can be verified • Comparison- Findings can be compared with findings of other research • Objectivity and Value Neutrality- use of standard procedures and mathematical principles minimizes researcher's influence • Testing and validating existing theories about how and why phenomena occurs • Researcher may construct a situation which eliminates the confusing influence of many variables to build more credible causal relationships • Data collection and analysis is less time consuming • Suitable for studying large statistical populations 	<ul style="list-style-type: none"> • Researcher's categories and theories may not necessarily reflect the understanding of participants • Reliance upon theory or hypothesis testing instead of theory or hypothesis generation may lead the researcher to miss out on phenomena itself • Knowledge produced may be too abstract and general for direct application to specific local situations, contexts and individuals • 'Quick Fix' disassociated from people and the field • Statistical correlations are arbitrarily defined and assigning meanings to them requires some process of reasoning which science is unable to perform • Use of statistical logic renders hypothesis building from data merely a trivial matter • Failure to take a holistic view of an overall situation and • Context of the situation is also ignored • Reliance upon measurable data means that non occurrence of events will be systematically overlooked in terms of becoming research data

(Source: Johnson and Onwuegbuzie 2004:19, Denscombe 2010a:132, Silverman 2011:16)

3.6.3 Mixed Methods Research

Mixed methods research can be defined as *“the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research*

approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration” (Johnson et al 2007:123). It is a research design with philosophical assumptions (guiding data collection, analysis and mixture of qualitative and quantitative approaches) as well as a method (focusing upon collection, analysis and mixing of qualitative and quantitative data) which can help find better understanding of the research problem (Creswell and Clark 2011:5). Many authors (Tashakkori and Tedlie 2008b:103, Creswell and Clark 2011:5, Greene et al 2011:260, Bryman 2008b:91-91, and Denscombe 2010a:135) have discussed key characteristics of mixed methods research and some of these features are outlined as under (Table 3.6):-

Table 3.6 Key features of Mixed Methods Research

FEATURES	DESCRIPTION
Complementarity	Mixed methods complement each other to study related aspects of same phenomenon
Completeness	Use of mixed methods in a single study enables collection and analysis of data persuasively and rigorously to help create a holistic and multi-perspective view of the phenomenon under study
Development	Such research mixes qualitative and quantitative data concurrently or sequentially or embeds one with the other. Sequencing enables development of questions from inference of the other method and concurrence enables one method to provide hypothesis which can then be tested by the other method.
Expansion	Either of qualitative or quantitative methods has priority over the other method in such research and helps expand or explain the understanding obtained in previous strands of study.
Corroboration/Confirmation	Mixed methods are used to assess credibility of inferences obtained from one approach (e.g. qualitative data may be used to generate a hypothesis which may then be tested through quantitative methods.
Compensation	Strengths and weaknesses of qualitative and quantitative methods can be offset through mixed methods as weaknesses of one method can be overcome due to strengths of the other.
Diversity	Mixed methods help obtain divergent picture of the same phenomenon by combining the researcher and participant’s perspectives, uncovering relationships between variables through quantitative research and revealing meanings among research participants through qualitative research.
Triangulation	Mixed methods provide an explicit account of the phenomenon by relating the quantitative and qualitative aspects to triangulate findings for greater validity.
Pragmatic Paradigm	Mixed methods research help frame qualitative and quantitative procedures within philosophical worldview and theoretical lenses. Usually, such research is associated with pragmatist paradigm.

Source: Tashakkori & Tedlie 2008b:103, Creswell & Clark 2011:5, Greene et al 2011:260, Bryman 2008b:91-91, and Denscombe 2010a:135

3.6.4 Selection of Research Design for Current Research

From the above discussion, it is evident that qualitative, quantitative and mixed methods research approaches in social science research adopt varying paradigms, ontological, epistemological and axiological positions and have some inherent differences not only between themselves but also within themselves (Denzin 2012:83). The qualitative research focuses upon induction, discovery, exploration, theory/ hypothesis generation and qualitative analysis of data while the quantitative research focuses upon deduction, confirmation, theory/ hypothesis testing, explanation, prediction and standardized data collection (Johnson and Onwuegbuzie 2004:18). Qualitative research emphasises upon motives, construction of social reality, perceptions and experiences of life and on the contrary, quantitative research is looking for precision, statistical analysis, rigour, repeatability, comparisons, objectivity and value neutrality (Denscombe 2010a:132-133). Qualitative and quantitative research also differ in a way that qualitative research is considered to be linked to non numeric data and philosophically considered to be associated with interpretivist research paradigm whereas quantitative research is considered to employ numeric data and associated with positivist paradigm. Use of mixed methodology has the benefit of both qualitative and quantitative research methods which can be employed with a realist ontology and interpretivist epistemology under pragmatism paradigm. Social research under pragmatism may adopt mixed methodology while mixing both qualitative and quantitative methods at various stages of research in a variety of manners to suit nature and context of the research and research questions (Saunders et al 2012: 164).

To conclude this debate of research methodologies and provide a rationale for the selection of mixed methods as the primary research methodology in current research, it can be argued that both qualitative and quantitative methods have their own strengths and weaknesses and it would be difficult to choose either of these methods on this basis. However, mixed methods approach seems to be most appropriate for this research as the weaknesses of one method can be minimised through strengths of the other method. The most fundamental principal for adopting the research methodology is the research question and methodology should be selected to increase chances of obtaining useful answers (Johnson and Onwuegbuzie 2004). As far as philosophical debates about use of any certain research methodology are concerned, Johnson and Onwuegbuzie (2004:17) have opined that:-

“Philosophical debates will not end as a result of pragmatism, and certainly they should not end. Nonetheless, we agree with others in the mixed methods research movement that consideration and discussion of pragmatism by research methodologists and empirical researchers will be productive because it offers an immediate and useful middle position philosophically and methodologically; it offers a practical and outcome oriented method of inquiry that is based on action and leads, iteratively, to further action and elimination of doubt; and it offers a method for selecting methodological mixes that can help researchers better answer many of their research questions.”

For this research, mixed method research has been adopted as research strategy. As the research questions (mentioned in section 3.2.1) require different methodological treatment, this approach was considered appropriate. The research questions 1, 2 & 3 require qualitative methodology as the phenomenon of public private partnerships in Pakistan requires rich exploration keeping the local context in view and use of scientific/ quantitative methods will not reveal the underlying relationship between variables of interest. Furthermore, information required to be collected for questions 3 & 4 also requires qualitative approach to draw information for these questions. Therefore, qualitative method has been preferred at initial stage of the study. For this purpose, interview (semi-structured) was selected as qualitative data collection tool for the first phase of research. The second phase of research related to research questions 3 and 4 required adoption of the quantitative research approach to develop a ranking scale of critical success factors (CSFs) for adoption of PPPs in Pakistan and stakeholders' perceptions thereof which required input from the first phase qualitative research as well. Therefore, the second phase of this research is quantitative in nature and questionnaire was selected as a tool for collection of quantitative data. The complete research map indicating research objectives, questions and methodology adopted for each of these questions is presented in Table 3.7. This process of integrating qualitative and quantitative studies is used in integrated social research wherein knowledge base for the issue under study is examined first qualitatively followed by selection and linking of quantitative approaches which suit the context of study (Flick et al 2012:102). This design is also supported by Saunders et al 2012 and Creswell et al 2008 who have termed it as a “sequential exploratory design” of social research wherein qualitative data and results build up to quantitative data and results leading to analysis and interpretation.

Table 3.7 Research Map

OBJECTIVE	RESEARCH QUESTIONS	DOCUMENTS/ LITERATURE REVIEW	SEMI- STRUCTURED INTERVIEWS (QUALITATIVE DATA)	QUESTIONNAIRE SURVEY (QUANTITATIVE DATA)
To study the use of PPPs for infrastructure growth and analyze the process of diffusion of PPPs from developed countries to the developing countries	How has the existing state of the PPPs evolved in the advanced and developing countries?	YES	YES	NO
	How did PPPs diffuse in Pakistan?	YES	YES	YES
	To what extent do the method of diffusion and local contextual factors influence the implementation of the PPP projects for infrastructure development?	YES	YES	YES
To investigate the critical factors for successful implementation of infrastructure related PPP projects and stakeholder perceptions thereof under local context	What are the critical factors for successful implementation of infrastructure related PPPs?	YES	YES*	YES
	How much variance exists in the perception of different stakeholder groups towards the significance of the critical factors for successful implementation of PPP infrastructure projects?	NO	NO	YES

Source: Developed by the author

3.7 Data Collection and Analysis

As shown in fig 3.1, the research process (symbolically represented as a research onion) comprises of different layers and data collection/analysis is the inner most layer of the research process. In previous sections, various perspectives on issues of research methodology and research methods have been discussed in detail which lay foundation for the selection of appropriate tools for data collection and analysis. This is the inner-most core of the research onion and requires careful selection of method of data collection and analysis. Various choices of methods are available to the researcher in social science to collect qualitative or quantitative data (Blaiki 2000) which may include the following:-

- For **Qualitative Data** – Observation (structured), Questionnaire (self-administered), Structured interview, Content analysis of document

- For **Qualitative Data** – Participant observation, Observation (semi-structured, unstructured), Focused interviews, In-depth interviews, Oral-life histories, Focus group/Group Interviews, Content analysis of documents

As discussed in the previous section, semi-structured interviews and questionnaire were selected for collection of qualitative and quantitative data respectively which are discussed in the following section.

3.7.1 Interviews: 1st Phase of Research

Use of interviews is widely acknowledged in social science research as they can be used both in qualitative as well as quantitative studies. Kumar (2011:144) has defined the word interview as “*any person-to-person interaction, either face to face or otherwise, between two or more individuals with a specific purpose in mind*” and has divided the interviews into two broad categories i.e. structured and unstructured interviews. Structured interviews are considered as employing a rigid interview structure, contents and questions/wordings and unstructured interviews are considered to use a flexible interview structure, contents and questions. Another classification of interviews is based upon individual and group interviews. Mostly one-to-one interviews are conducted to avoid influence of others during conversation but in certain cases, focus group interviews are preferred wherein participants are encouraged to exchange ideas and discuss the issues in the presence of the researcher who leads the discussion to make sense of the group thoughts (Buckingham & Saunders 2004:131). As against structured interviews, unstructured interviews may either be totally unstructured in nature or these may be semi-structured. Totally unstructured interviews are more like a free conversation wherein the researcher may put a single question to the interviewee who then talks freely to express his/her views at length. However, in the case of semi-structured interviews, the researcher follows a list of fairly specific topics (or interview guide) and the interviewee answers the questions in detail with follow up questions from the researcher to keep the conversation within the broad guideline of the interview guide (Bryman et al 2012). A brief summary of advantages and disadvantages of interviews is presented in table 3.8 (Denscombe 2010b:192-193).

Table 3.8 Advantages and Disadvantages of Interviews

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none">• Ability to provide detailed and in-depth data on topic of research• Depth and wisdom of informants can provide valuable insights• Require simple equipment but good conversation skills• Rich data can be generated as informants have opportunity to expand their ideas, explain their views and identify crucial factors• Most flexible tool for data collection as adjustments can be made even during the interviews• Benefit of high response rate• Direct contact means data can be checked for accuracy and relevance; thus increasing its validity• Interview method is therapeutic in nature and can be a rewarding experience for the informants as against other modes of data collection	<ul style="list-style-type: none">• Analysis of data generated through interviews is difficult and time consuming• Interviews tend to produce non standard responses which are not pre coded.• Interview data has less reliability as impact of interviewer and context make the data less consistent and objective• The truth narrated by the informants may not necessarily be true reflection of their thought.• Audio or video recording of the interviews may inhibit the informants in some cases• Tactless interviewing can be seen as an invasion of privacy and/ or upsetting the informants• Interviews involve high costs for the interviewer due to geographical spread of the informants

Source: Denscombe 2010b:193-194

After giving due consideration to the advantages and disadvantages of qualitative interviews (as outlined in Table 3.7) and the nature of research questions, it was decided to use semi-structured interviews for collection of qualitative data during 1st phase of this research. The advantages of semi-structured interviews offset the limitations. Further, mixed methods approach was adopted for this research because in such a case, shortcomings of either of the qualitative or quantitative methods are minimised due to use of the other methodology.

3.7.1.1 Interview Sampling

In social science research, sampling plays an important role in data collection and generating results thereof. As researchers seek knowledge about a whole class of similar objects or events (known as population), they tend to examine a few of them (known as sample) and draw conclusions for the whole class. For researchers it is impossible to examine the whole population due to time/resource constraints, they need to draw samples in a systematic manner so that the results of the study can be generalized to the whole population. There are two basic sampling designs i.e. probability sampling and non-probability sampling. In **probability sampling**, all cases in the population are selected randomly but all of these have known probability of being included in the

sample. Probability sampling may include simple random sampling, stratified random sampling, cluster sampling and systematic sampling. In **non-probability sampling**, chances of selection of each case in the sample are unknown because of their non-random selection. Such sampling designs include convenience sampling, purposive sampling, quota sampling and snowball sampling (Singleton, Jr. & Stratits 2010). A clear distinction between these two basic sampling designs is the presence or absence of a sampling frame which means that a complete (or as complete as possible) list of the population is available to the researcher. Probability sampling design can only be used where such a sampling frame is present and in cases of highly incomplete or unknown sampling frames, non-probability sampling designs are commonly used (May 2011:99-100). Non-probability sampling is also used with a view to produce an exploratory sample rather than a representative cross section of the population and sampling decisions are based on the experience / expertise of informants which distinguish them from others (Denscombe 2010b:25).

In the non-probability sampling design, purposive and snowball sampling techniques were adopted by the researcher as best possible choice in given circumstances. **Purposive sampling** occurs when selection is made according to a known characteristic (May 2011) and the researcher makes a judgemental selection which is representative or typical of the population (Singleton Jr. & Straits 2010). It is also very useful in selecting unique cases which are especially more informative (Neuman 2014). Another technique used in this category is **snowball sampling** which occurs when participants are difficult to find out and can be located through referral networks. In snowball sampling, a small number of participants (who represent a population with specific characteristics and willing to participate in the research) are initially selected/ approached by the researcher; and they help the researcher in identifying further participants. However, selection is usually based on the judgement of the researcher (Adams et al 2007; Lewin 2011:224; Henn et al 2006:133). It involves a process of chain referral and is employed when probability sampling is not possible or in cases where the population is hard to reach due to absence of sampling frames (Bryman 2012:424).

3.7.1.2 Administration of Interviews

For the current research, infrastructure projects working under PPP modes in the energy sector (i.e. Independent Power Producers – IPPs) and the road sector in Pakistan were studied because PPPs in Pakistan are being practised in only these two sectors. In case

of the energy sector, there are 26 operational IPPs and there are two road sector projects which have been procured under PPP mode. The case study involves these 28 projects but no database was available for different stakeholders relating to these projects. In the absence of any defined sampling frame, use of non-probability sampling was preferred for this study in line with classification of designs discussed above.

The sample selected for this stage of research selected through purposive and snowballing techniques is presented in Table 3.9 which shows that the sample is representative as far as possible and all the participants were top executives from different stakeholder groups involved in the PPP program of Pakistan and they have had relevant experience/ exposure towards topic of this research. This sample size is considered sufficient for qualitative interviews (Onwuegbuzie and Collins 2007:289).

Table 3.9 Sample for Semi-Structured Interviews

PARTICIPANTS OF SEMI-STRUCTURED INTERVIEWS	NUMBER OF PARTICIPANTS
Political figure/ Ex - Finance Minister/ Ex - Foreign Minister of Pakistan	1
Technocrat/ Ex- Finance Minister of Pakistan	1
Chief executive officers (CEOs) of independent power producing companies (IPPs)	2
Manager of private sector partnering firm in a road infrastructure project under PPP mode	1
Ex-Secretary to Government of Punjab, Communication & Works Department (having experience of implementing first road sector PPP project in Pakistan)	1
Director general/General Manager/ Directors of public sector regulatory bodies for IPPs & road sector projects	4
Infrastructure specialist (regulatory body for PPP projects), Government of Pakistan	1
Director general in public sector board of investment	1
TOTAL	12

A participant information sheet explaining the nature and background of research was shared with these participants along with a list of broad discussion topics to be covered during the interviews (Annex - B). All participants of the 1st phase of research gave their consent for interviews and 6 of them allowed audio recording as well. For the other 06 participants, detailed interview notes were prepared by the researcher and shown to the participants to seek their clearance for use of their statements in the research process. The recorded interviews were transcribed later on for use in data analysis stage.

During these interviews, data was collected in relation to research questions 1, 2 and 3. Furthermore, a list of exogenous and endogenous factors (which were deemed critical by the interview participants) was also prepared for collecting quantitative data during next phase of research to corroborate the findings of the qualitative interviews. Another list of factors (CSFs) was also prepared as a result of this phase of research which was then compared with CSFs selected from the literature review and 45 CSF found common in both versions were finalized for use in the questionnaire survey during the 2nd phase of research. Detailed analysis of the qualitative data collected through these interviews is presented in Chapter 4.

3.7.2 Questionnaire Survey: 2nd Phase of Research

For quantitative data collection, a questionnaire survey was carried out during 2nd phase of research. Questionnaire is a “written list of questions, the answers to which are recorded by the respondents. In a questionnaire, respondents read the question, interpret what is expected and then write down the answers” (Kumar 2014:145). Questionnaires can contain open-ended questions or closed-ended questions. Open-ended questions seek answers from the participants based upon his/her own choice and closed-ended questions require the participants to select an answer from a list provided by the researcher (Babbie 2007:246). The questionnaire may also be classified as self-administered or self-completion questionnaire. Structured interviews are generally considered a questionnaire which is self-administered by the researcher and in case of self-completion questionnaire, the participants have to record their answers themselves and such questionnaires are usually sent through post or mail (Bryman 2012:232). Like any other survey tool, questionnaire has some advantages and disadvantages which have been presented in table 3.10 (May, 2011:104, Denscombe 2010b:169-170 and Bryman 2012:234).

Table 3.10 Advantages & Disadvantages of Questionnaires

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none">• Questionnaires give advantage of savings in terms of material, money and time• Anonymity may be advantageous in dealing with ethically/politically sensitive subjects• Easy to arrange and respond• Chances of interviewer bias are minimised• Questionnaires provide standardized answers• Pre-coded questions allow quick data collection and analysis• Questionnaires help researcher in covering wide geographical area at lesser cost	<ul style="list-style-type: none">• Researcher does not have any control over interpretation of the questions by the respondents• No chance of further probing to the answers• Researcher cannot ensure that questionnaire is answered by the intended respondent at his own or he does not seek help from others• Response rate is low as against interviews• Researcher cannot collect additional data• Not appropriate for some respondents owing to language barrier

Source: May, 2011:104 & Denscombe 2010b:169-170 and Bryman 2012:234

3.7.2.1 Questionnaire Sampling and Administration

As discussed earlier in this chapter (section 3.7.1.1.) participants for the questionnaire survey were to be selected from amongst different stakeholder groups associated with 28 PPP projects in Pakistan and no database of this nature was available which could help the researcher in defining the research population. Therefore in the absence of a known population size and restricted access to the operational sites of these projects, it was decided that purposive and snowball sampling techniques would be used to select suitable research participants for this phase. However clear parameters were laid down vis a vis eligibility / suitability of participants which are summarised below

For a person to be recruited for participation in the questionnaire, he/she must be:-

- *Representing either of the stakeholder groups (public sector/private sector partners or others including legal/technical consultants, financial institutions etc) involved in planning, execution or operation of existing PPP projects in Pakistan in the field of energy generation and road infrastructure development*
- *Have relevant exposure and experience towards the concept of PPP for infrastructure development*
- *Representing a firm/company which had experience of dealing with planning, execution or operations of any of the 28 selected PPP projects*
- *Holding good qualification in his/her area of specialization (at least graduate degree levels)*

A careful selection of research participants was made on these criteria and 160 suitable participants were selected for this phase of research. However, before starting the survey, a pilot survey was conducted for trial purposes. The questionnaire was shared with 4 representatives of different stakeholder groups who had vast experience of dealing with PPP projects in Pakistan. Upon their suggestions, 5 ambiguous/ misleading factors were dropped from the list of CSFs and only 40 CSFs were included in the final questionnaire and some of the terms/ phrases were redrafted for clarity and quality purposes.

After the pre-testing/ pilot survey, the questionnaire was circulated to 160 selected participants through email/ post or fax along with a detailed covering letter outlining the nature of research and kind of participation required from them (Appendix - C). The survey took 50 days to complete and after hectic follow up contacts, 95 responses were received by the closing date. However, 06 responses were rejected being incomplete or having been found to be lacking in terms of eligibility criteria laid down for the participants. Therefore only 89 responses were finally selected for further analysis indicating a healthy response rate of 56% which is considered adequate for analysis and reporting (Babbie 2007:262). Details about these 89 respondents are presented in Table 3.11.

Table 3.11 Respondents' Personal Information

CATEGORY	DISCRIPTION	FREQUENCY	% age
GENDER	Male	86	96.6
	Female	03	3.4
	Total	89	100.0
AGE	Not Given	18	20.20
	Upto 30 Years	13	14.60
	31 To 45 Years	31	34.80
	46 Years and Above	27	30.30
	Total	89	100.0
QUALIFICATIONS	Engineering Degrees	41	46.10
	MBA	15	16.90
	ACCA/Accountancy degrees	10	11.20
	Barristers/ Law Degrees	08	09.00
	Masters (Others)	15	16.90
	Total	89	100.0
ORGANIZATIONS	Independent Power Producers (IPPs)	39	43.80
	Public Sector Regulators for PPPs	22	24.70
	Technical/ Consultancy Firms	10	11.20
	Legal Consultancy Firms	07	7.90
	Private Partners in Road Sector PPPs	05	5.60
	Banks/ Financial Institutions	06	6.70
	Total	89	100.0
DESIGNATIONS	Directors/ Senior Executives	24	27.00
	Senior Managers/ Managers	39	43.80
	Middle / Operational Managers	26	29.20
	Total	89	100.0
TOTAL WORK EXPERIENCE	1 to 5 years	11	12.40
	6 to 10 years	24	27.00
	Over 10 years	54	60.70
	Total	89	100.0
EXPERIENCE IN CURRENT POSITIONS	1 to 3 years	41	46.10
	4 to 6 years	29	32.60
	7 to 9 years	07	7.90
	10 years & Above	12	13.50
	Total	89	100.0
ORGANIZATIONAL EXPERIENCE IN PPP PROJECTS	No	00	00.00
	Yes (One)	58	65.20
	Many	31	34.80
	Total	89	100.0
NATURE OF PPP PROJECTS	Energy Sector	56	62.90
	Road Sector	21	23.60
	Others	00	00
	Multiple Sectors	12	13.5
	Total	89	100.0
STAKEHOLDER GROUP	Public Sector Partners	22	24.70
	Private Sector Partners	44	49.40
	Other Stakeholders	23	25.80
	Total	89	100.0

3.7.2.2 Questionnaire Design

The following broad topics were used to design the questionnaire:-

- *Factors influencing the adoption of PPPs for infrastructure development in developing countries*
- *Criticality of CSFs in general and for each of the stakeholder group specifically to develop a ranking scale/ stakeholder perception index (SPI) for the PPP projects*

Questionnaire was developed with three distinct parts with each part covering a specific type of questions.

Part 1 of the questionnaire was designed to collect personal information of the respondents to ascertain their suitability in terms of selection criteria. Participants were required to provide their name, age (optional), gender (optional), qualification, designation, organization name and experience, nature of stakeholder group and organizational experience of energy, road infrastructure or multiple sectors etc.

Part 2 of the questionnaire was dedicated to collect quantitative data for 15 questions drawn from the 1st phase semi-structured interviews to provide some corroborative evidence for research questions covered in 1st phase of research. Four exogenous factors and 11 endogenous factors deemed critical for adoption of PPPs in Pakistan were included in this section.

Part 3 of the questionnaire was used to collect data regarding critical success factors (CSFs) and stakeholder perceptions thereof to develop a stakeholder perception index (SPI). This section was further divided in 4 sub parts:

Part 3A required the respondents to give their input (on the basis of their knowledge/expertise and perception) towards criticality of each of the 40 CSFs for implementation of PPPs in developing countries' context;

Part 3B required their input for criticality of each CSF for public sector partners in PPP projects;

Part 3C required input of the participants for criticality of each of the 40 CSFs for private sector partners and

Part 3D required them to assess criticality of each of the 40 CSFs for other stakeholder groups in PPP projects which may include international and domestic stakeholders.

3.7.2.3 Measurement Scale

For the questionnaire survey, the response from the participants was obtained on a measured scale which is commonly known as LIKERT SCALE. The term likert scale has been described by Babbie (2007:171) as “*a type of composite measure developed by Rensis Likert in an attempt to improve the levels of measurement in social research through the use of standardized response categories in survey questionnaires to determine the relative intensity of different items*”. Likert scale can be a multiple-indicator or multiple-item measure of a set of questions from a particular area. In multiple-indicator scale, respondents are offered multiple choice of indicators against specific questions and they are required to select the best choice of indicator according to their experience which best describes the question itself. However, the most commonly used Likert scale is known as multiple-item measure through which a series of statements relating to a particular question of interest are offered to the participants and they are required to express their level of agreement or disagreement for each statement on a five point scale going from strongly agree to strongly disagree. However it must be kept in view that for such Likert scale, the items must be related to same object, be interrelated and should not be written as questions (Bryman 2012:166). Though Likert scale usually comprises of 5 point scale, use of different number of points and formats is also supported in the literature (Bryman 2012; Chang 1994; Singleton Jr. & Straits 2010). Therefore for this research a Likert scale with 6 points has been used (Table 3.12). As the nature of questions in part 2 and part 3 of the questionnaire was different, scale represented slightly different meanings for these two parts of the questionnaire.

Table 3.12 Likert Measurement Scale

Part 2	0=Not Relevant	1=Not Significant	2=Fairly Significant	3=Significant	4=Very Significant	5=Extremely Significant
Part 3	0=Not Relevant	2=Not Critical	3=Partially Critical	3= Critical	4= very Critical	5=Extremely Critical

3.7.2.4 Quantitative Data Analysis

The research findings were drawn from analysis of quantitative data collected through a questionnaire survey. Software assisted analysis of data was carried out with SPSS (statistical package for social studies – version 17.0). Detailed discussion regarding statistical analysis itself has been presented in Chapter 5; however various statistical tools used therein include the following:-

Mean Ranking: A ranking scale was developed on the basis of comparison of the ‘mean’ of each factor to reflect the relevant importance of each factor in the given sample. Rank is a “consecutive number assigned to a specific observation in a sample of observations sorted by their values and, thus, reflecting the ordinal relation of the observation to others in the sample” (StatSoft, Inc. 2013) whereas the term ‘mean’ is particularly an informative measure of the "central tendency" of the variable which can be computed as

$$\text{Mean} = (\sum x_i)/n$$

Whereas

n is the sample size and

$\sum x_i$ represents the arithmetic sum of all scores assigned by respondents in the sample towards each factor individually (StatSoft, Inc. 2013).

Scale Reliability-Chronbachs' Coefficient (Alpha): In social research, reliability reflects the expected degree of variation in measurement from one occasion to another and is computed on a scale ranging between 0 and 1 (with 0 reflecting no reliability and 1 representing perfect reliability). Chronbachs' coefficient of reliability (Alpha) is the most commonly used coefficient of internal consistency based on consistency of responses from one item to another (Gerber & Finn 2005). SPSS can compute ‘alpha values’ after comparing every combination of items through averaging/ summarizing in order to assess the internal consistency of the measure. Alpha values greater than 0.90, 0.80 and 0.70 are usually considered excellent, good and acceptable respectively - to prove the measure to be internally consistent in social research (Gliem & Gliem 2003:87; Nolan & Heinzen 2012:251).

One Way Analysis of Variance (ANOVA): ANOVA is a term “*covering a variety of different kinds of tests, all of which assess whether a difference in mean scores between*

different groups is great enough to be considered statistically significant given the variance in scores within each of the groups. In one-way ANOVA design, there is one (categorical) independent variable, which may have several values” (Buckingham & Saunders 2008:287). The means are thought to be significantly different if between-group variability is substantially greater than within-group variability. In such a case the null hypothesis does not hold good as it states that a set of all independent variables is not significantly related to the dependant variable (Gerber and Finn 2005). F statistic is a test of statistical significance for comparison of means which can be computed by dividing the between-group mean square (explained variance) over within-group mean square (error variance) for the independent variable and significance level of 0.05 per cent is usually considered as a benchmark by social researchers (Nolan and Heinzen 2012; Bryman 2012:348;350). Therefore, observed significance level less than 0.05 means null hypothesis should be rejected.

Factor Analysis: Factor analysis is a multivariate statistical tool which reduces the multiple variables in the data set into a smaller number of factors by clubbing together the correlated variables. This enables the researcher to explain the data results through a smaller number of grouped factors instead of dealing with large number of variables. Factor analysis may either be described as exploratory (in cases where researcher does not have a prior assumption about number of resultant factors) or confirmatory (where the researcher has a definite opinion about association between variables and resultant factors). Initially, the variables may be associated with more than one resultant factor but through rotation technique, these factors become exclusive of each other (Gerber & Finn 2005:181; Verma 2013:365-366; Yang 2010:155-160; Pallant 2010:181-185; Ferguson and Cox 1993). These authors have explained various steps involved in the factor analysis which can be summarized as follows:-

1. Correlation matrix with all variables in the study is prepared and **KMO (Kaiser-Meyer-Olkin Measure)** test is applied to check the adequacy of the data. KMO is the test of sampling adequacy which requires a minimum acceptable score of 0.5 (on a scale ranging from 0 to 1) for running the factor analysis procedure. However, scores between 0.5 and 0.7 are considered mediocre; 0.7 to 0.8 as good, great in case of score between 0.8 and 0.9 and any score above 0.9 is considered superb.
2. **Bartlett’s test of sphericity** is used to test the null hypothesis that correlation matrix is an identity matrix or to be sure that no relationship exists between any of

the variables. Null hypothesis holds well if the test statistic is considered significant (based on Chi Square) and only in such a case, factor analysis can be applied further.

3. Un-rotated factor solution is obtained through principal component analysis (PCA) to provide factor loadings of variables with different factors, variability of each factor and total variability explained by all the factors. Factor loading may be described as the correlation coefficient between variables and the factor. The squared factor loading of a variable explains the percentage variability in the variable due to a factor.
4. Rotated solution is obtained through use of varimax rotation option to obtain a final solution which removes the issue of redundancy of variables in factors. The final factors selected through this process are named uniquely keeping in view the nature of constituent variables, and their meanings are then interpreted by studying the observed variables under their individual influence.

Various qualitative and quantitative data collection and analysis tools used in the research have been discussed in detail in this section. However further detailed discussion on the results of qualitative and quantitative data analysis are presented in the following chapters.

3.8 Research Quality and Ethics

3.8.1 Research Quality

Quality of research is usually judged through its reliability and validity. According to Babie (2007:143), **reliability** “is a measure of whether a particular technique, applied repeatedly to the same object, yields the same result each time”. Reliability usually deals with replicability of the research. In quantitative research, reliability usually refers to scope of reaching the same results or consistent measures repeatedly as a consequence of an experiment/test or measurement. However, in qualitative research reliability is considered to be dependent upon transparent research strategy and data analysis methods in a particular theoretical context (Silverman 2011:360). Another important aspect of research quality is its **validity** which refers to “whether or not the measurement collects the data required to answer the research questions”. Furthermore, a measure can be reliable but not valid but if it is not reliable, it cannot be valid either (Lewin 2011:221). Quality research must aim for reliability by seeking to achieve

similar results with the same measurement on different occasions and should also be seeking validity by measuring what it is intended to measure (Sutton 2011:97). Various forms of validity measures include the following (Saunders et al 2012:193-194; Bryman 2012:47):-

- **Construct Validity** concerns the extent to which the research measure actually measures what it is intended to assess.
- **Internal Validity** is associated with establishing causal relationships between research variables.
- **External Validity** relates to the generalization of the research findings beyond the specific research context.

The validity and reliability of the research was one of the key determinants for selection of mixed methods research as it carries advantage of supplementing and complimenting the findings of research by addressing the strengths and weaknesses of qualitative and quantitative research methods. Any shortcomings of qualitative methods (like semi-structured interviews) towards issues of validity and reliability can be overcome due to strengths of qualitative methods (like questionnaires) in enhancing research quality.

3.8.2 Research Ethics

Ethics means conforming to the standards of conduct of a given profession or group and is usually concerned with morality while both of these being concerned with being right or wrong. However distinction amongst these words is highly subjective and varies from person to person (Babbie 2007:62). Ethics as a subject matter guides towards standards of right and wrong while acting in a moral and responsible way. The discipline of research ethics involves application of ethical principles during the research process. These principles includes selection of sound and trustworthy data collection and analysis tools and avoiding research misconduct through fabrication, falsification and plagiarism besides ethical treatment of the human subjects (Singleton Jr. & Straits 2010). May (2011:61) has cited Barnes, J. (1979) to define ethical decisions in research as those which *‘arise when we try to decide between one course of action and another not in terms of expediency or efficiency but by reference to standards of what is morally right or wrong’*. Therefore he argues that ethical decisions are to be necessarily based upon principles rather than expediency. Similarly, Saunders et al (2012:231-232) also emphasize importance of integrity/objectivity of researcher,

avoidance of harm, informed consent/ voluntary participation and confidentiality of the data/ anonymity of the participants. Similarly Bryman (2012:135) has outlined the following ethical principles for social science research:-

- Whether there is harm to participants;
- Whether there is lack of informed consent;
- Whether there is an invasion of privacy and
- Whether deception is involved.

In order to undertake research in conformance to the above principles, it was kept in view that research participants were senior executives/ professionals working in the public/ private sectors and other stakeholder groups associated with PPP related infrastructure projects. Most of them might have felt uncomfortable while sharing their views on sensitive topics which could affect their reputation or a negative feedback from peers. Similarly, some participants might not wish to divulge any such information which may compromise the commercial / financial interests of their respective employers or their own self. To address these concerns, it was ensured that the participant information sheet clearly presented the research topics to be covered during research interviews with the assurance that their identity would not be divulged without their prior permission. Furthermore, questions relating to the profitability or commercial issues pertaining to their respective organizations were not asked. The participant information sheet clearly mentioned that every participant may choose not to answer any specific questions which he/she deems inappropriate for personal reasons.

For obtaining an informed consent and maintaining privacy, a consent form accompanied a participant information sheet which was sent to the identified interview participants enabling them to make an informed decision about their participation in this research with a clear understanding of the fact that their participation is absolutely voluntary and is free from any undue influence or coercion from the researcher. For questionnaire surveys, the identified participants were provided with the survey form along with an explanatory letter regarding the nature of this research and they were requested to fill the questionnaires subject to their willingness to participate and return it through email or postal mail to the researcher.

To observe the principles of data security, anonymity etc, it was ensured that recorded interviews (audio/video) files were deleted after transcription and the transcripts were

labelled with code numbers assigned to each individual participant. The confidentiality of the data collected through questionnaire survey was ensured through use of digital versions with password protection. Participants of this research were assured that data collected during this research shall not be revealed without a written consent of the participants and wherever necessary, identity of the participants shall be codified to keep their identities confidential.

3.9 Summary

This chapter has been dedicated to presenting the research philosophy, strategy and design along with the rationale for their choice to address the research objectives and questions. Though a mixed research design has been chosen for this study, various advantages and disadvantages of qualitative, quantitative and mixed research designs have also been discussed in detail to ascertain suitability of the chosen research design. A research map linking the research aims with associated objectives, research questions and chosen methods of data collection is also presented in this chapter to make a systematic presentation of the research process and findings in the following chapters. Reasons for choice of semi-structured interviews and questionnaire survey as tools for collection of qualitative and quantitative data respectively have also been outlined in detail besides presenting the sampling techniques/ details of the respective participants for these stages of research. The process of administration of these interviews and questionnaire survey is discussed in the last section of this chapter along with measures adopted for maintaining research quality and ethical standards. In summary, this chapter is a complete description of the research process and rationale which enabled the researcher to present the findings of qualitative and quantitative data analysis in an unambiguous/ systematic manner in the next chapters.

CHAPTER 4

QUALITATIVE DATA ANALYSIS

PUBLIC-PRIVATE PARTNERSHIPS (PPPs) IN DEVELOPING COUNTRIES: A PERSPECTIVE FROM PAKISTAN

4.1 INTRODUCTION

As discussed in the last chapter, use of semi-structured interviews was preferred for collection of qualitative data during the first phase of the research. As the research is a case study of public private partnership (PPP) projects in Pakistan, it is worth mentioning here that there are 28 functional PPP projects in Pakistan which include 26 IPPs (independent power producers) and 02 road projects procured under the PPP regime. In the absence of any available database of stakeholders involved in these projects, 12 participants were selected through use of purposive and snowball sampling techniques which represented the public sector, private sector and other stakeholder groups involved in policy planning and implementation of PPP projects. A profile of these participants (as illustrated in Table 3.8) shows that respondents are top level executives in their respective fields (ex- finance ministers, CEOs of IPPs, Administrative heads/ director generals of public sector regulatory bodies) and have vast experience/ exposure in the field of PPPs in Pakistan. In order to maintain anonymity, these participants have been assigned codes as IR 1, IR 2, IR 3 etc.

A thematic analysis of the qualitative data collected through these semi-structured interviews is presented in this chapter. A summary of the interview structure has been presented in Table 4.1 to help correlate the research questions with interview themes and the desired results thereof.

Table 4.1 Interview Themes and Rationale

AIM	RESEARCH QUESTIONS	INTERVIEW THEMES
To study the use of PPPs for infrastructure growth and analyze the process of diffusion of PPPs from developed countries to the developing countries	1. How has the existing state of the PPPs evolved in the advanced and developing countries?	<ul style="list-style-type: none"> • Historical overview of PPPs in developed and developing countries (like Pakistan) under the aegis of NPM reforms • Nature & Process of diffusion of PPPs in Pakistan
	2. How did PPPs diffuse in Pakistan?	<ul style="list-style-type: none"> • Role of international stakeholders in diffusion of PPPs
	3. To what extent do the method of diffusion and local contextual factors influence the implementation of the PPP projects for infrastructure development?	<ul style="list-style-type: none"> • Local contextual factors (social, political, economic & legal) and Stakeholders management • Exogenous/Endogenous drivers for adoption of PPPs in Pakistan • Critical success factors (CSFs) for PPP projects in developing countries like Pakistan

The first part of this chapter relates to the historical overview of PPPs in developed and developing countries under the aegis of reforms agenda associated with new public management (NPM). The nature and process of diffusion of PPPs in developing countries with specific focus of Pakistan and the role of various stakeholders in this process of policy adoption is discussed in the next section. These two sections relate to presentation of thematic analysis of qualitative data while answering the research questions 1 and 2 respectively. The next section outlines the importance of local context and the nature of diffusion process towards successful implementation of the PPP projects in developing countries. Various political/ legal and socio-economic factors having an impact upon implementation of reforms (like PPPs) in developing countries are discussed in detail. This section partially addresses the research question 3 but in order to qualify the findings of this qualitative survey, a list of exogenous and endogenous drivers for implementation of PPP reforms in Pakistan has also been presented in this section which will be used to collect quantitative data through a questionnaire survey during next phase of the research. Besides addressing these research questions, one of the objectives of this qualitative survey was to prepare a list of critical success factors (CSFs) for successful implementation of PPP projects in developing countries which shall also form part of the questionnaire survey for quantitative data collection relating to research questions 4 and 5. This list of CSFs is also presented in the end. A summary of findings and results is presented in the last section of this chapter.

4.2 Public-Private Partnerships (PPPs): An Overview

Private provision of infrastructure is not a new idea as it dates back to the 17th century. However, the nature and scope of such private sector participation has been affected over time due to various forms and manifestations of public management and governance paradigms since the 20th century when the role of the state (as social service provider) was at its peak. Varying socio-economic and political reasons (like inadequate provision of infrastructure/ services, over-extended size of the state, public dissatisfaction, perceived inefficiency of the public sector, governance paradigms etc) encouraged an era of public management reforms during the later part of the 20th century; labelled as ‘New Public Management’ (NPM). As discussed in Chapter 2 (section 2.3.1) reforms under NPM represented various manifestations of public sector reforms aiming at redefining the role of the state and governance paradigms with

emphasis upon market mechanisms for efficiency gains and private sector participation in the provision of infrastructure and services. While highlighting these trends, one of the participants gave the following views:

Since mid 60's, there was a global trend that any sector which does not necessarily require presence of the public sector was not considered inevitable, should be opened up for private sector and public sector should move out. This private participation could have been in terms of private-private partnerships or public listed companies etc. This trend flourished in USA and Europe during 70's and reached Asian markets during 80's and until early 90's it was a prevalent theme that all infrastructure projects should be privately financed.....but by mid 90's there was a recognition that private capital alone can't meet the demand for infrastructure for good growth of an economy and public sector cannot bear it at its own as well. Therefore earlier trend of financing infrastructure through public finance which was replaced by the concept of total private financing then gave rise to a new concept a shared public and private financing to form public-private partnerships [IR 5].

These views also endorse the findings of literature review that the concept of public-private partnerships (PPPs) is closely associated with the underlying philosophy of NPM reforms agenda as it also envisages a greater role of the private sector towards infrastructure/ service provision replacing the traditional role of the state towards such provisions with efficiency and value for money gains. The perceived efficiency gains and value for money in PPPs have also been supported by the interview respondents. Some of the views supporting these benefits of PPPs are reproduced as follows:

I think time has come when we need to acknowledge the fact that countries like Pakistan need innovative reforms like PPPs as public sector alone cannot meet the challenge of infrastructure growth up to the required level. Frankly speaking, traditional mode of financing infrastructure projects through public finance is merely a waste of resources as well because of public sector inefficiency, corruption and institutional incapacity. If projects are financed through PPP mode, private sector cannot afford time delays and cost over-runs which make the project cost efficient for them as well as the public sector. I have experienced this personally and really feel that we need to reform our public sector procurement mechanisms for infrastructure projects so that we can not only manage the resources privately but we can also bring-in the efficiency and effectiveness of private sector in public sector procurements [IR 1].

Commenting upon the benefits of reforms (such as PPPs) one of the respondents representing the public sector acknowledged that private participation does influence the

efficiency of the public sector procurement. His views are presented below in this context:

There is no doubt that participation of private sector in infrastructure projects brings more efficiency and adds value to the projects as compared to traditional public sector procurement modes [IR 4].

Another participant (representing the private sector) also expressed similar views which are stated as under:

Any infrastructure project procured through private sector participation would be more efficient in terms of cost and time as compared to its procurement through traditional public sector procurement mode unless the government has done a bad deal while avoiding rigorous competition [IR 3].

Developed countries adopting PPPs for infrastructure growth might have a different rationale for making this choice which can either be influenced by their respective economic motives or political philosophies. Countries with social/ political driven economies (like Sweden) and unitary forms of governance (as in case of France) prefer to have public sector dominance whereas private sector dominance is more eminent in profit driven economies as in case of the USA, Canada and Hong Kong. In case of the UK, lack of funds to finance the public infrastructure needs resulted in the introduction of PPPs. However most of the developing countries are usually inclined to adopt PPPs or allow private participation in the infrastructure sectors due to their economic constraints and they look at PPPs as an alternative financing solution for their infrastructure development (Akintoye 2009, Cheung et al 2009).

Similarly in the case of Pakistan, scarcity of resources has been noted as a major factor in the adoption of policy reforms relating to NPM encouraging a greater role for the private sector in infrastructure development. These economic reforms (like decentralization, privatization) have provided the way for PPPs to be introduced in Pakistan as an alternative financing solution for funding its rapidly growing demand for infrastructure and services. A very senior technocrat with decades of experience in policy planning and governance issues in Pakistan, endorsed this view point during the interview and said:

Pakistan needs an investment of around 10% of its GDP for financing the infrastructure needs of the country whereas actual spending in this regard was even less than half of that. Financing infrastructure needs through budget was not quite possible without having to neglect some other key sectors which require public sector financing as well. So it was deemed important to tap the capital markets to reduce burden on the budgetary resources of the country. Under this economic duress, public sector was encouraged to identify any infrastructure projects which could be taken-off from regular budget and could be financed through private capital and help of international donors in PPP mode [IR 1].

Another participant highlighted the rationale of adoption of PPPs as a policy tool for infrastructure growth and opined:

The concept of PPPs was brought into practise in Pakistan when the economy was progressing at a reasonable growth rate and it was felt that in order to have a sustained annual GDP, the country would require an annual investment of around 8 to 10% of its GDP and to realize this goal, participation of the private sector was very vital to reduce burden on one end and on the other hand bring more efficiency and value for money in the infrastructure procurement mechanism in vogue in the public sector at that time [IR2].

Further NPM is linked to administrative mega trends like reduction in size of governments and the shift towards privatisation/ alternative service provisioning mechanisms (Hood 1991) and PPPs are also seen as a continuation of the privatization agenda in a sense that government can achieve private sector participation and expertise without having to opt for full scale privatization (Greve and Hodge 2007). However from Pakistan's perspective, when there was a global trend of privatization during the 1970's and 1980's under the influence of NPM agenda, there was mass scale nationalization of private sector industries/ businesses in Pakistan during that period owing to political considerations and this trend was later reversed during the late 1980's and 1990's when state owned institutions were again privatized and economic policies of deregulation were adopted in line with NPM reforms agenda. These views are substantiated through the following input of a respondent:

Although private sector is generally very dynamic and vibrant but unfortunately there was massive nationalization in Pakistan during 1970's resulting into increased role of public sector due to 120 state owned corporations. It was a setback to Pakistan which was doing better than countries like Singapore, Malaysia and Thailand during 1960's. After lapse of 20 years, Pakistan made a major reversal in this policy in early 1990's when deregulation and privatization programme was started in telecommunication, industry, power production (IPPs) and banking sectors etc to bring in the private sector again and to reduce the size of the government while creating new opportunities for public private partnerships [IR 11].

As noted by Ferlie et al (1996), there are four models for NPM reforms which have been adopted by various countries around the world and these include 'efficiency drive', 'downsizing and decentralization', 'search for excellence' and 'emphasis upon the service quality, user feedback and accountability' etc. However looking at Pakistan's experience concerning these reforms, it can be perceived that public sector reforms have mostly been influenced by the first two models of NPM i.e. efficiency drive and downsizing/decentralization as illustrated through the above stated viewpoint of the research participants. This view is further strengthened while analyzing the comments of the participants wherein they have emphasized that in the case of Pakistan, private sector participation has been encouraged in the wake of efficiency gains and Pakistan's downsizing/ privatization experience has been more successful than PPPs where limited success has been achieved over the last three decades. This view has been endorsed through statements of some respondents as illustrated below:

During last few decades, more success has been achieved in terms of decentralization and privatization.....the reforms under decentralizations / privatization agenda in the industrial, banking and telecommunication sectors have been more successful whereas Pakistan's experience in terms of PPPs has been limited mainly to electricity generation [IR 11].

Another respondent expressed similar views:

There was a reform process in the telecom sector which decentralized and opened up this sector for private participation which was traditionally being operated by the public sector (Telephone & Telegraph Department). This department was converted into a corporation and was subsequently privatised. To avoid monopoly an open investment policy was adopted which encouraged international telecom companies to jump into Pakistan's market and provide services to the public. Government played the role of facilitator & regulator and allowed market mechanisms to determine the cost of the service. Resultantly telecom sector is providing an efficient and affordable service to the public [IR 1].

From the analysis of literature and thematic analysis of transcripts of qualitative data collected through semi-structured interviews, it is evident that the rise of public-private partnerships (PPPs) is closely associated with the reforms agenda originating from the developed countries under the umbrella of new public management reforms (NPM) with a view to reforming the role of the state from provider of services/ infrastructure towards a regulatory and facilitative role while encouraging private sector participation in affairs of the state. The decentralization, privatisation and other associated public sector reforms under NPM in developed countries were then adopted by the developing countries as well. The reasons and nature of these reforms under NPM might have been unique to each country but in a broader sense; socio-political considerations and public service concerns have driven such reforms in developed countries and economic constraints/ inability of developing economies to finance their infrastructure growth requirements have pushed them towards this reforms agenda. Public –private partnerships are generally used in developed countries with a view to providing better quality infrastructure which is more efficient and can meet the criteria of value for money as well. However in the case of developing countries PPPs are generally seen as an alternate source of financing their infrastructure requirements in the wake of the inadequacy of public finance. The spread of PPPs during the last 3 to 4 decades is closely associated with the NPM agenda of the public sector reforms wherein involvement of private sector was encouraged for efficient, innovative and effective policy outcomes and products in developed and developing countries; though motives and choice of form/ mode of these reforms can be described as individualistic for each of these countries depending upon their unique socio-political and economic environments.

4.3 Diffusion of PPPs in Pakistan

4.3.1 Nature and Process of Diffusion of PPPs in Pakistan

As noted in the above discussion, the spread of PPPs in developed and developing countries during many decades can be attributed to a reforms movement carried out under the umbrella of new public management (NPM). The use of public-private partnerships grew in the USA and thereafter it was used by other developed/ industrialized countries like the UK, Japan, Italy, and Netherland etc during the early stages of spread of this concept. This phenomenon may be described as ‘policy innovation’ in the developed world wherein indigenous factors influenced these

countries to adopt PPPs as a new policy for infrastructure growth and development. However the spread of such partnerships in the developing countries is generally regarded as policy diffusion which occurs through communication of a certain innovation through certain channels within a social system. The difference between the case of developed and developing countries lies in the fact that for developed countries, innovation is adopted owing to endogenous factors and in the case of developing countries such adoption of innovation generally gains impetus from exogenous factors, though a policy window is available within the local context (Rogers 2003, Appuhami et al 2011, Shipan and Volden 2008, Jooste et al 2010).

Considering circumstances leading to adoption of PPPs in Pakistan, the findings of the literature cited above do hold good as discussed in the illustrations cited in the previous section. An opportunity existed in Pakistan where policy innovations being adopted in developed countries under the NPM agenda of reforms could be adopted locally as well. Massive nationalization of private business concerns during the 1970's was hampering the economy and the public sector was not managing these state owned businesses efficiently resulting into huge losses. So there was a need for reforms and in this context diffusion of NPM related reforms like decentralization, privatization and public-private participation (PPPs) gained momentum in Pakistan during the late 1980's and 1990's.

Analysis of interview transcripts and field notes/ diaries reveals that most of the respondents agreed with these findings. Some of the illustrations from the transcripts are presented below:

I agree that economic reforms carried out during last few decades in Pakistan were needed but maybe I don't agree with rationality and objectivity of these reforms. Reforms like decentralization, privatization and public-private partnerships are western ideas which have been promoted in the third world countries by developed world [IR 9].

Similar views were expressed by another respondent as illustrated in the following remarks:

Off course public private partnerships are not a home grown policy agenda. It has been encouraged by the donor countries and international stakeholders. So yes...we may not call it a policy innovation; rather it is more like policy diffusion from the developed countries [IR 12].

Another respondent was of the opinion that:

In principal, PPPs as a reform agenda is not an indigenous thought. But I would also add that it is a part of broader governance reforms which were essentially required in Pakistan in the wake of its development needs..... When the developed world was moving towards privatization we were nationalizing our private sector businesses. And when this policy backfired and economy started suffering huge losses due to such nationalization, we were looking for alternatives. So we also started our privatization and decentralization reforms. In this backdrop, I agree that need for such reforms was there and these reforms were in no way innovated; rather these were diffused through external means [IR 7].

As far as the nature of such policy diffusion is concerned, it is perceived that policy diffusion is a process through which policy choices of one country are tied to the decisions of another country (Simmon & Elkin 2004) and such policy transfer can be voluntary, negotiated or coercive in nature. The voluntary policy transfer usually relates to developed countries whereas for developing countries such transfer is usually negotiated and coercive in general (Evans 2009). This perceived coercion is exercised by the developed countries through international financing institutions (like World Bank, International Monetary Fund, OECD, ODA, ADB etc) which act as policy transfer tools (Sarker 2006, Pessoa 2010, Jamali 2004).

In terms of Pakistan's experience of diffusion of policy reforms associated with the adoption of PPPs as a tool for infrastructure development, there has been divergence of views amongst the participants. Though most of them agreed that some sort of coercion might have been involved in pressing Pakistan towards adoption of such reforms but in real terms it has mostly been a negotiated-cum-coercive process of diffusion. Some respondents acknowledged a positive role of international stakeholders towards helping Pakistan build the required capacity and frameworks for adoption of PPPs and creating an environment where PPPs can be successfully implemented. However two respondents had a negative opinion towards this argument and they viewed the process of policy diffusion as coercive in nature.

One of the respondents supporting the above argument said that:

I would call the process of diffusion of PPPs in Pakistan a mixture of coercive as well as negotiated or need based transfer. It is coercive in a sense that when the country in need of financing from the donors or international financial institutions etc seeks loans or grants, these entities are reluctant to finance projects in the public sector domain and they suggest reforms such as PPPs as a way forward for obtaining their financial support. In a way these countries or IFIs offer conditional assistance which developing countries have to accept in order to gain much needed resources for infrastructure development. On the other side, we are willing to adopt policy reforms to improve our governance structures as well and when there is some common ground; developing countries are willing to negotiate such policy transfer as well. Therefore I do not see it as an absolutely voluntary kind of policy transfer – rather I will call it a mixed (negotiated cum coercive) kind of process [IR 5].

While emphasizing the role of government structures and decision making in the process of such policy diffusion, another respondent gave the following opinion:

Donors are not the ultimate in everything. As long as the principles are good – donor's role would be facilitative. On the other hand if our own principles are not right then we should not blame donors for our faults. It is up to the governments to make the right choice in given circumstances. If blinds would lead blinds, then results would be disastrous as well. In Pakistan's case, donors had no role in our telecom sector which is still doing well but in case of IPPs, donors had a major role but still this sector is in all sorts of problems. So let's not blame donors for our wrong decisions. Therefore I won't describe this diffusion process as merely a coercive one; rather it has more to do with our own policy choices driven by our local context [IR 1].

Another respondent endorsed the above stated views and gave his own opinion as follows:

It would be unfair to call this diffusion process to be coercive in nature. If a country needs private capital and foreign direct assistance from donors and IFIs, they have a right to ensure that their loans or assistance does not go waste and if they suggest some terms which suit them – it is up to the host country to make a rational choice. In Pakistan's case, the privatization agenda during 1990's was in fact ahead of their prescriptions and we did well. But yes donors have their own agenda as well which they wish to promote but I think we have not opted for anything which did not suit us. In case of economic stabilization reforms IMF would tend to make its help conditional with certain reforms but it is up to the host governments to strike a balance and create a win-win scenario for all stakeholders. So I won't term this policy diffusion process as solely coercive [IR 11].

From above illustrations, it is clear that in the first place diffusion of PPPs in developing countries is not voluntary but it is also not necessarily coercive in nature. Besides indigenous needs, regional influences and learning can also be a motivating factor for such policy diffusion as illustrated in the following comments of one of the respondents:

Public-private partnerships (PPPs) are not an indigenous policy innovation. Pakistan has adopted it from developed countries. From personal experience I can see some sort of coercive influence from donors and lenders like World Bank and Asian Development Bank who wish to promote private sector participation in infrastructure development. But I think Pakistan has found its motivation for such reforms through regional learning as well; because during last couple of decades PPPs have become a successful model for infrastructure development in Asia especially in India. So I think diffusion process in Pakistan is coercive as well as voluntary learning through regional experiences [IR 3].

Though most of the respondents viewed the diffusion process of reforms (like PPPs) to be driven by Pakistan's own indigenous reasons which were coupled with initiatives suggested from exogenous sources, yet they have also not totally rejected the notion that such policy diffusion or transfer process was devoid of any sort of coercion. Most of them viewed this as a combination of local needs/ willingness and coercion from the donors but they did not view this process negatively. However, two respondents termed this diffusion as absolutely coercive which according to them did not suit local needs.

A senior executive from a public sector organization dealing with the power generation sector was of the following view:

Third world is a trial market for the international financial institutions and developed - donor countries. They push developing countries to adopt such reforms which in their view are necessary for the recipient country to improve their governance structures, financial management and improving the efficiency of public sector organizations. But often these reforms are incompatible with ground realities of the developing countries and result into more chaos instead of bringing efficiency in the system itself [IR 8].

Similar views were also expressed by another respondent saying that:

It's difficult to answer actually. In my point of view, reforms agenda during last few decades has mostly been pushed in countries like Pakistan by the international financial institutions (IFIs) for promoting the role of private sector in infrastructure development with which they feel more comfortable working with than the public sector [IR 7].

Taking a holistic view of the thematic analysis of interviews, it transpires that most of the respondents have termed the process of diffusion of NPM related reforms such as public private partnerships, as a mixture of coercion from donors/ IFIs as well as internal drivers like political agenda of the governments, resource crunch and rising need for infrastructure for better economic growth. However there is a broad consensus that domestic or local contextual factors have primacy over external coercive factors in influencing policy decisions towards allowing policy transfer from other countries.

4.3.2 Role of International Stakeholders in Diffusion of PPPs

As the adoption of PPPs in developing countries is considered to be a result of policy diffusion (whether it is coercive in nature or a result of negotiated or voluntary transfer or even if it is a combination of these factors) it is generally agreed that such policy diffusion is facilitated through international stakeholders. These stakeholders may include bilateral or multi-lateral donors and international organizations such as OECD¹, World Bank, IMF², ADB³, etc) which play the role of policy transfer agents for diffusion of reforms from developed to the developing countries whose economies cannot be sustained without their help and support (Common 1998, Jamali 2004). This view is endorsed by many authors such as Appuhami et al 2001, Pessoa 2011, Marsh and Sharman 2009, Holden 2009 and Sarker 2006 who believe that these donors/ institutions do have stakes in this process and they act as policy transfer agents to facilitate policy diffusion.

Analysis of interview transcripts has identified unanimity of views regarding the role of these international stakeholders in the process of policy diffusion irrespective of the nature of their role towards this process. Some view their role as negatively inclined in favour of the developed countries and some have viewed it as an advisory role. So it is evident that international stakeholders do have a vested interest in diffusion of policy reforms under NPM agenda. This is evident from the views of one of the respondents as illustrated in his remarks given below:

¹ OECD: The Organization for Economic Co-operation and Development

² IMF : International Monetary Fund

³ ADB : Asian Development Bank

How reforms like introduction of public-private partnerships (PPPs) have become a policy choice for our decision makers? The answer is that we have been encouraged by the donors who are now concerned that their money – either in shape of loans or grants or investments – is not being utilised efficiently. So they wanted private sector participation in this process. They used the good offices of the IFIs to induce these reforms in Pakistan who would tend to advise us to reform our infrastructure procurement and learn from the international experiences such as PPPs. In this way these IFIs do play a role of intermediaries for the donors etc to kick start a process of reforms in developing countries suiting the needs of developed markets [IR 4].

Similarly another respondent from the private sector gave the following views on this topic:

The IFIs have pushed for such reforms over a period of time but they cannot do so in case of countries with strong financial status. Developing countries are usually resource hungry and they seek foreign assistance which IFIs can arrange but at their own terms. Initially they would prescribe reforms like PPPs and once these reforms are there, these IFIs do play a facilitative role in trying to build the requisite capacity and regulatory frameworks in those countries enabling them in implementing reforms successfully. So their role reduces gradually once the reforms are in place and required changes have taken roots [IR 12].

A senior executive from a public sector board of investment also had similar views on this topic and he gave the following opinion:

IFIs like ADB or World Bank become key players in promoting reforms like PPPs when developing countries approach them for soft loans etc to finance their infrastructure costs. Then the leverage shifts towards these IFIs which suggest that soft loans might not be available but until and unless certain reforms can be introduced – like introducing PPPs – we can manage to secure financing for your infrastructure requirements through private sector investment as well as contribution from our side. In this way we do see a role of IFIs as facilitators of policy transfer through which they tend to introduce international best practices in developing countries as well [IR 9].

Although most of the respondents agreed to this point that international stakeholders like IFIs and donor countries do have a role towards promotion and adoption of policy reforms in developing countries especially in the case of introduction of reforms like decentralization, privatization and private participation in procurement of infrastructure/ services through public-private partnership (PPP) mode, there seems to be a divergence of views towards the very nature of their role. Some of the respondents view it positively and supportive while some consider it a sort of exploitative nature of

influence which in their view does not help the developing countries at all. One such respondent while supporting the later argument stated that:

International stakeholders wish to implement their own agenda at all cost. They think solutions which have worked for them would also work in case of developing countries. What they fail to understand is that each country has its own socio—political and historical context which requires innovative approaches to address those contextual issues [IR 8].

Another viewpoint against this argument was given by a senior participant who has had vast experience of dealing with IFIs and other private sector stakeholders. His opinion is illustrated through the following comments:

It is up to the developing countries to opt for the reforms which suit their own needs or they must make an effort to bring innovative solutions for their problems keeping in view their local context. The IFIs etc are always willing to offer help to these countries in bringing up innovative solution which align with their agenda and meet the local needs as well. Actual nature of interventions from international stakeholders would necessarily depend upon the maturity of governance systems, economic indicators and efficiency of the local public sector organizations which negotiate the terms of such interventions [IR 10].

On the basis of the above discussions, conclusion can be derived that the vast majority of the interview respondents agree to this fact that IFIs play a role in diffusion of policies from developed to the developing countries. However the nature of their role in this process of diffusion has attracted a mixed response from the participants of this phase of the research. Some of these participants viewed intervention of IFIs as facilitative in a sense that they help developing countries in adopting international policies and building their capacity to implement these reform agenda. However others are of the view that the IFIs are merely a tool in the hands of developed countries through which they transfuse their own policies into developing countries for their own vested interests and the role of IFIs is often negative and coercive towards developing countries. But it has also been argued that developing countries with stable economies and strong administrative systems can cope with such pressures from IFIs etc by negotiating a win-win kind of partnership agenda with these external stakeholders.

4.4 Diffusion of PPPs in Developing Countries: Importance of Local Context

As discussed in previous sections, it is evident that reforms (such as introduction of PPPs) in the developing countries are introduced on the behest of developed countries through international donors and IFIs, which act as policy transfer agents for diffusion of such policy interventions. Irrespective of the fact that such policy transfer is coercive or otherwise, it is a fact that developing countries are adopting these reforms due to their endogenous needs/ demands and at the same time under some sort of duress from the developed countries, donors and IFIs etc. But in practice, how important is the local context? Can such reforms be successful without taking into account the importance of local context? A thematic analysis of interview transcripts and notes reveals that the socio-political, legal and economic context of the host countries does play an important role towards successful adoption of the reforms. An effort has been made in the following sections to discuss the viewpoint of the research participants towards these contextual issues whose adherence is deemed critical for adoption of PPP reforms in case of developing countries.

4.4.1 Political/ Legal Context:

Majority of the interview participants emphasized that no reform process can be successful in the developing countries without a broader consensus and political ownership of the highest level. If the reforms lack ownership of the highest level and are devoid of a strong philosophical backing of the political parties, then such reforms are generally reversed as and when there is a change of government. A senior political figure pointed out this fact and illustrated his viewpoint with following example:

The decentralization/ deregulation reforms initiated during late 1980's and 1990's took long time in gaining grounds in Pakistan due to successive changes of the governments. Reforms of one political government were discouraged by the other due to differing nature of their political philosophies. Similarly, PPPs were introduced in energy sector of Pakistan through 1994 policy but it attracted lot of resistance from opposition parties and ultimately IPPs procured under this policy ran into trouble with change of government which perceived them negatively. Therefore I believe that unless reforms agenda has a broader political consensus and support; there won't be much success in adopting these reforms [IR 1].

Another senior public official also gave similar remarks, quoted as follows:

No major reform initiative can succeed in Pakistan without a serious political commitment of the highest level. Initiatives lacking such ownership are not seriously pursued by the public sector bureaucracy. Reforms process in developing countries can only succeed if it can find roots in broader governance structures and administrative hierarchy which has got the implementation powers. As in case of PPPs, the reform agenda has not found true support from the top leadership and during last three decades, such partnerships could only be implemented in roads and energy sectors with limited success despite foreign assistance and support. However things are now moving at much faster pace as current political leadership is supporting this policy and numerous projects are now under consideration for procurement through PPP mode [IR 9].

Both these participants have supported the need for broader political consensus and ownership of the highest level for successful adoption of policy reforms. Reforms are usually associated with policy matters having long term implications for the governance systems and therefore require a consistent effort over a period of time to yield positive results. Without continuity of political thought and associated government policies, reforms may not end up in achieving the desired goals. Some other legal issues were also highlighted by interview respondents which they considered vital for success of the reforms process. These included existence of a strong legislative/ legal cover, presence of a dependable judicial system and above all, government guarantees towards protection of foreign investments as in the case of PPPs. Economic reforms (like introduction of PPPs) require massive capital investment from foreign markets and require strong guarantees of the host governments to ensure a good return for investment coupled with recovering the original capital investments.

While commenting upon the need for such legal covers for success of PPP reforms, one of the participants gave the following remarks:

Public-private partnerships require extensive legal coverage as usually such contracts span over 20 to 30 years period and investors seek a comprehensive coverage to avoid risks during lifecycle of the projects. And then there is issue of sovereign guarantees from host governments to cover financial risks to the investors. In case of Pakistan, ADB and other international financial institutions have helped us in providing such guarantee funds. Such arrangements require a well established legal system and legislative coverage to govern the reforms process over a longer period of time and implementing the projects on ground [IR 8].

Another respondent commenting upon Pakistan's experience in terms of PPPs made the following comments:

I would say that we have not been able to develop a sound legal framework for such projects. In case of IPPs in energy sector, we have had different regulatory and legal frameworks in energy policies adopted in 1994 and 2002 and that too have been subject to lot of criticism. Another effort in this regard during 2007-2012 in terms of rental power plants also backfired due to issues arising out of poor policy frameworks and legal coverage coupled with political opposition which was ultimately scandalized the whole process and resulted in a judicial scrutiny in the supreme court of Pakistan. In my view PPPs could not be promoted in other sector because a strong legal backing and frameworks could not be developed for our current PPPs which could stand the test of judicial scrutiny and political opposition [IR 7].

While augmenting these views, one of the private sector executives expressed his remarks as under:

Legal/ concessionary framework offered in 2002 power policy were less restrictive in nature than in 1994 policy; but still this policy could not attract much investment. The reason being that the negative perception carried by the private sector viz a viz outcomes of 1994 policy had negative bearing on this policy as well; though it was much better than the earlier one [IR 5].

4.4.2 Socio-Economic Context

The above illustrations clearly depict a strong need for political support, ownership and continuity/ consistency of government policies for successful adoption of policy reform such as PPPs in developing countries. Further, legal frameworks, government guarantees and a stable judicial system of dispute resolution are playing a vital role in the adoption of reforms in developing countries. Similarly, the social environment and economic environment of the developing countries is also vital for successful adoption of policy reforms. Policy reforms like PPPs require social support and acceptance besides a favourable economic environment to succeed. Most of the respondents in this phase of the research supported this argument as illustrated in the following remarks of one of the participants:

Reforms like public-private partnerships can only succeed if there is a general social acceptance and the service being provided through these initiatives is of better quality as well as affordable for general public. If government itself is not trustworthy and is politically weak, its initiatives would be doubted by the general public and shall lack acceptance irrespective of issues like quality or affordability [IR 4].

Similarly another respondent was of the view that:

Positive public perception about reforms like use of PPPs is vital for their successful adoption in developing countries. Talking about IPPs in Pakistan, it is very unfortunate that in a way these have been demonized in the eyes of general public as manipulative or extortive entities aiming to make undue profits. The reason for such perception lies in a negative role of media and to some extent inaction of the government which does not try to underplay such negative propaganda. What we need to accept is that private sector has a right to earn a reasonable profit for its investment and it cannot provide a service without profit as against public sector which is not profit driven. Such contextual issues have to be managed properly for success of any reforms agenda in developing countries [IR 5].

Highlighting the importance of economic factors in the success of public private partnerships reforms in developing countries, a senior technocrat with vast experience in the economic management of the country gave the following comments:

Private capital flows are generally directed towards countries where there is less risk of political turmoil, law & order and there is a guaranteed return on investment. In case of PPPs, developing countries are often considered as high risk in terms of these factors. One of the major reasons for lack of PPP initiatives lies in these areas besides lack of an overall economic environment favouring private investments which include factors like good GDP growth rate, private incentives, taxation regimes and overall stability of the economic conditions of the host countries [IR 1].

One of the respondents highlighted that applicability of reforms like PPPs is not universally similar and socio-economic drivers for adoption of PPPs are also dependent upon local context. He gave the following argument in favour of his views:

Let us consider the example of a utility service (like electricity). In developed countries, host government may provide some form of upfront financial contribution to make the project financially viable for the private sector but it will not commit any subsidies once the service has been made available to the public. But in case of developing countries like Pakistan, government not only offers an upfront contribution but it also has to bear the difference in its purchase/ sale price of electricity through subsidies. If subsidy is not there, public cannot buy this utility at its actual commercial cost. Therefore reforms (like PPPs) have to be innovative to suit the local context of the adopting country [IR 12].

One of the major arguments given in favour of the PPPs in developed countries is that such projects provide a more cost effective infrastructure than their public sector comparators but in case of developing countries this argument is not considered factually correct. While explaining this factor, one of the respondents argued that:

In developing countries, cost of the capital investments is usually not taken into account for infrastructure projects under public sector financing mode and when similar project is evaluated under PPP mode, cost of the capital is included in the total financing cost of the project. In this way, private sector procurement becomes more costly than its public sector comparator. Therefore criteria for doing projects through PPPs in developed countries cannot be applied in case of developing countries. Similarly the driver for adoption of PPPs in case of developed countries cannot be applied in case of developing countries like Pakistan. Even if similar drivers exist, those exist in a modified form in case of developing countries [IR 5].

In summary, it can be argued on the basis of the above illustrations that local contextual factors do have an impact upon the implementation of the reforms process in one way or the other and the reforms agenda (as in case of public-private partnerships) has to be tailored in such a way that its contours are aligned with the political, legal and socio-economic environment of the developing countries failing which the desired goals of such reforms cannot be achieved successfully.

4.5 Exogenous/ Endogenous Reasons for Adoption of PPPs in Pakistan

Taking a lead from the above discussions, it was felt that there has been a varied response from the interview participants towards the reasons for adoption of the reforms agenda like PPPs in Pakistan. It is generally agreed that such introduction of reforms is a result of policy diffusion from the developed countries which is often facilitated (either coercively or through negotiated-cum-coercive process) by the international

stakeholders. But it is also established that local contextual factors also have an important role to play in this process. Some participants of this phase of the research were of the view that exogenous factors play a major role in this policy transfer process leading the way to introduction of reforms in developing countries. Those on the other end of this continuum consider this process to be triggered due to endogenous needs alone resulting in the creation of a policy environment wherein exogenous factors also become relevant for developing countries. A few of them also advocated a varying degree of influence exercised by these stakeholders; which might be coercive to begin with during the initial phases of introduction of reforms like PPPs but with the passage of time this role becomes more facilitative in nature with emphasis upon creating an enabling environment where the reforms agenda may yield positive results.

Generally all the participants agreed that adoption of reforms such as PPPs in developing countries is a result of a policy diffusion process facilitated by the international stakeholders and local contextual factors have a role to play towards success or failure of such reforms. The extent to which the method of diffusion and local context affect the implementation and adoption of such reforms attracted similar responses from the participants as well. From the above views, it can be argued that the method of diffusion has been assigned lower importance viz a viz local contextual factors and it has been argued that local context has more importance towards the actual adoption of the policies which are transferred from developed countries through this diffusion process.

The extent to which this diffusion process (coercive, negotiated or voluntary in nature) affect the adoption of reforms agenda is evident from the fact that only four exogenous factors relating to the diffusion process could be extracted from the thematic analysis of interview transcripts, field diaries and notes. These four exogenous driving factors include the following diffusion related factors:

- I. Policy transfer from developed countries through conditions attached with loans/ aid for promoting public–private partnerships as a tool of infrastructure development
- II. Role of IFIs (International Financial Institutions) and multi-lateral donor countries/ agencies as policy transfer agents in promoting private sector participation in development

- III. Policy transfer due to regional/ international learning, economic competition or imitation
- IV. Administrative reforms - encouraged by IFIs/ multi-lateral donors to facilitate promotion of PPPs

Research findings show that the nature and extent of influence of the diffusion process can be associated with these above cited four factors. Similarly, in terms of local contextual factors, there is a broad consensus that these are most critical drivers for the adoption of PPP reforms in developing countries and in the case of Pakistan, the following eleven driving factors have been identified as a result of analysis of qualitative data:

- I. Economic development pressure
- II. Need of foreign direct investment to boost local economy
- III. Rising gap between demand and supply of infrastructure/ services
- IV. Lack of domestic resources for financing the infrastructure needs
- V. Avoiding public sector borrowing limits set in the annual budgets
- VI. Off- balance sheet financing for infrastructure with a long repayment period (i.e. the whole cost of the project is not shown as an up-front liability in the budget books)
- VII. Political pressure/ agenda of political parties/ governments
- VIII. Private incentive
- IX. Inefficiency because of public monopoly and lack of competition
- X. Perceived inefficiency/ in-action of the public sector
- XI. Lack of business and profit generating skills of the public sector

There has been a consensus amongst participants that the above cited drivers representing the factors relating to diffusion process (04) and local context (11) play a key role in implementation of reforms agenda in the case of developing countries. But which drivers have primacy over the others? On this issue a varied response has been received from the participants. Some were of the view that diffusion related drivers have precedence over the other local contextual factors in terms of implementation of reforms agendas in developing countries. However, a majority of the respondents viewed it otherwise and they termed the local contextual factors to be the prime drivers for adoption of reforms (like PPPs) in developing countries while the diffusion related drivers play a secondary role in this process.

In view of the above discussions, need was felt to further investigate the issue of key drivers towards adoption of PPP reforms in Pakistan as qualitative analysis results showed a mixed response. Though a majority of the participants viewed local contextual factors as more important than the diffusion related drivers, still many respondents have had a different opinion in this regard. In order to ascertain the exact significance level of each of these drivers, it was decided to further validate these results quantitatively as well. Therefore a list of 15 key drivers including 04 exogenous and 11 endogenous factors was then made part of the questionnaire survey for quantitative analysis during the next phase of the research. Out of these 15 key drivers, 04 factors relating to the nature and influence of diffusion process have been labelled as exogenous factors and 11 local contextual factors have been labelled as endogenous factors influencing the adoption of PPPs in Pakistan (Table 4.2). A ranking scale of these drivers would be calculated on the basis of their respective mean scores as a result of quantitative data analysis to develop an argument about primacy of certain drivers over others. Besides, this would also help in determining the within-group and intra-group significance of exogenous as well as endogenous factors and validate the findings of the qualitative analysis. Detailed discussion of these results is presented in the next chapter (section 5.3).

Table 4.2 Key Drivers for Adoption of PPPs in Pakistan

EXOGENOUS FACTORS FOR ADOPTION OF PPPs IN PAKISTAN	
1	Policy transfer from developed countries through conditions attached with loans/ aid for promoting public – private partnerships as a tool of infrastructure development
2	Role of IFIs (International Financial Institutions) and multi-lateral donor countries/ agencies as policy transfer agents in promoting private sector participation in development
3	Policy transfer due to regional/ international learning, economic competition or imitation
4	Administrative reforms - encouraged by IFIs/ multi-lateral donors to facilitate promotion of PPPs
ENDOGENOUS FACTORS FOR ADOPTION OF PPPs IN PAKISTAN	
5	Economic development pressure
6	Need of foreign direct investment to boost local economy
7	Rising gap between demand and supply of infrastructure/ services

8	Lack of domestic resources for financing the infrastructure needs
9	Avoiding public sector borrowing limits set in the annual budgets
10	Off- balance sheet financing for infrastructure with a long repayment period (i.e. the whole cost of the project is not shown as an up-front liability in the budget books)
11	Political pressure/ agenda of political parties/ governments
12	Private incentive
13	Inefficiency because of public monopoly and lack of competition
14	Perceived inefficiency/ in-action of the public sector
15	Lack of business and profit generating skills of the public sector

4.6 CRITICAL SUCCESS FACTORS (CSFs) FOR PPPs IN PAKISTAN

One of the objectives of this survey involving semi-structured interviews of 12 senior executives representing various stakeholder groups was the collection of data for finalizing a list of critical success factors (CSFs) for use in the next stage of the research for quantitative data collection. During the course of interviews, participants were requested to identify critical success factors for successful implementation of PPP projects in the local context. Each of the participants identified certain CSFs which in their perception were most relevant in Pakistan's context. For further confirmation, they were also provided with a list of such factors compiled as a result of the literature review (presented in table 2.4) so that they can identify any other factor which they might have overlooked earlier. In this way, a comprehensive list of 45 CSFs (Table 4.3) was prepared which contained only those CSFs which were selected by at least half of the respondents and at the same time were supported in the literature review. These 45 CSFs were used to collect quantitative data during next stage of this research in relation to research questions 4 and 5. Findings of this survey are presented in the next chapter (i.e. Chapter 5).

Table 4.3 Critical Success Factors (CSFs) for PPPs in Pakistan

CRITICAL SUCCESS FACTORS (CSFs)	
1	Good governance
2	Broader political consensus towards adoption of PPPs as a policy tool for infrastructure growth
3	Political ownership of the highest level
4	Consistency /continuity of government policies
5	Stable administrative system capable of handling complex PPP projects
6	Social support
7	Public consultation and acceptance
8	Toll/Tariff is acceptable for end users
9	Trust in the government policies
10	Stable law & order situation
11	Acceptance of the right of the private sector to earn reasonable profit for their investment in PPPs
12	Predictable & reasonable legal framework
13	Strong statutory/institutional framework*
14	Strong judicial system
15	Government guarantees
16	Stable & favourable economic environment
17	Sound governmental economic policy
18	Adequate local financial market
19	Stable macro-economic conditions
20	Stakeholder identification
21	Exploring stakeholder needs to the project
22	Engagement with stakeholders according to their areas of interest
23	Engagement with the stakeholders according to their expected level of impact
24	Selecting appropriate strategies to deal with stakeholders having different attributes (urgency, power, proximity) etc
25	Pre-empting the stakeholder reactions towards management strategies

26	Conflict management between stakeholders
27	Media management to counter negative perception of PPPs*
28	Partnership spirit / commitment/ trust
29	Due diligence in planning & implementing PPP projects
30	Well defined milestones and deliverables for PPP projects*
31	Value for money viz a viz public financing option
32	Size of the projects in terms of its capital value*
33	Economic/ financial viability of projects
34	Transparency in the procurement process
35	Efficiency gains in terms of time & cost
36	Strong & capable PPP unit
37	Capacity of the public sector departments to handle complex PPP projects*
38	Strong public sector oversight throughout lifecycle of the projects
39	Trust between partners/ stakeholders
40	Strong/ experienced private consortium
41	Availability of long-term/ low cost financing
42	Standard contract documents; flexible enough for changes in output specifications
43	Risk sharing between partners
44	Substantial risk transfer to the private sector
45	Monetization of the risks based upon a transparent assessment

4.7 SUMMARY

In this chapter, a thematic analysis of qualitative data collected through semi-structured interviews during the first phase of the research has been presented in detail. This phase of research was dedicated towards addressing the first three research questions besides developing a list of critical success factors for use in the questionnaire survey during the next phase of the research as outlined in the research map (Fig 1.2). A summary of interview themes and results of their respective thematic analysis is presented in tabulated form in Table 4.4.

Table 4.4 Summary/ Findings of Thematic Analysis of Qualitative Data

	RESEARCH THEMES	SUMMARY OF FINDINGS
1	Historical overview of PPPs in developed and developing countries under the aegis of NPM reforms	There has been a general consensus amongst the participants that spread of policy reforms relating to PPPs are closely linked with the NPM reforms which were initiated in the developed countries due to their peculiar socio-economic/ political needs. As in case of NPM drive which represented various manifestations of public sector reforms, PPPs also lay emphasis upon efficiency, effectiveness, value for money and private participation in provision of infrastructure/ services. During last 4 to 5 decades, such reforms have been implemented in the developed as well as developing countries though the rationale and form of these initiatives could be different in various cases. In the case of developing countries, resource scarcity, rising demand for infrastructure and need for alternative financing solutions have been the main reasons for adoption of reforms like PPPs. Most of the participants viewed spread of reforms like PPPs under influence of NPM agenda to be closely associated with global trends like reducing the size and over extended role of the state/public sector, shift towards decentralization, deregulation, privatization and alternate service provisioning mechanisms through private sector participation. Further, participants also generally agreed that PPPs can bring efficiency and improve the quality of service provisioning through private sector participation besides helping them in reducing burden on budgetary resources due to private capital investments in infrastructure.
2	Nature & Process of diffusion of PPPs in Pakistan	Introduction of PPPs in Pakistan is not a local policy innovation; rather this is a case of policy transfer from developed countries where this policy innovation occurred originally. Such policy transfer through diffusion is often considered coercive in nature for the developing countries. Most of the respondents agreed to this notion to the extent that some sort of coercion has been exercised by the developed/ donor countries through international financial institutions etc to begin such reform process but at the same time they have advocated that there was a genuine need for reforms in Pakistan to undo the effects of nationalization policy adopted during 1970's. The participants generally agreed that initial impetus for diffusion of reforms like PPPs could be termed as coercive but once the reforms were

		<p>initiated, donors and IFIs helped Pakistan in developing the institutional/ regulatory frameworks besides extending financial assistance for promoting these reforms. So in Pakistan's context, diffusion process has been described as coercive cum voluntary; necessitated mostly due to local contextual factors (like agenda of political leadership, recourse crunch and rising gap between demand and supply of infrastructure etc) rather than external pressures. In some cases, reforms like decentralization and privatization (which are related to NPM drive as well and lead to introduction of PPP as a policy choice for energy and road infrastructure sectors) were viewed as indigenous initiatives which were later on supported by the donors.</p>
3	<p>Role of international stakeholders in diffusion of PPPs</p>	<p>Most of the respondents agreed that international financial institutions (like IMF, World Bank, Asian development Bank etc) do play the role of policy transfer agents for diffusion of policy innovations from the developed economies into the developing countries. Though literature supports the notion that their role is often coercive in this process as they influence the decision making process in developing countries by linking their financial support with certain reforms which help in such policy transfer. However there has been a divergence of views of the respondents on this issue. Some agreed to above stated perceptions but some of them termed the role of IFS etc as positive in the sense that they do suggest certain reforms but it is up to the developing countries to make rational choice of reforms on the basis of their own peculiar circumstances and they can negotiate better deals with IFIs if they can put up better solutions for their problems which may be acceptable to IFIs too. In Pakistan's perspective, some participants were of the view that in certain cases, Pakistan made such choices which were ultimately supported by the international stakeholders as well. A few of them also took the middle ground and viewed the role of IFIs as coercive to begin which moves towards the other end of the continuum where these IFIs would tend to provide support in institutional capacity building, development of regulatory/ legal frameworks etc besides financial support for the success of the reforms as well. In brief, role of the IFIs in diffusion of reforms into developing countries is there but the very nature of this role is a subjective reality which can be defined through mutual trust and carving out win-win solutions for all stakeholders.</p>

4	Local contextual factors (social, political, economic & legal)	Thematic analysis revealed that a majority of the respondents have rated the importance of the political, legal and socio-economic context over and above other factors involved in the diffusion of policy reforms. Some respondents argued that political support and ownership at the highest level coupled with strong legal coverage, judicial system and government guarantees are vital for success of PPPs in developing countries. Others emphasized the need for socio economic factors like social acceptance and support, consistency/ continuity of policies on a long term basis, judicious risk sharing mechanisms, and favourable economic environment etc for success of policy initiative such as PPPs. It can be concluded that reforms do not have universal applicability and these have to be tailored in such a way that its contours are in uniformity with the political, legal and socio-economic context of the policy adopting country.
5	Exogenous/ endogenous drivers for adoption of PPPs in Pakistan	<p>In order to determine to what extent the method of diffusion and local contextual factors influence the implementation of PPP projects in developing countries, thematic analysis of the data revealed that there are 04 exogenous factors (relating to the diffusion process) and 11 endogenous factors (representing local context) and respondents have generally rated endogenous factors as more important than exogenous factors influencing the implementation of PPP projects in Pakistan. These factors include the following:</p> <p>Exogenous Factors:</p> <ul style="list-style-type: none"> ➤ Policy transfer from developed countries through conditions attached with loans/ aid for promoting public – private partnerships as a tool of infrastructure development ➤ Role of IFIs (International Financial Institutions) and multi-lateral donor countries/ agencies as policy transfer agents in promoting private sector participation in development ➤ Policy transfer due to regional/ international learning, economic competition or imitation ➤ Administrative reforms - encouraged by IFIs/ multi-lateral donors to facilitate promotion of PPPs <p>Endogenous Factors:</p> <ul style="list-style-type: none"> ➤ Economic development pressure

		<ul style="list-style-type: none"> ➤ Need of foreign direct investment to boost local economy ➤ Rising gap between demand and supply of infrastructure/ services ➤ Lack of domestic resources for financing the infrastructure needs ➤ Avoiding public sector borrowing limits set in the annual budgets ➤ Off- balance sheet financing for infrastructure with a long repayment period (i.e. the whole cost of the project is not shown as an up-front liability in the budget books) ➤ Political pressure/ agenda of political parties/ governments ➤ Private incentive ➤ Inefficiency because of public monopoly and lack of competition ➤ Perceived inefficiency/ in-action of the public sector ➤ Lack of business & profit generating skills of the public sector
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To further elaborate the intra-group and inter-group level of significance of these exogenous and endogenous factors, it was decided to make it a part of the questionnaire survey to be carried out during the next phase of the research for quantitative data collection/ analysis. Moreover, a list of critical success factors derived through this stage of research (Table 4.3) shall also form part of this questionnaire survey. Details of the quantitative data analysis are presented in the next chapter.

CHAPTER 5

QUANTITATIVE DATA ANALYSIS

KEY DRIVERS and CRITICAL SUCCESS FACTORS (CSFs) FOR PPP IN PAKISTAN: STAKEHOLDERS' PERSPECTIVES

5.1 Introduction

This chapter presents the analysis and results of the quantitative data collected through questionnaire survey. As discussed in Chapter 3, a questionnaire survey was primarily employed to collect quantitative data relating to research questions 4 and 5 but it was also intended to collect corroborating evidence in relation to research questions 2 and 3 as well to support the results of the qualitative data gathered through semi structured interviews. A summary of the questionnaire structure is presented in Table 5.1 to help correlate the research questions with various parts of the questionnaire and identify main themes/ sub-themes included in each part thereof.

Table 5.1 Questionnaire Structure

Research Questions	Questionnaire Part	Questionnaire Themes	Questionnaire Subthemes
How did PPPs diffuse in Pakistan? To what extent do the method of diffusion and local contextual factors influence the implementation of PPP projects in Pakistan?	Part 2	Key drivers/ critical factors for adoption of PPPs in Pakistan	Exogenous factors influencing adoption of PPPs Endogenous factors influencing adoption of PPPs
What are the critical factors for successful implementation of infrastructure related PPPs?	Part 3-A	Critical success factors (CSFs) for PPPs in Pakistan	Political factors Social factors Legal factors
How much variance exists in the perception of different stakeholder groups towards the significance of the critical factors for successful implementation of PPP infrastructure projects?	Part 3-B, C & D	Stakeholder perception index (SPI) for CSFs	Economic factors Stakeholder management Technical/ process related factors

The first part of this chapter outlines analysis of key drivers for adoption of PPPs as a tool for infrastructure development in developing countries like Pakistan. A ranking scale for 4 exogenous factors and 11 endogenous factors has been developed as a result of statistical analysis of mean response values for three stakeholder groups (i.e Public

sector, private sector and other stakeholder groups) and analysis of variance (ANOVA). This statistical analysis was carried out through statistical package for social sciences (SPSS).

The critical success factors for PPPs in Pakistan and stakeholder perceptions thereof have been discussed in later part of this chapter. Ranking scales based upon mean response values for 03 stakeholder groups and analysis of variance (ANOVA) for 40 critical success factors was calculated through SPSS and a factor analysis method was used to group together factors with similar significance values and thereby produce 08 components or broad groups of CSFs for PPPs in Pakistan. A comparison of ranking scales for each of stakeholder groups is presented in the last part of this chapter to ascertain the criticality of 40 CSFs for each group according to the perception of the stakeholders.

5.2 Internal Reliability – Chronbachs' Coefficient (Alpha)

Internal reliability of the data is an important measure which reflects consistency of responses from one item to another in a given data set. Therefore data collected through questionnaire part 2, parts 3 A, B and C was tested for internal consistency by computing the chronbachs' coefficient (alpha) through SPSS (table 5.2) which are all higher than 0.81. In social science research, alpha values greater than 0.90, 0.80 & 0.70 are rated as excellent, good and acceptable measures of internal consistency (Gliem and Gliem 2003:87; Nolah and Heinzen 2012:251). Therefore the research data in part 2 and 3(A, B, C and D) of the questionnaire is internally consistent and reliable enough for further statistical analysis.

Table 5.2 Data Reliability Test (Alpha)

Sr. No.	Questionnaire Part	Chronbachs' Alpha
1	Part 2 (CF1 to CF15)	0.815
2	Part 3A (CSF 1A to CSF 40A)	0.948
3	Part 3B (CSF 1B to CSF 40B)	0.945
4	Part 3C (CSF 1C to CSF 40C)	0.948
5	Part 3D (CSF 1D to CSF 40D)	0.960

5.3 Key Drivers for Adoption of PPPs

15 key drivers for adoption of PPPs in Pakistan were derived through analysis of qualitative data in Chapter 4. Four such drivers were categorised as exogenous factors influencing the adoption of PPPs in Pakistan and the remaining 11 factors were termed as endogenous factors. These 15 factors were used to collect data from participants of the questionnaire survey (part 2) and were statistically analysed to calculate their respective mean scores for three stakeholder groups (i.e public sector, private sector and other stakeholder groups) to develop their mean ranking scale and analysis of variance purposes. The survey results are presented in Table 5.3.

Table 5.3 Key Drivers for Adoption of PPPs; Stakeholders' Perspectives

KEY DRIVERS FOR ADOPTION OF PUBLIC PRIVATE PARTNERSHIPS (PPPs) IN PAKISTAN												
	Public Sector		Private Sector		Other Stakeholders		Total					
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Significance	Standard Deviation	F	Sig
Lack of domestic resources for financing the infrastructure needs	3.86	2	3.75	4	4.00	1	3.84	1	Significant	1.127	.371	.691
Rising gap between demand and supply of infrastructure/ services	4.00	1	3.77	3	3.65	5	3.80	2	Significant	.944	.791	.457
Economic development pressure	3.82	3	3.84	1	3.57	6	3.76	3	Significant	1.098	.506	.605
Need of foreign direct investment to boost local economy	3.73	4	3.80	2	3.70	3	3.75	4	Significant	1.170	.061	.941
Political pressure/ agenda of political parties/ governments	3.00	10	3.48	5	3.70	4	3.42	5	Significant	1.396	1.496	.230
Lack of business & profit generating skills of the public sector	2.91	12	3.11	6	3.57	7	3.18	6	Significant	1.534	1.112	.334
Perceived inefficiency/ in-action of the public sector	2.95	11	2.64	12	3.83	2	3.02	7	Significant	1.422	5.914	.004*
Role of IFIs (International Financial Institutions) and multi-lateral donor countries/ agencies as policy transfer agents in promoting private sector participation in development	3.45	6	2.98	8	2.61	11	3.00	8*	Significant	1.382	2.175	.120
Private incentive	2.41	15	3.02	7	3.39	9	2.97	9	Fairly Significant	1.238	3.865	.025*
Administrative reforms - encouraged by IFIs/ multi-lateral donors to facilitate promotion of PPPs	3.45	7	2.82	9	2.61	12	2.92	10*	Fairly Significant	1.416	2.303	.106
Inefficiency because of public monopoly and	2.45	14	2.77	10	3.52	8	2.89	11	Fairly	1.360	4.03	.021

lack of competition									Significant		0	*
Avoiding public sector borrowing limits set in the annual budgets	3.14	8	2.59	13	3.17	10	2.88	12	Fairly Significant	1.136	2.869	.062
Policy transfer from developed countries through conditions attached with loans/ aid for promoting public – private partnerships as a tool of infrastructure development	3.14	9	2.75	11	2.30	14	2.73	13*	Fairly Significant	1.338	2.245	.112
Policy transfer due to regional/ international learning, economic competition or imitation	3.55	5	2.36	15	2.61	13	2.72	14*	Fairly Significant	1.270	7.407	.001*
Off- balance sheet financing for infrastructure with a long repayment period (i.e. the whole cost of the project is not shown as an up-front liability in the budget books)	2.55	13	2.57	14	2.30	15	2.49	15	Fairly Significant	1.262	.349	.707

5.3.1 Key Drivers for PPPs in Pakistan

The results show that factors deemed critical for the adoption of PPPs were ranked as significant or fairly significant by the respondents of the questionnaire survey which shows that the results are in consonance with the findings of the qualitative interviews discussed in the previous chapter. The mean values assigned to these 15 factors range between 3.84 and 2.49 which according to the questionnaire labelling are deemed significant and fairly significant respectively. Lack of domestic resources for financing the infrastructure needs has been termed as the most important factor necessitating the adoption of PPPs in Pakistan whereas the next six factors (i.e. widening gap between demand and supply of infrastructure/ services, economic development pressure, need for foreign direct investment, political pressure/ agenda of political parties/ governments, lack of business and profit generating skills of public sector and perceived inefficiency/ in-action of the public sector) also relate to the endogenous group of factors influencing the adoption of PPPs. This indicates that indigenous needs play a more important role in the agenda setting for adoption of PPPs rather than external influences. This is evident from the fact that exogenous factors (i.e the role of IFI and multi-lateral donor countries/ agencies as policy transfer agents in promoting private sector participation in development; administrative reforms encouraged by IFIs/ multi-lateral donors to facilitate promotion of PPPs; policy transfer from developed countries through conditions attached with loans/aid for promoting PPPs as tool of infrastructure development; and policy transfer due to regional/international learning, economic competition or imitation) have been ranked as 8th, 10th, 13th and 14th in terms of their significance in the process of adoption of PPPs as a tool for infrastructure development in developing countries.

Various authors (Appuhami et al 2011, Pessoa 2011, Pessoa 2010, Dobbin 2007, Holden 2009, Marsh and Sharman 2009 and Sarker 2006) have opined that developing countries are usually coerced to adopt reforms for promoting private participation in infrastructure development under the umbrella of NPM reforms and developed countries use the IFIs/ donor agencies etc as tool for transferring this policy to the developing countries by linking aid/ loans to these countries with such reforms. However, other authors (Shipan and Volden 2008, Evan 2009, Polidano 1999, Hood 2005, Larbi 2006, Rhods 2000 and Pollit 2007) emphasize the importance of local contextual factors which influence the adoption of NPM related reforms. In this context, the results of the interviews (discussed in Chapter 4) are more inclined in favour of the latter argument. It is considered that indigenous needs and local context play a major role towards adoption of NPM related reforms such as PPPs as a tool for infrastructure development while agreeing with the fact that exogenous factors do play a significant role in influencing the decision making in developing countries. However, the importance of external factors cannot be overemphasized while brushing aside the local context.

The findings of the questionnaire survey also yield similar results. Though all the factors have been termed as fairly significant or significant, yet most of the endogenous factors have been assigned higher rankings than the exogenous ones. The most critical exogenous factor ranks 8th in the mean ranking scale of 15 factors and the other three have been ranked 10th, 13th and 14th most critical factor in the hierarchy of all 15 factors. These findings support the view point of the interview respondents that though exogenous factors are important, indigenous context has primacy over these factors.

5.3.2 Stakeholders' Perspectives

Though various stakeholder groups may have differences of opinion over ranking of these critical factors, yet the results computed through analysis of variance show that there is not much difference between these stakeholders for ranking of most of the factors. As discussed in Chapter 3, F statistic depicts the level of statistical significance of the comparison of mean values for different groups of stakeholders and if the corresponding significance value for F statistic results in a score of 0.05 or less, the means scores are deemed to be significantly different for the stakeholder groups (Bryman 2012). The survey results show that 11 out of 15 factors have significance values higher than 0.05 which means that for these factors all stakeholder groups (i.e. public sector, private sector and other stakeholders) have similar mean values. However,

four factors have received significance values < 0.05 and their mean scores differ significantly for these stakeholder groups. Three such factors (perceived inefficiency/inaction of the public sector, inefficiency because of public monopoly and lack of competition; private incentive) reflect negatively upon the public sector which might explain the reason for higher mean scores assigned to these factors by the private sector and other stakeholder groups while the mean values given by public sector respondents are much less than other two groups. Further the public sector has had the monopoly in the domain of infrastructure provisioning for a long time and current state of affairs is generally attributed to mishandling of the public sector alone. Therefore such divergence of views amongst public sector and the other two stakeholder groups is quite understandable. The fourth factor with significance values < 0.05 relates to the domain of public policy and is again considered to be driven by the public sector which explains a higher mean value of 3.55 given by the relevant respondents. Other stakeholder groups have naturally assigned less importance to these factors accordingly. Except for these four factors, survey results show a commonality of views amongst all three stakeholder groups viz a viz the ranking of 11 critical factors for adoption of PPPs.

5.4 Critical Success Factors (CSFs) for PPP Projects

Part 3-A of the questionnaire was dedicated to developing a ranking scale of critical success factors (CSFs) for PPP projects in developing country context and for this purposes respondents were requested to assign a ranking to the 40 factors which were deemed critical for PPPs. These factors were grouped under various categories such as political factors, social factors, legal factors, economic factors, stakeholder management and technical/ process related factors for the convenience of respondents. All stakeholders from the public sector, private sector and other related stakeholder groups were invited to rank these factors on the basis of their knowledge/ expertise and perception for developing a mean ranking scale and finding the significance value of their respective F Statistic values to see if the inter group means differ significantly or not. Accordingly data collected through this survey was analysed using SPSS and mean ranking, F statistic/ significance values were calculated for each of these factors. Results of the survey are presented in Table 5.4 wherein the mean ranking of each factor is presented for each of the stakeholder groups separately and these factors have been ranked as well on the basis of their cumulative mean values.

Table 5.4 CSFs for PPPs in Developing Countries

	Public Sector		Private Sector		Other Stakeholders		Total					
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Significance	Standard Deviation	F	Sig
Government guarantees	3.77	11	4.16	1	4.43	1	4.13	1	Very Critical	0.907	3.177	0.47
Stable law & order situation	4.05	4	3.98	3	4.22	2	4.06	2	Very Critical	1.059	0.384	0.682
Economic/ financial viability of projects	4.05	5	4.05	2	4.09	3	4.06	3	Very Critical	0.896	0.018	0.982
Good governance	4.09	3	3.95	4	3.83	12	3.96	4	Critical	0.904	0.440	0.645
Consistency/Continuity of government policies	4.27	1	3.91	5	3.74	19	3.96	5	Critical	1.054	1.542	0.220
Transparency in the procurement process	4.18	2	3.77	8	3.83	13	3.89	6	Critical	1.210	0.876	0.420
Political ownership of the highest level	3.64	14	3.86	6	4.00	6	3.84	7	Critical	1.186	0.536	0.587
Predictable & reasonable legal framework	3.82	9	3.70	13	4.00	7	3.81	8	Critical	1.043	0.602	0.550
Stable administrative system capable of handling complex PPP projects	3.77	12	3.73	11	3.96	8	3.80	9	Critical	1.002	0.399	0.672
Value for money viz a viz public financing option	3.77	13	3.77	9	3.87	10	3.80	10	Critical	0.944	0.088	0.916
Due diligence in planning & implementing PPP projects	3.95	8	3.73	12	3.78	16	3.80	11	Critical	1.150	0.284	0.753
Availability of long-term/ low cost financing*	4.05	6	3.45	23	4.04	5	3.75	12	Critical	1.069	3.586	0.032*
Risk sharing between partners	4.00	7	3.70	14	3.48	27	3.72	13	Critical	1.097	1.287	0.281
Strong & capable PPP unit	3.64	15	3.57	18	4.09	4	3.72	14	Critical	1.138	1.672	0.194
Trust in the government policies	3.55	18	3.77	10	3.70	21	3.70	15	Critical	1.091	0.313	0.732
Broader political consensus towards adoption of PPPs as a policy tool for infrastructure growth	3.45	20	3.86	7	3.43	30	3.65	16	Critical	1.078	1.712	0.187
Strong judicial system	3.36	25	3.70	15	3.78	17	3.64	17	Critical	1.047	1.065	0.349
Acceptance of the right of the private sector to earn reasonable profit for their investment in PPPs	3.36	26	3.66	16	3.83	14	3.63	18	Critical	1.027	1.182	0.311
Strong/ experienced private consortium	3.27	29	3.66	17	3.83	15	3.61	19	Critical	1.094	1.559	0.216
Toll/Tariff is acceptable for end users	3.41	23	3.57	19	3.87	11	3.61	20	Critical	1.083	1.073	0.346
Stable & favourable economic	3.82	10	3.52	20	3.39	32	3.56	21	Critical	0.941	1.239	0.295

environment												
Substantial risk transfer to the private sector	3.32	27	3.52	21	3.61	23	3.49	22	Critical	1.057	0.451	0.639
Trust between partners/ stakeholders	3.59	17	3.34	28	3.70	22	3.49	23	Critical	1.035	1.015	0.367
Sound governmental economic policy	3.64	16	3.43	25	3.48	28	3.49	24	Critical	0.967	0.328	0.722
Strong public sector oversight throughout lifecycle of the projects	3.23	33	3.45	24	3.78	18	3.43	25	Critical	1.035	1.678	0.193
Efficiency gains in terms of time & cost	3.45	21	3.48	22	3.43	31	3.46	26	Critical	1.129	0.011	0.989
Standard contract documents; flexible enough for changes in output specifications	3.41	24	3.32	30	3.74	20	3.45	27	Critical	0.954	1.515	0.226
Monetization of the risks based upon a transparent assessment	3.23	34	3.41	26	3.52	26	3.39	28	Critical	1.094	0.411	0.664
Adequate local financial market*	3.27	30	3.11	34	3.96	9	3.37	29	Critical	1.142	4.564	0.013*
Conflict management between stakeholders	3.27	31	3.39	27	3.26	34	3.33	30	Critical	0.986	0.162	0.851
Exploring stakeholder needs to the project	3.32	28	3.30	31	3.35	33	3.31	31	Critical	0.995	0.021	0.980
Partnership spirit / commitment/ trust	3.55	19	3.11	35	3.26	35	3.26	32	Critical	1.230	0.902	0.409
Engagement with the stakeholders according to their expected level of impact	3.05	37	3.16	32	3.57	24	3.24	33	Critical	1.034	1.688	0.191
Stakeholder identification	3.27	32	3.34	29	2.96	39	3.22	34	Critical	1.085	0.977	0.381
Stable macro-economic conditions	3.14	35	3.07	36	3.57	25	3.21	35	Critical	0.994	2.022	0.139
Engagement with stakeholders according to their areas of interest	3.14	36	3.07	37	3.48	29	3.19	36	Critical	1.075	1.140	0.325
Selecting appropriate strategies to deal with stakeholders having different attributes (urgency, power, proximity) etc	3.45	22	2.98	39	3.09	37	3.12	37	Critical	1.096	1.422	0.247
Public consultation and acceptance	3.05	38	3.14	33	3.04	38	3.09	38	Critical	0.984	0.095	0.909
Social support	2.77	40	3.05	38	2.74	40	2.90	39	Partially Critical	0.942	1.062	0.350
Pre-empting the stakeholder reactions towards management strategies	2.82	39	2.77	40	3.17	36	2.89	40	Partially Critical	1.027	1.225	0.299

5.4.1 Mean Ranking Scale and Analysis of Variance for CSFs

5.4.1.1 Mean Ranking of CSFs

The survey results presented in Table 5.4 indicate that ‘government guarantees’, ‘stable law and order situation’ and ‘economic/ financial viability of the projects’ have been ranked as the three top most CSFs for successful implementation of PPP projects and their mean scores are 4.13, 4.06 and 4.06 respectively. Three factors can therefore be termed as “very critical” in terms of the measurement scale developed for the questionnaire. Next 35 factors in the ranking of CSFs (4th till 38th) have mean scores ranging between 3.96 and 3.09 and these factors are deemed critical for PPP projects in accordance with questionnaire labelling scheme. Last two factors (‘social support’ and ‘pre-empting the stakeholder reactions towards management strategies’) have gained least ranking as 39th and 40th critical factors in the ranking of CSFs with mean scores of 2.90 and 2.89 respectively. These factors can be labelled as partially critical in terms of the questionnaire scheme. These results depict that all 40 CSFs included in the questionnaire are very pertinent for successful implementation of PPP projects in developing countries like Pakistan and these represent various socio-economic, politico-legal contexts of the host country besides representing stakeholder issues as well as technical/ process related factors associated with procurement of PPP projects. Almost 88% factors have received critical ranking and none of these CSFs has been considered to be irrelevant or not critical at all.

5.4.1.2 Analysis of Variance (ANOVA) for CSFs

As the survey respondents were grouped together in three categories (i.e. public sector, private sector and other stakeholder groups) it is important to analyse 'within group' as well as 'inter-group' variance in the mean ranking of the CSFs. Therefore F statistic and associated significance values have been calculated through SPSS and are reflected in table 5.4. The results show that all stakeholder groups have similar views regarding the level of significance/ importance of CSFs in majority of cases. However only two factors (i.e. ‘availability of long term/ low cost financing’, and ‘adequate local financial markets’) have significant variance in their mean rankings as their F Statistic significance values are lower than the cut off point of 5% (i.e. <0.005).

Availability of long term/ low cost financing is a pre-requisite for the private sector to be able to put forward a financially viable proposal for PPP projects and maintain the

profitability levels throughout the lifecycle of the project. Therefore it is of more importance to the public sector partners for making the projects successful and for other stakeholder groups, due to financial viability of the projects. That is why this CSF has been ranked as 6th (with mean value of 4.05) and 5th (with mean value of 4.04) by both these stakeholder groups respectively. However private sector stakeholders have assigned mean value of 3.45 with ranking of 23rd which has resulted in significant variance for this CSF. Similarly, the second such factor which lays emphasis upon adequate local financial market has been ranked 9th (with mean value of 3.96) while other public and private sector stakeholders have ranked it as 30th (mean value 3.27) and 34th (mean value of 3.11). This indicates that both the public as well as private sector stakeholders have almost similar views regarding importance of this CSF but other stakeholders (which include financing institutions, lenders, IFIs etc) have attached more importance to it. This may be attributed to the fact that these stakeholders need to ensure that adequate local financial market is available in the host country to reduce risk of their investment and they can use various refinancing options (like issuance of bonds, raising of funds through issuance of market shares through stock markets etc) in due course to reduce or manage their financial risks or reduce their cost of capital. Except for these two CSFs, all stakeholders have insignificant variance in their views regarding the importance/ ranking of these CSFs.

5.5 Factor analysis of Critical Success Factors (CSFs)

As the original questionnaire used 40 critical success factors (CSFs), it would be difficult to discuss and explain each and every one of these in detail. Therefore need was felt that there is a need to further analyse these CSFs to find out their underlying structure and variables and for this purpose, a factor analysis technique was used as it is usually helpful in processing large volume of variables in a data set, by clustering together the related variables into factors and thereby reducing the data set to a more convenient size without affecting the originality of the information (Field 2013). Through factor analysis, these 40 CSFs can be reduced to a significantly lower number of factors, each of which would comprise of most closely linked CSFs and results can be reached which are not only succinct but exhaustive as well.

5.5.1 Step 1: Correlation Matrix of 40 CSFs

For the factor analysis of the CSFs, the statistical package for social sciences (SPSS) was used and first of all, a correlation matrix of 40 CSFs indicating correlation coefficients of all CSFs with each other, was prepared (Table 5.5). In this matrix, all coefficients on the principal diagonal are all '1' as it denotes the correlation coefficient of a CSF with itself and all other coefficients above or below this principal diagonal are the same. Therefore values below the principal diagonal are reflected in the correlation matrix alone.

The Kaiser-Meyer-Olkin measure (KMO) and Bartlett's test of sphericity for these CSFs were also calculated with this correlation matrix. As discussed in chapter 3, for a data to be fit for factor analysis, it must have a minimum score of 0.5. KMO scores up to 0.7, 0.8 and 0.9 are considered mediocre, good and superb respectively. In Table 5.5, we see that the test has KMO score of 0.824 which is good as per academic practice and it can safely be assumed that the data set is fit for running the factor analysis.

Table 5.5 **Correlation Matrix of 40 CSFs for PPPs**

[illegible]

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.824
Bartlett's Test of Sphericity	Approx. Chi-Square	2278.790
	df	780
	Sig.	.000

Table 5.6 Anti-Image Correlation Matrix of 40 CSFs for PPPs

[illegible]

Note: Measure of sampling adequacy (MSA) shown on the diagonals and marked as 'a'.

Table 5.7 **Correlation Matrix of 35 CSFs for PPPs**

[illegible]

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.868
Bartlett's Test of Sphericity Approx. Chi-Square	1894.509
Df	595
Sig.	.000

Table 5.8 **Anti-Image Correlation Matrix of 35 CSFs for PPPs**

[illegible]

NOTE: Measure of Sampling Adequacy (MSA) shown on the diagonals and marked as 'a'

Similarly, Bartlett's test of sphericity was used to test the null hypothesis that 'the correlation matrix is an identity matrix' on the basis of Chi-Square value and allied significance levels. Identity matrix is the one wherein only the diagonal values are 1 and all other values are zero. Results shown in Table 5.5 reveal that data has high test statistic value (i.e. 2278.790) and its significance level is low (i.e. 0.000), therefore the null hypothesis was rejected and the correlation matrix was not found to be the identity matrix.

The anti-image correlation matrix (table 5.6) shows that measure of sampling adequacy (MSA) which is shown on its diagonals (marked as 'a') for 5 factors have had lower values than desired. As discussed earlier, the MSA values up to 0.7 are considered mediocre; therefore it was decided to include only those factors in the factor analysis which have MSA values higher than 0.70 for good results. Accordingly CSF1, CSF2, CSF6, CSF 9 & CSF 11 ('good governance', 'broader political consensus towards adoption of PPPs as a policy tool for infrastructure growth', 'social support', 'trust in government policies' and 'acceptance of the right of the private sector to earn reasonable profit for their investment in PPPs') with MSA values of 0.534, 0.693, 0.656, 0.658 & 0.663 respectively were eliminated from further analysis. Resultantly, another correlation matrix and anti-image correlation matrix for the remaining 35 CSFs were calculated to proceed with the process of factor analysis. These matrixes are presented in Tables 5.7 and 5.8 respectively.

As a result of elimination of 5 CSFS, the KMO measure of sampling adequacy has increased from 0.824 (for 40 CSFs) to 0.868 (table 5.7) and shows that elimination of 5 CFSs has had good impact upon the sampling adequacy and now the data is more suitable for further analysis. Similarly the values of measures of sampling adequacy for each of the 35 CSFs shown at the diagonals in Table 5.8 (anti-image correlation matrix) have also improved significantly and now all these values are above the required level.

5.5.2 Step 2: Factor Extraction and Rotation

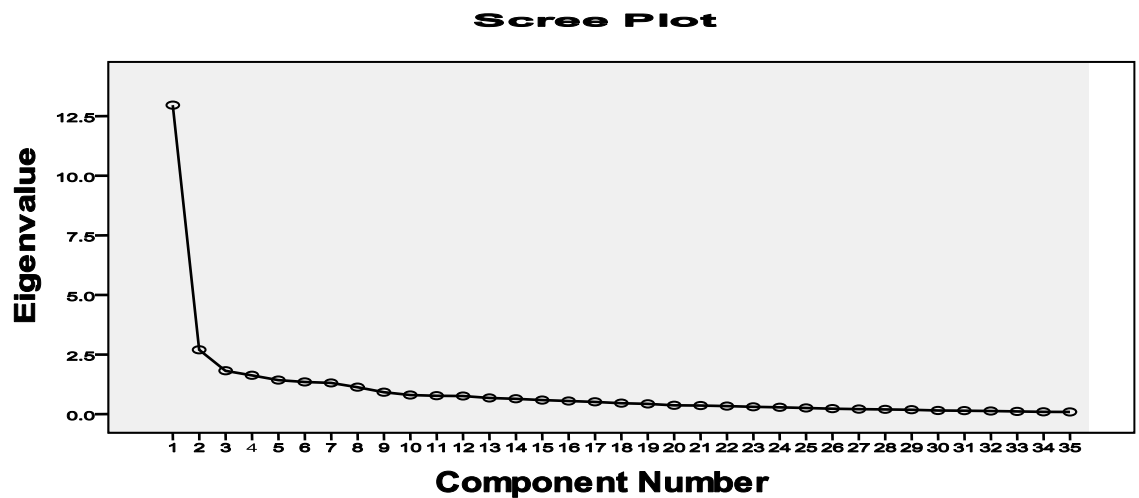
As the purpose of factor analysis is to find out the key associations between variables in the given data. For this purpose, the variance for each variable in relation to the factors retained after extraction process needs to be calculated (UCLA 2014). Factor extraction was carried out through principal component analysis (PCA) which

decomposes the original data into a set of linear variables and explores the existence of linear components within the data while indicating the distinctive contribution of each variable towards extracted factors (Field 2013). The PCA gave un-rotated factor solution explaining the loading of variables with different factors, variability of each extracted factor and total variability for all the resulting factors. The rotated solution was obtained through use of the varimax rotation method which loads a smaller number of variables highly on each factor and thereby produces more interpretable cluster of factors (Field 2013: 681). The results from factor extraction and rotation for 35 CSFs are presented in Table 5.9.

Table 5.9 Initial and Rotated Factor Matrix of 35 CSFs for PPPs

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.961	37.031	37.031	12.961	37.031	37.031	4.204	12.012	12.012
2	2.701	7.718	44.749	2.701	7.718	44.749	3.620	10.342	22.353
3	1.822	5.204	49.954	1.822	5.204	49.954	3.588	10.252	32.605
4	1.632	4.663	54.617	1.632	4.663	54.617	3.255	9.301	41.906
5	1.429	4.084	58.701	1.429	4.084	58.701	3.253	9.293	51.199
6	1.351	3.861	62.562	1.351	3.861	62.562	2.547	7.277	58.475
7	1.311	3.746	66.308	1.311	3.746	66.308	1.996	5.702	64.177
8	1.134	3.240	69.548	1.134	3.240	69.548	1.880	5.371	69.548
9	.923	2.638	72.186						
10	.805	2.300	74.486						
11	.774	2.213	76.699						
12	.762	2.176	78.875						
13	.680	1.943	80.818						
14	.646	1.845	82.662						
15	.594	1.696	84.359						
16	.554	1.582	85.941						
17	.516	1.475	87.416						
18	.463	1.322	88.738						
19	.432	1.235	89.973						
20	.373	1.065	91.037						
21	.363	1.038	92.075						
22	.339	.970	93.045						
23	.309	.883	93.928						
24	.288	.822	94.751						
25	.260	.743	95.494						
26	.230	.658	96.152						
27	.214	.611	96.763						
28	.201	.575	97.338						
29	.186	.532	97.869						
30	.155	.444	98.313						
31	.148	.422	98.735						
32	.134	.384	99.119						
33	.115	.329	99.449						
34	.100	.286	99.735						
35	.093	.265	100.000						

Extraction method: Principal Component Analysis

Figure 5.1**Scree Plot**

The results of factor extraction and rotation as shown in the Table 5.9 provide the initial and rotated matrix results. The first column represents the 35 CSFs (or variables) and the next three columns (i.e. total, % of variance and cumulative %) relate to the initial matrix. Another columns (5, 6 and 7) represent the extracted sums of squared loadings based upon common variance amongst variables and contain values for only those variables which have eigenvalues greater than 1.0 and these values are similar as in the case of initial eigenvalues (columns 2, 3 & 4). The rotation sum of squared loadings (columns 8, 9 and 10) reflects the distribution of variance due to varimax rotation.

The analysis of results (Table 5.9) reveals that the first eight components account for almost 69.5% of the total variance and the remaining 27 components show a total variance of only 30.5%. Further, the extracted and rotated sums of squared loadings for the first eight components show a similar cumulative percentage i.e. 69.548 though their respective eigenvalues and the percentage of variance are different in both these cases. This shows that factor solution is good enough with only 8 components and all 35 CSFs can be clustered together into 8 resultant factors. The scree plot (Fig 5.1) is a graphical representation of eigenvalues against the component numbers and it also shows that the line starts to straighten up from 8 factors towards the remaining components. Thus these remaining components represent lesser and continuously decreasing values of total variance. This clustering of CSFs in terms of eight factor groupings (components) calculated through varimax rotation with factor loading of 0.5 is presented in Table 5.10.

Table 5.10 Rotated Factor Matrix (Loading) of CSFs for PPPs

	COMPONENTS*							
	FACTOR1	FACTOR2	FACTOR3	FACTOR 4	FACTOR 5	FACTOR6	FACTOR7	Factor 8
Efficiency gains in terms of time & cost	0.708							
Transparency in the procurement process	0.638							
Strong/ experienced private consortium	0.62							
Strong & capable PPP unit	0.602							
Due diligence in planning & implementing PPP projects	0.570							
Partnership spirit / commitment/ trust	0.550							
Economic/ financial viability of projects	0.540							
Consistency /continuity of government policies	0.529							
Stable administrative system capable of handling complex PPP projects*								
Strong public sector oversight throughout lifecycle of the projects*								
Exploring stakeholder needs to the project		0.723						
Engagement with stakeholders according to their areas of interest		0.675						
Stakeholder identification		0.663						
Engagement with the stakeholders according to their expected level of impact		0.548						
Availability of long-term/ low cost financing			0.740					
Standard contract documents; flexible enough for changes in output specifications			0.662					
Risk sharing between partners			0.649					
Substantial risk transfer to the private sector			0.545					
Monetization of the risks based upon a transparent assessment*								
Stable macro-economic conditions*								
Sound governmental economic policy				0.754				
Stable law & order situation				0.712				
Stable & favourable economic environment				0.675				
Adequate local financial market				0.530				
Political ownership of the highest level*								
Pre-empting the stakeholder reactions towards management strategies					0.745			
Selecting appropriate strategies to deal with stakeholders having different attributes (urgency, power, proximity)					0.572			
Conflict management between stakeholder					0.525			
Strong judicial system						0.748		
Government guarantees						0.677		
Predictable & reasonable legal framework						0.619		
Value for money viz a viz public financing option							0.622	
Trust between partners/ stakeholders							0.595	
Public consultation and acceptance							0.591	
Toll/Tariff is acceptable for end users								0.773

- Extraction method: Principal Component Analysis
- Rotation Method: Varimax with Kaiser Normalization
- Rotation converged in 18 iterations.; * Factors loading values < 0.5

5.5.3 Labelling and Interpretation of the Resultant Factors

The variables (CSFs) have been grouped together under their respective components or factors in Table 5.10 for their better interpretation. As a result of factor analysis, 8 factors representing 35 CSFs in the data set for convenience and better interpretation of the CSFs. These eight factors can be labelled separately as follows:-

- **Factor 1:** Governance of public private partnership (PPP) projects
- **Factor 2:** Stakeholder engagement in planning process
- **Factor 3:** Risk and financial management in PPP projects
- **Factor 4:** Enabling socio-economic environment for PPP projects
- **Factor 5:** Proactive stakeholder management during lifecycle of PPP projects
- **Factor 6:** Well developed legal framework for PPPs
- **Factor 7:** Efficiency gains, trust and public acceptance
- **Factor 8:** Affordability of services for end users

5.5.3.1 Factor 1 – Governance of PPP Projects

The principal component analysis shows that the first factor represents a cluster of 8 inter-related CSFs. Owing to the nature of these component CSFs this factor has been labelled as “governance of PPP projects”. The CSFs represented in this factor include: ‘efficiency gains in terms of time and cost’, ‘transparency in procurement process’, ‘strong/ experienced private consortium’, ‘strong and capable PPP unit’, ‘due diligence in planning and implementation of PPP projects’, ‘partnership spirit/commitment/trust’, ‘economic/ financial viability of the projects’ and ‘consistency/continuity of government policies’. This principal factor represents 12.01% of the total variance which is higher than the variance in the case of all other 07 principal factors. Therefore it is considered to be the most important principal factor.

The first component of this factor ‘efficiency gains in terms of time and cost’ has received the highest factor loading (0.708). PPPs are generally believed to be closely associated with the NPM drive which laid emphasis upon increasing efficiency while promoting efficient policy outcomes and products (Klijn et al 2007; Ferlie et al 1996) and therefore it is quite understandable that efficiency gains in terms of time and cost has been given the highest importance in the factor loading for the prime principal

component. Transparency is also an important concern for stakeholders in PPP projects especially in the case of developing countries where corruption is perceived to be higher than in the case of developed countries. Therefore transparency in the procurement process has been assigned second highest loading (0.638).

The next two components in the hierarchy of loading in this factor are ‘strong and experienced private consortium’ and ‘strong and capable PPP unit, with significance values of 0.620 and 0.602 respectively. For successful implementation of PPP projects in developing countries, it is important to select a strong and experienced private consortium which has the requisite financial, technical and management skills matching the project specific needs (Cheung et al 2012; Jefferies et al 2002). Similarly, a strong and capable PPP unit in the public sector is as important as selection of private consortium as it plays a pivotal role in developing a sustainable PPP programme through developing the capacity of the line departments, policy formulation and regulations, project identification, development and monitoring etc (Jooste and Scott 2012). The next two significant factors are due diligence in planning and implementing PPP projects (0.570) and partnership spirit/commitment/trust (0.550) which lay emphasis upon developing and implementing PPP projects after thorough deliberations with clearly defined objectives, targets, goals and feasibility analysis (Jamali 2004). As PPP projects involve a large number of stakeholders and the process itself is too complex, the need for partnership spirit and commitment cannot be under emphasized as well. Poor relationships can be detrimental for PPP projects as these can cause misunderstandings and conflicts ((Tang 2010). The last two factors i.e. ‘economic/ financial viability of the projects’ and ‘consistency/ continuity of government policies’ have been assigned significance values of 0.540 and 0.529 respectively.

5.5.3.2. Factor 2 – Stakeholder Engagement in the Planning Process

The second principal factor mostly comprises of the CSFs relating to stakeholder identification and management especially during the project planning stage. Therefore this principal factor has been labelled as ‘stakeholder engagement in the planning process’ for PPP projects. This factor accounts for almost 10.34% of the total variance explained in the factor analysis. The CSFs clustered under this principal factor include ‘exploring stakeholder needs to the project’, ‘engagement with stakeholders according to their areas of interest’, ‘stakeholder identification’ and ‘engagement with

stakeholders according to their expected level of impact' with significance values of 0.723, 0.675, 0.663 and 0.548 respectively. Involvement of the stakeholders at an early stage of PPP projects is essential as it has been reported in many cases that positive involvement of stakeholders has often been a decisive factor in the success or failure of the projects. Stakeholder involvement at the planning stage of PPP projects can help the projects succeed by capturing and addressing their inputs (El-Gohary et al 2006). Therefore stakeholder identification, engagement with these stakeholders in accordance with their respective areas of interest and impact can add value to the project at the planning stage thereby making projects more practical and acceptable to broad categories of stakeholders. The stakeholder impact and interest levels are used to compute a Stakeholder Impact Index (SIIproj) (as outlined in Chapter 2) and a positive score of SIIproj indicates a favourable stakeholder outlook for the project. In the case of a negative score of SIIproj, literature indicates that projects might face negative impact from the stakeholders (Olander 2007).

5.5.3.3. Factor 3 - Risk and Financial Management in PPP Projects

The 3rd principal factor derived through factor analysis represents four CSFs and 10.252% of total variance. These CSFs include 'availability of long term/ low cost financing', 'standard contract documents; flexible enough for changes in output specifications', 'risk sharing between partners' and 'substantial risk transfer to the private sector' with associated significance values of 0.740, 0.662, 0.649 and 0.545 respectively. Risk management and financial management are two prime concerns for development and implementation of PPP projects which are usually capital intensive and require assured and sustainable futuristic cash flows as a pre-requisite for investors/ lenders to make financing decisions. Financing of PPPs is usually done through equity (provided by the sponsors) and debt (arranged for the project by syndicate of commercial banks, IFIs and other international agencies like the World Bank, Asian Development Bank etc). Overall capital structure and financing decisions are made on the basis of a risk-return trade off (Ye 2009). The standard contract documents help in outlining the financial and risk management structures in clear terms to avoid any ambiguities in future. Transfer of risk to the private sector is considered a must for PPP projects but risks are assigned to the parties which can best handle it. So in this context, risks are not transferred randomly upon the private sector partners but these are shared

with a view to mitigate them properly. As the private sector is deemed to have more capacity to handle these risks, a major chunk is accordingly transferred to them in lieu of certain monetization in favour of the private sector. In short, risk management helps to minimize the negative impacts of the risk while maximizing the rewards through a formal risk response strategy (Abednego and Ogunlana 2006; Merna and Al-Thani 2005; McCarthy and Tiong 1991).

5.5.3.4 Factor 4 - Enabling Socio-Economic Environment for PPP Projects

Another four CSFs have been grouped together as the next principal factor as a result of factor analysis which represents 9.301% variance in total. This principal factor has been labelled as ‘enabling socio-economic environment for PPP projects’ and its contributing CSFS include ‘sound government economic policy’, ‘stable law and order situation’, ‘stable and favourable economic environment’ and ‘adequate local financial market’. These four CSFS have significance values of 0.754, 0.712, 0.675 and 0.530 respectively. It would not be out of place to indicate here that this principal factor is mostly related to the public sector partners or governments which play an important role in creating an enabling environment for private investment. For PPP projects to be successful, the government needs to create a stable and favourable economic, political, social and the legal environment (Kwak et al 2009). It is generally believed that PPP projects are more successful in countries where large market demand and purchasing power exists. Similarly PPP projects have flourished in countries having credible, stable and predictable macro-economic conditions (i.e. lower inflation, stable exchange rates etc) (Hammami et al 2006). Law and order is the biggest concern for any foreign investment and countries with unstable social and political conditions find it difficult to attract foreign direct investment which is essentially required for capital intensive infrastructure PPP projects. The presence of adequate local financial markets is another enabling condition which improves the chances of successful implementation of PPP projects as it provides benefits of low cost financing and diverse financial products to suit the investment needs of the private investors and if such conditions coupled with supportive socio-economic environment and strong political support are available, then PPPs are more likely to be adopted successfully in the developing countries (Cheung et al 2012; Yang et al 2013).

5.5.3.5 Factor 5 - Proactive Stakeholder Management during Lifecycle of PPP Projects

The fifth principal factor extracted through PCA explains 9.293% of variance in the CSFs and contains a cluster of 3 CSFs i.e. ‘pre-empting stakeholder reactions towards management strategies’, ‘selecting appropriate strategies to deal with stakeholders having different attributes (urgency, power, proximity)’ and ‘conflict management between stakeholders’. These CSFs have received factor loading of 0.745, 0.572 and 0.535 respectively. The most significant factor in this group highlights the need for a proactive approach towards management of stakeholder reactions towards various strategies adopted in the wake of power, proximity and urgency of the concerned stakeholders. As discussed in the case of principal factor 3, the Stakeholder Impact Index for the project SIIproj has to result in a positive value otherwise project would face unfavourable stakeholder impact. Olander (2007) is of the opinion that the stakeholder management process should result into increasing value of this SIIproj throughout the lifecycle of the project or at least maximum effort should be made to ensure that SIIproj values do not decrease over a period of time. Therefore selection of appropriate strategies for dealing with different stakeholders according to their position, power, proximity and urgency coupled with a continuous effort to pre-empt stakeholder reactions thereof might lead to avoidance of conflicts amongst stakeholder groups. This proactive approach of stakeholder management throughout the lifecycle of the PPP projects can therefore lead to successful implementation and create an enabling environment for the future PPP projects as well.

5.5.3.6 Factor 6 - Well developed Legal Framework for PPPs

This principal factor contributed 7.277% of variance in the principal component analysis of 35 CSFs and has been ranked 6th in the list of principal components. Three CSFs included in this factor are ‘strong judicial system’, ‘government guarantees’ and ‘predictable/ reasonable legal framework’ and these have been assigned significance values of 0.748, 0.677 and 0.591 respectively. For successful implementation of PPPs in developing countries it is imperative that a strong and efficient legal system is in place and the judicial system is capable of resolving the disputes amongst stakeholders in the PPP projects. As PPP projects require an equity contribution from the project sponsors, host governments often facilitate the sponsors through offering free access to project sites, making direct cash contributions towards equity etc. However, in most of the

cases, international lenders are reluctant to finance the debt requirements of PPP projects in the developing countries unless the host governments offer sovereign guarantees to cover any losses to be incurred due to inability of the public sector regulators to keep their payments schedules. Risks involved in recovery of loans to the PPP projects are often mitigated through such sovereign guarantees by the host government or the IFIs who might also offer such guarantees to promote private investment in infrastructure in developing countries while enabling the private sector to secure financing of these projects at competitive rates (Cheung et al 2012; Lai and Soumar'e 2005; Li et al 2005). Therefore it can be argued that a well developed legal framework of PPPs, enabling legislation, a capable judicial system for dispute resolution and certain government guarantees play a critical role in success of PPP programmes in developing countries.

5.5.3.7 Factor 7 – Efficiency Gains, Trust and Public Acceptance

Efficiency gains, trust and public acceptance is the 7th principal factor which represents almost 5.702% of variance in the rotated sums of squared loadings extracted through principal component analysis. This factor comprises of three CSFS including 'value for money viz a viz public financing option', 'trust between partners/ stakeholders' and 'public consultation and acceptance' with significance values of 0.622, 0.595 and 0.591 respectively. In the case of PPP projects, it is generally perceived that these projects produce more efficient solutions in terms of time and cost savings while delivering better quality than their public sector comparators who rely upon public financing options alone. The value for money (VFM) is not merely concerned with procurement of goods and services on the basis of lowest cost bids; rather it represents the most advantageous combination of the whole life cycle costs and quality of goods/ services which meet the expected levels of user satisfaction. Key elements affecting the VFM include substantial risk transfer, flexibility, terms of contract, expertise/ skills and capacity to manage the scale/ complexity of the PPP projects (HM Treasury 2006; 2008). However it is important to adopt a credible and transparent system of VFM assessments to enable fair comparisons between public and private financing options. This can help build a trusted environment for decision makers and improve trust amongst stakeholders as well. Lastly, public perceptions and expectations also need to be catered for at early stage of PPP projects. Traditionally the public sector has been seen as sole provider of infrastructure/ services especially in the case of developing

countries and it is a relatively new phenomenon for them to see a change in this role of the government. So it is important to ensure public acceptance for the PPPs as alternative service providers with the government just playing the role of facilitator (Li et al 2005; Dixon et al 2005).

5.5.3.8 Factor 8 - Affordability of services for end users

The last factor ‘affordability of services for end users’ has the least variance of 5.371 amongst all the principal factors. Only one CSF i.e. ‘toll / tariff is acceptable for end users’ is included in this principal factor with factor loading of 0.773. This is an important factor which needs to be kept in view while procuring any PPP project especially in the case of developing countries where the end users usually belong to low income groups. As PPP projects recover their financing costs through collection of toll/tariff directly from end users (as in the case of road PPPs) or public sector clients (to whom they are providing the service (as in the case of IPPs in Pakistan wherein electricity produced by IPPs is purchased by the public sector authority which holds responsibility for electricity transmission through its own grids and collects tariffs from the general public itself). In both cases the private sector has to ensure that a sustainable healthy cash flow remains intact throughout the lifecycle of the project and therefore it has to price the service in such a way that it covers the cost of capital and maintains the requisite level of cash flow. However if this price is unreasonable or un-affordable to the end users, the project may not be feasible for financing through PPP mode. This context must be addressed at feasibility stage of the project formulation and the public sector should offer only such projects for private participation wherein the toll / tariff is not only acceptable to the end users but is sufficient for catering to the needs of the private sector as well.

In the above section, a detailed analysis of critical success factors (CSFs) for successful implementation of PPP projects in developing countries and their ranking and analysis of variance has been discussed in detail. Further, the factor analysis process and resultant 08 principal factors have also been discussed in detail which represents the data collected through part 3A of the questionnaire survey. These 08 principal factors are attributed as the most critical factors for success of PPP projects in developing countries. However, the viewpoint of all stakeholders groups (public, private and other stakeholder groups) is represented in this data. A distinct ranking and analysis of variance for each of the stakeholder groups is presented in the next section to develop a

Stakeholder Perception Index (SPI) for 40 CSFs which were originally drawn up and reflected in the questionnaire.

5.6 Critical Success Factors (CSFs) for Public, Private and Other Stakeholder Groups: Stakeholder Perception Index (SPI)

In order to analyse the critical success factors for individual stakeholder groups separately, parts 3B, 3C and 3D of the questionnaire were used to collect data for public sector partners, private sector partners and other stakeholder groups respectively for further data analysis. Mean ranking scales and analysis of variance (ANOVA) calculated through SPSS for each part of the data is presented separately in the following sections in order to create a Stakeholder Perception Index (SPI) for the 40 selected CSFs representing unique stakeholder discernment towards their criticality.

5.6.1 SPI of Critical Success Factors for Public Sector Partners in PPP Projects

The survey respondents representing various stakeholder groups were requested to rate the significance of each of the 40 selected CSFs on the basis of their experience/knowledge specifically for the public sector partners in PPP projects so that the results reflect the level of significance of these CSFs for this stakeholder group alone. Accordingly data was collected through part 3B of the questionnaire survey and was analysed with PSSS software to develop a mean ranking scale and analysis of variance to find out the within-group as well as inter-group variance for each of three stakeholder groups of respondents. The mean ranking, F Statistic/ Significance values for each of the CSFs (specifically for public sector partners) are presented in Table 5.11 wherein the mean ranking assigned by each stakeholder group as well as a cumulative ranking for each of the 40 CSFs has been calculated. Survey results indicate that ‘consistency/ continuity of government policies’, ‘transparency in the procurement process’, ‘due diligence in planning and implementing PPP projects’, ‘value for money viz a viz public financing option’ and ‘ good governance’ have been termed as the five most highly ranked CSFs for public sector partners in PPP projects with mean values of 3.94, 3.83, 3.74, 3.71 and 3.70 respectively. These 5 CSFS as well as the next 33 CSFs can be labelled as “critical” in accordance with questionnaire labelling scheme and the last two CSFs i.e. ‘social support’ and pre-empting stakeholder reactions towards management strategies’ can accordingly be termed as “partially critical”. None of the 40

CSFs has been ranked as extremely critical, very critical, not critical or not relevant at all. Analysis of variance statistics (Table 5.11) reveals that all stakeholders have similar views towards mean ranking/ level of significance of the CSFS for the public sector partners as none of the F Statistic/ significance value is lower than the cut off point of 0.05 which suggest that difference of opinion in ranking of these CSFs amongst three stakeholder groups is statistically insignificant.

5.6.2 SPI of Critical Success Factors for Private Sector Partners in PPP Projects

For the private sector partners, the survey respondents were requested to rate the significance of each of the 40 selected CSFs specifically for the private sector partners in PPP projects so that the results reflect the level of significance of these CSFs for this stakeholder group alone. Accordingly, data was collected through part 3C of the questionnaire survey and mean ranking scale / analysis of variance was computed through SPSS to ascertain within-group as well as inter-group variance for each of three stakeholder groups of respondents. The mean ranking, F Statistic/ Significance values for each of the CSFs (specifically for private sector partners) are presented in table 5.12. which shows that ‘government guarantees’, ‘stable law and order situation’, consistency/continuity of government policies’, acceptance of the right of the private sector to earn reasonable profit for their investment in PPPs’ and ‘risk sharing between partners’ have been termed as the five most highly ranked CSFs for private sector partners in PPP projects with mean values of 4.29, 4.20, 4.01, 3.96 and 3.89 3.70 respectively. The first three factors with mean values above 4 are labelled as ‘very critical’ in accordance with questionnaire labelling scheme. The next 35 CSFs are deemed as 'critical' and the last two factors (social support and pre-empting the stakeholder reactions towards management strategies) have been termed as partially critical by the survey respondents. None of the 40 CSFs has been ranked as extremely critical, not critical or not relevant at all. Analysis of variance statistics (Table 5.12) reveal that stakeholder groups have unanimity of views towards mean ranking/ level of significance of the CSFS for the private sector partners in a majority of the cases. However, five CSFS including ‘availability of long term/ low cost financing’, ‘predictable and reasonable legal framework’, ‘strong/ experienced private consortium’, ‘strong public sector oversight throughout lifecycle of the projects’ and ‘public consultation and acceptance’ have received differing opinions from various stakeholders

and have F Statistic/ significance values lower than the cut off point of 0.05. Except for these CSFS, the variance is statistically insignificant for the other 35 CSFs.

5.6.3 SPI of Critical Success Factors for Other Stakeholder Groups in PPP Projects

The SPI for other stakeholder groups was drawn through data collected in part 3D of the questionnaire. The mean ranking scale / analysis of variance was computed through SPSS to ascertain within-group as well as inter-group variance for each of three stakeholder groups of respondents. The mean ranking, F Statistic/ Significance values for each of the CSFs (specifically for other stakeholder groups) are presented in Table 5.13 which shows that ‘government guarantees’, ‘stable law and order situation’, ‘transparency in procurement process’, ‘due diligence in planning and implementing PPP projects’ and ‘consistency/continuity of government policies’, are the five most highly ranked CSFs for other stakeholders in PPP projects with mean values of 4.10, 3.89, 3.85, 3.81 & 3.75 respectively. The first CSF with mean value above 4 is labelled as ‘very critical’ in accordance with questionnaire labelling scheme and the next 36 CSFs are deemed as ‘critical’. The last three factors (public consultation and acceptance, pre-empting the stakeholder reactions towards management strategies, and social support) have been termed as partially critical by the survey respondents. Analysis of variance statistics (Table 5.13) reveals that all stakeholder groups have unanimity of views towards mean ranking/ level of significance of the CSFs for the other stakeholders in majority of the cases. However, 3 CSFs including ‘strong/experienced private consortium’, ‘adequate local financial market’ and ‘pre-empting the stakeholder reactions towards management strategies’ have F Statistic/ significance values lower than the cut off point of 0.05. Except for these CSFs, the variance is not statistically significant for the other 37 CSFs.

Table 5.11 SPI of Critical Success Factors for Public Sector Partners in PPP Projects

CRITICAL SUCCESS FACTORS	Public Sector		Private Sector		Other Stakeholders		Total (Combined)					
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Significance	St. Dev. (σ)	F	Sign
Consistency/Continuity of government policies	4.14	2	3.84	1	3.96	2	3.94	1	CRITICAL	0.993	0.647	0.526
Transparency in the procurement process	4.23	1	3.77	3	3.57	10	3.83	2	CRITICAL	1.141	2.058	0.134
Due diligence in planning & implementing PPP projects	4.09	3	3.55	10	3.78	5	3.74	3	CRITICAL	1.153	1.686	0.191
Value for money viz a viz public financing option	3.55	13	3.64	6	4.00	1	3.71	4	CRITICAL	1.025	1.328	0.270
Good governance	3.91	4	3.82	2	3.26	28	3.70	5	CRITICAL	1.091	2.616	0.079
Economic/ financial viability of projects	3.55	14	3.64	7	3.87	3	3.67	6	CRITICAL	1.126	0.509	0.603
Stable administrative system capable of handling complex PPP projects	3.82	8	3.61	8	3.61	7	3.66	7	CRITICAL	1.044	0.318	0.728
Broader political consensus towards adoption of PPPs as a policy tool for infrastructure growth	3.86	6	3.68	5	3.35	21	3.64	8	CRITICAL	1.090	1.332	0.269
Political ownership of the highest level	3.59	11	3.77	4	3.43	16	3.64	9	CRITICAL	1.264	0.557	0.575
Stable law & order situation	3.86	7	3.55	11	3.48	15	3.61	10	CRITICAL	1.202	0.686	0.507
Strong & capable PPP unit	3.91	5	3.59	9	3.35	22	3.61	11	CRITICAL	1.124	1.423	0.247
Toll/Tariff is acceptable for end users	3.27	26	3.50	13	3.87	4	3.54	12	CRITICAL	1.077	1.183	0.311
Risk sharing between partners	3.82	9	3.39	15	3.52	12	3.53	13	CRITICAL	1.078	1.817	0.169
Predictable & reasonable legal framework	3.50	16	3.34	16	3.61	8	3.45	14	CRITICAL	1.118	0.457	0.634
Strong/ experienced private consortium	3.14	31	3.52	12	3.61	9	3.45	15	CRITICAL	1.108	1.218	0.301
Strong public sector oversight throughout lifecycle of the projects	3.50	17	3.34	17	3.57	11	3.44	16	CRITICAL	1.158	0.320	0.727
Availability of long-term/ low cost financing	3.68	10	3.16	29	3.70	6	3.43	17	CRITICAL	1.167	2.366	0.100
Substantial risk transfer to the private sector	3.55	15	3.34	18	3.30	26	3.38	18	CRITICAL	1.143	0.301	0.740
Efficiency gains in terms of time & cost	3.32	24	3.45	14	3.26	29	3.37	19	CRITICAL	1.152	0.240	0.787
Sound governmental economic policy	3.23	28	3.32	19	3.52	13	3.35	20	CRITICAL	1.056	0.467	0.629
Strong judicial system	3.32	25	3.30	21	3.43	17	3.34	21	CRITICAL	1.128	0.117	0.890
Government guarantees	3.41	19	3.30	22	3.35	23	3.34	22	CRITICAL	1.243	0.061	0.941
Stable & favourable economic environment	3.45	18	3.32	20	3.26	30	3.34	23	CRITICAL	1.055	0.200	0.819
Trust in the government policies	3.41	20	3.25	23	3.35	24	3.31	24	CRITICAL	1.183	0.142	0.868
Standard contract documents; flexible enough for changes in output specifications	3.59	12	3.16	30	3.09	35	3.25	25	CRITICAL	0.945	2.024	0.138
Exploring stakeholder needs to the project	3.27	27	3.25	24	3.17	32	3.24	26	CRITICAL	1.000	0.062	0.940
Trust between partners/ stakeholders	3.23	29	3.18	27	3.35	25	3.24	27	CRITICAL	1.148	0.156	0.856
Conflict management between stakeholders	3.36	23	3.11	34	3.30	27	3.22	28	CRITICAL	1.105	0.450	0.639

Acceptance of the right of the private sector to earn reasonable profit for their investment in PPPs	3.09	33	3.16	31	3.43	18	3.21	29	CRITICAL	1.153	0.592	0.556
Selecting appropriate strategies to deal with stakeholders having different attributes (urgency, power, proximity)	3.41	21	3.14	32	3.17	33	3.21	30	CRITICAL	0.994	0.571	0.567
Partnership spirit / commitment/ trust	3.41	22	3.14	33	3.17	34	3.21	31	CRITICAL	1.238	0.366	0.694
Adequate local financial market	3.00	36	3.07	36	3.52	14	3.17	32	CRITICAL	0.980	2.102	0.128
Monetization of the risks based upon a transparent assessment	3.18	30	3.23	25	3.04	37	3.17	33	CRITICAL	1.090	0.213	0.808
Public consultation and acceptance	3.05	35	3.23	26	3.09	36	3.15	34	CRITICAL	1.029	0.267	0.760
Engagement with the stakeholders according to their expected level of impact	2.95	37	3.05	37	3.43	19	3.12	35	CRITICAL	0.975	1.669	0.195
Stable macro-economic conditions	2.82	38	3.09	35	3.39	20	3.10	36	CRITICAL	0.978	1.981	0.144
Stakeholder identification	3.14	32	3.05	38	2.91	39	3.03	37	CRITICAL	1.016	0.273	0.762
Engagement with stakeholders according to their areas of interest	3.09	34	2.93	39	3.04	38	3.00	38	CRITICAL	1.055	0.189	0.828
Social support	2.68	39	3.18	28	2.87	40	2.98	39	PARTIAL LY CRITICAL	1.022	1.970	0.146
Pre-empting the stakeholder reactions towards management strategies	2.68	40	2.73	40	3.26	31	2.85	40	PARTIAL LY CRITICAL	1.124	2.097	0.129

Table 5.12 SPI of Critical Success Factors for Private Sector Partners in PPP Projects

CRITICAL SUCCESS FACTORS (CSFs)	Public Sector		Private Sector		Other Stakeholders		Total (Combined)					
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Significance	St.Dev	F	S i g
Government guarantees	4.50	2	4.16	1	4.35	1	4.29	1	VERY CRITICAL	0.956	0.985	0.378
Stable law & order situation	4.55	1	4.02	2	4.22	3	4.20	2	VERY CRITICAL	1.099	1.687	0.191
Consistency/Continuity of government policies	4.27	3	3.89	4	4.00	9	4.01	3	VERY CRITICAL	1.006	1.087	0.342
Acceptance of the right of the private sector to earn reasonable profit for their investment in PPPs	3.73	13	4.00	3	4.09	6	3.96	4	CRITICAL	1.127	0.636	0.532
Risk sharing between partners	3.91	6	3.73	8	4.17	5	3.89	5	CRITICAL	1.016	1.481	0.233
Economic/ financial viability of projects	3.95	5	3.77	6	4.04	7	3.89	6	CRITICAL	1.071	0.534	0.588
Transparency in the procurement process	3.77	12	3.89	5	3.96	11	3.88	7	CRITICAL	1.176	0.138	0.871
Availability of long-term/ low cost	3.91	7	3.59	16	4.30	2	3.85	8	CRITICAL	1.040	3.830	0.026*
Due diligence in planning & implementing PPP	3.82	10	3.75	7	3.83	14	3.79	9	CRITICAL	1.247	0.037	0.964
Strong judicial system	3.64	16	3.68	10	4.04	8	3.76	10	CRITICAL	1.023	1.177	0.313
Predictable & reasonable legal	3.91	8	3.39	27	4.22	4	3.73	11	CRITICAL	1.063	5.543	0.005*
Stable administrative system capable of handling complex PPP	3.68	15	3.66	12	3.87	13	3.72	12	CRITICAL	0.965	0.376	0.688
Stable & favourable economic environment	4.05	4	3.66	13	3.52	24	3.72	13	CRITICAL	1.033	1.613	0.205
Adequate local financial market	3.73	14	3.57	17	3.96	12	3.71	14	CRITICAL	1.057	1.024	0.363
Trust in the government policies	3.91	9	3.57	18	3.52	25	3.64	15	CRITICAL	1.100	0.882	0.417
Sound governmental economic policy	3.82	11	3.61	14	3.52	26	3.64	16	CRITICAL	.944	0.583	0.560
Good governance	3.50	20	3.73	9	3.52	27	3.62	17	CRITICAL	1.133	0.401	0.671
Efficiency gains in terms of time & cost	3.36	23	3.68	11	3.74	19	3.62	18	CRITICAL	1.092	0.809	0.448
Standard contract documents; flexible enough for changes in output specifications	3.64	17	3.43	23	3.83	15	3.58	19	CRITICAL	1.126	0.956	0.389
Strong & capable PPP unit	3.59	18	3.55	20	3.65	21	3.58	20	CRITICAL	1.116	0.068	0.934
Partnership spirit / commitment/ trust	3.50	21	3.61	15	3.48	31	3.55	21	CRITICAL	1.138	0.133	0.876
Monetization of the risks based upon a transparent assessment	3.41	22	3.43	24	3.78	17	3.52	22	CRITICAL	1.179	0.787	0.458

Strong/ experienced private consortium	3.18	30	3.43	25	4.00	10	3.52	23	CRITICAL	1.139	3.307	0.041*
Toll/Tariff is acceptable for end	3.27	26	3.57	19	3.52	28	3.48	24	CRITICAL	1.056	0.589	0.557
Stable macro-economic conditions	3.32	24	3.39	28	3.74	20	3.46	25	CRITICAL	0.989	1.271	0.286
Exploring stakeholder needs to the project	3.18	31	3.36	29	3.83	16	3.44	26	CRITICAL	1.022	2.553	0.084
Trust between partners/ stakeholders	3.55	19	3.20	35	3.65	22	3.40	27	CRITICAL	1.030	1.727	0.184
Value for money viz a viz public financing	3.23	29	3.45	21	3.43	34	3.39	28	CRITICAL	1.174	0.290	0.749
Conflict management between stakeholders	3.27	27	3.45	22	3.35	36	3.38	29	CRITICAL	.935	0.293	0.747
Political ownership of the highest level	3.18	32	3.30	31	3.65	23	3.36	30	CRITICAL	1.299	0.840	0.435
Substantial risk transfer to the private sector	3.27	28	3.36	30	3.35	37	3.34	31	CRITICAL	1.187	0.043	0.958
Broader political consensus towards adoption of PPPs as a policy tool for infrastructure growth	2.86	36	3.41	26	3.48	32	3.29	32	CRITICAL	1.047	2.571	0.082
Engagement with stakeholders according to their areas of interest	3.05	35	3.27	32	3.52	29	3.28	33	CRITICAL	0.953	1.420	0.247
Stakeholder identification	3.14	33	3.23	34	3.52	30	3.28	34	CRITICAL	1.022	0.917	0.404
Engagement with the stakeholders according to their expected level of impact	3.09	34	3.27	33	3.48	33	3.28	35	CRITICAL	1.044	0.772	0.465
Strong public sector oversight throughout lifecycle of the projects	2.77	37	3.20	36	3.78	18	3.25	36	CRITICAL	1.170	4.589	0.013*
Selecting appropriate strategies to deal with stakeholders having different attributes (urgency, power, proximity)	3.32	25	3.18	37	2.91	40	3.15	37	CRITICAL	1.017	0.944	0.393
Public consultation and acceptance	2.59	39	3.16	38	3.43	35	3.09	38	CRITICAL	1.062	3.987	0.022*
Social support	2.50	40	3.14	39	3.17	38	2.99	39	PARTIALLY CRITICAL	1.113	2.952	0.058
Pre-empting the stakeholder reactions towards management strategies	2.77	38	3.05	40	2.96	39	2.96	40	PARTIALLY CRITICAL	1.065	0.475	0.623

Table 5.13 SPI for Critical Success Factors Relating to Other Stakeholder Groups

	Public Sector		Private Sector		Other Stakeholders		Total (Combined)					
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Significance	St. Dev	F	Significance
Government guarantees	4.23	1	4.09	1	4.00	1	4.10	1	Very Critical	1.023	0.277	0.759
Stable law & order situation	4.14	3	3.93	2	3.57	18	3.89	2	Critical	1.133	1.513	0.226
Transparency in the procurement process	4.14	4	3.66	4	3.96	4	3.85	3	Critical	1.202	1.278	0.284
Due diligence in planning & implementing PPP projects	4.09	5	3.61	5	3.91	5	3.81	4	Critical	1.233	1.215	0.302
Consistency /continuity of government policies	4.18	2	3.55	8	3.74	11	3.75	5	Critical	1.161	2.270	0.109
Economic/ financial viability of projects	3.77	9	3.57	7	4.00	2	3.73	6	Critical	1.204	0.990	0.376
Good governance	3.86	6	3.73	3	3.57	19	3.72	7	Critical	1.097	0.413	0.663
Sound governmental economic policy	3.82	7	3.39	18	3.74	12	3.58	8	Critical	1.053	1.589	0.210
Strong judicial system	3.55	15	3.41	14	3.87	8	3.56	9	Critical	1.097	1.344	0.266
Predictable & reasonable legal framework	3.68	10	3.30	25	3.91	6	3.55	10	Critical	1.234	2.108	0.128
Stable administrative system capable of handling complex PPP projects	3.64	11	3.39	19	3.74	13	3.54	11	Critical	1.098	0.891	0.414
Stable & favourable economic environment	3.82	8	3.36	22	3.52	25	3.52	12	Critical	1.035	1.429	0.245
Trust in the government policies	3.59	13	3.50	9	3.43	31	3.51	13	Critical	1.109	0.110	0.896
Strong/ experienced private consortium	2.86	37	3.61	6	3.91	7	3.51	14	Critical	1.235	4.767	0.011*
Strong & capable PPP unit	3.59	14	3.41	15	3.57	20	3.49	15	Critical	1.226	0.209	0.812
Value for money viz a viz public financing option	3.45	17	3.32	24	3.87	9	3.49	16	Critical	1.253	1.493	0.231
Efficiency gains in terms of time & cost	3.32	22	3.45	10	3.65	15	3.47	17	Critical	1.139	0.488	0.616
Stable macro-economic conditions	3.36	20	3.41	16	3.70	14	3.47	18	Critical	1.012	0.768	0.467
Stakeholder identification	3.32	23	3.43	13	3.48	29	3.42	19	Critical	1.064	0.135	0.874

Availability of long-term/ low cost financing	3.27	24	3.25	29	3.78	10	3.39	20	Critical	1.104	1.975	0.145
Political ownership of the highest level	3.23	26	3.39	20	3.57	21	3.39	21	Critical	1.285	0.385	0.682
Acceptance of the right of the private sector to earn reasonable profit for their investment in PPPs	3.36	21	3.45	11	3.30	34	3.39	22	Critical	1.154	0.135	0.874
Exploring stakeholder needs to the project	3.64	12	3.18	34	3.57	22	3.39	23	Critical	1.018	1.945	0.149
Risk sharing between partners	3.55	16	3.39	21	3.22	37	3.38	24	Critical	1.248	0.384	0.682
Adequate local financial market	3.09	30	3.20	32	4.00	3	3.38	25	Critical	1.092	5.565	0.005*
Selecting appropriate strategies to deal with stakeholders having different attributes (urgency, power, proximity) etc	3.41	19	3.27	27	3.52	26	3.37	26	Critical	.981	0.503	0.607
Conflict management between stakeholders	3.23	27	3.36	23	3.48	30	3.36	27	Critical	1.047	0.319	0.728
Partnership spirit / commitment/ trust	3.45	18	3.27	28	3.43	32	3.36	28	Critical	1.189	0.229	0.796
Trust between partners/ stakeholders	3.27	25	3.23	30	3.52	27	3.31	29	Critical	1.062	0.598	0.552
Broader political consensus towards adoption of PPPs as a policy tool for infrastructure growth	2.86	37	3.41	17	3.52	28	3.30	30	Critical	1.162	2.224	0.114
Engagement with the stakeholders according to their expected level of impact	2.95	34	3.45	12	3.30	35	3.29	31	Critical	.956	2.057	0.134
Toll/Tariff is acceptable for end users	3.00	33	3.30	26	3.57	23	3.29	32	Critical	1.089	1.533	0.222
Standard contract documents; flexible enough for changes in output specifications	3.09	31	3.20	33	3.57	24	3.27	33	Critical	1.146	1.107	0.335
Strong public sector oversight throughout lifecycle of the projects	2.95	35	3.23	31	3.61	17	3.26	34	Critical	1.133	1.946	0.149
Monetization of the risks based upon a transparent assessment	3.05	32	3.05	37	3.65	16	3.20	35	Critical	1.198	2.248	0.112
Engagement with stakeholders according to their areas of interest	3.14	28	3.18	35	3.26	36	3.19	36	Critical	1.054	0.080	0.923
Substantial risk transfer to the private sector	3.14	29	3.18	36	3.13	39	3.16	37	Critical	1.054	0.023	0.977
Public consultation and acceptance	2.86	38	2.95	40	3.17	38	2.99	38	Partially Critical	1.092	0.491	0.614
Pre-empting the stakeholder reactions towards management strategies	2.50	40	3.00	39	3.39	33	2.98	39	Partially Critical	1.128	3.748	0.027*
Social support	2.73	39	3.02	38	2.78	40	2.89	40	Partially Critical	1.071	0.703	0.498

5.7 Summary

This chapter has been dedicated to presenting the findings of the questionnaire survey which were used to collect quantitative data for finding the critical success factors (CSFs) for successful implementation of infrastructure related PPP projects and the analysis of the variance in the perceptions of stakeholders towards significance of these CSFs. Furthermore, quantitative data were also collected and analysed for 15 key drivers for the adoption of PPPs in Pakistan with a view to triangulate the findings of the 1st stage of the research (qualitative interviews). A ranking scale of these key drivers was derived through the mean values of responses from three stakeholder groups and analysis of their variance. Results indicate that resource scarcity, rising gap between demand and supply of infrastructure and economic development pressure are the three main drivers for adoption of PPPs in Pakistan. The ranking of these key drivers indicates that endogenous factors have primacy over exogenous factors in driving the policy decisions towards the adoption of PPPs as a tool for infrastructure growth in the country. Out of 15 such factors, the first seven belong to indigenous needs and demands of the country and external influence or exogenous factors have been ranked as the 8th, 10th, 13th and 14th most important drivers for the adoption of PPPs. These findings support the viewpoint of the interview respondents that exogenous factors are important in steering the country towards the adoption of PPPs, yet indigenous context is playing a more critical role in this regard.

Next, a comprehensive list of 40 CSFs was analysed through SPSS to develop a ranking scale of CSFs for PPP projects in the developing countries context. A mean ranking and analysis of variance (ANOVA) for three different groups of stakeholders which were represented by the respondents, was developed to prepare a cumulative mean ranking scale of these 40 CSFs. For the sake of clarity and better understanding, factor analysis of these 40 CSFs was also done through SPSS to reduce the total number of factors by clustering the relevant CSFs together. As a result of factor analysis, 8 principal components (factors) have been identified which are: governance of PPP projects, stakeholder engagement during the planning process, risk and financial management in PPP projects, enabling socio-economic environment for PPP projects, proactive stakeholder management during the lifecycle of the project, well developed legal framework of PPPs, efficiency gains-trust and public acceptance, and affordability of

services for end users. These critical factors explain the dataset of CSFs for successful adoption of PPPs for infrastructure growth in developing countries.

As the above CSFS were analysed in a broader sense of overall PPP projects, analysis of these CSFs from the perspective of each stakeholder group has also been carried out in latter part of this chapter wherein the Stakeholder Perception Index for public sector partners, private sector partners and other stakeholders has also been prepared separately, wherein CSFs have been indexed according to their perceived level of importance (cumulative mean value) for individual stakeholder groups involved in the PPP projects. Three different SPI tables are presented in the latter part of this chapter to analyze the variance in the perceptions of different stakeholders towards the significance of CSFs.

CHAPTER 6

**SUMMARY, CONCLUSIONS AND
RECOMMENDATIONS**

6.1 Introduction

Public-private partnerships (PPPs) have emerged as a significant tool for infrastructure growth in developed countries under the aegis of the reforms agenda associated with new public management (NPM) aiming at improved efficiency, effectiveness and economic gains. Spread of these partnerships in developing countries is associated with a process of policy diffusion which is often perceived to be coercive in nature and is facilitated by IFIs / donor agencies. Despite such policy reforms and growing need for infrastructure, PPPs have found limited applicability in developing countries owing to their complex nature, inability to conform to local contexts and difficulties in satisfying divergent interests of stakeholders. The impetus for this research has been derived from this perceived lack of success for reforms (such as public private partnerships) in developing countries.

It is an established fact that social development is positively proportional with the infrastructure development and developing countries are in need of a rapid infrastructure growth to cater for their development needs. Lack of indigenous resources and the rising gap between demand and supply of infrastructure is further hampering the development efforts in developing countries. PPPs have been adopted more successfully in the case of developed countries for infrastructure growth whereas results for developing countries are not as significant; though such reforms could have been an alternative solution catering to their development needs.

Pakistan is a classic example which can be examined in this context. With a population of over 180 million, infrastructure needs to boost social development are immense but lack of resources inhibits such growth. For 2007-2012 alone, Pakistan's infrastructure needs were estimated to be around US \$100 billion against an approximate actual allocation of 25% over these years; leaving a huge gap of around US \$ 75 billion in a short period of 5 years (IPDF 2007). As of today, Pakistan is facing a huge energy crisis and public life/ industry is suffering due to non availability of electricity for 8-10 hours a day. According to official figures for 27th July 2012, against a peak demand of 17861 MW⁴, only 14317 MW of electricity was available for consumers; leaving a shortfall of 3544 MW (PEPCO – 2014). Such shortfall of electric power in a country which boasts

⁴ MW – Mega Watt (unit of electric power)

of having the capacity to produce 40000 MW of electricity from its hydel resources alone (PPIAF 2010) is a best example of how resource scarcity hampers the ability of the developing countries to finance their infrastructure requirements indigenously and how this shortage of infrastructure affects the economy and social life at large. Keeping these need assessments in view, Pakistan has been trying various reforms initiatives like privatization, de-regulations and introduction of PPPs in energy/ road infrastructure projects since early 1990's (PMPIU 2009) but with few exceptions, there has not been much success in implementation of these reforms.

Therefore this research was focused towards creating an understanding of the context of developing countries towards adoption of PPPs as a policy tool for infrastructure growth and contextualizes various facets of such reforms which affect their implementation in developing countries. The use of PPPs in developed countries is a well researched topic in the available literature but similar research with specific focus upon developing countries (which need such interventions the most) was found lacking. With this motivation, this research was undertaken to study the use of public-private partnerships (PPPs) for infrastructure development in developing countries with a case study of Pakistan's experience in this regard. This chapter presents the summary of the research objectives/ questions and research methodology in the first section. Next section is a summary of the findings of the research which are discussed and concluded in the next section. Limitations of current research and recommendations for future research on similar topics are presented in the last section of this chapter.

6.2 Summary of the Study

6.2.1 Conceptual Framework of the Study

Though various forms and manifestations of public-private partnerships like build, own, operate (BOO), build, operate/ transfer (BOT), build-own-operate-transfer (BOOT), design-build-finance-operate (DBFO) or joint ventures, leasing and management contracts etc are being practised globally but these PPPs can generally be described as “*a long term contractual arrangement for delivery of public services where there is significant degree of risk sharing between the public and private sector*” (Yong 2010:8). For infrastructure projects, mostly such forms of PPPs are used which involve BOT/BOOT or BOO mechanisms under which the private sector builds and operates the infrastructure facilitates with its own financing for providing the required services to

a single entity or a small group of off-takers (usually a public utility) as in the case of independent power producers (IPPs) in Pakistan who build and operate power generation plants and sell the electricity to the public utility (PEPCO) for onward transmission to the end consumers - or in some cases services are directly provided to the consumers (e.g. toll roads wherein users pay for the service charges directly). Such forms of PPPs gained prominence in the 1980's in the wake of reforms like privatization and efficient resource utilization for improved service delivery in the developed countries (Delmon 2010) and policy framework of 'new public management' (Homburg et al 2007). Reforms under NPM were aimed at increasing the involvement of the private sector for enhancing efficiency and value for money while enabling the governments to lower their infrastructure costs through private sector innovations, expertise and effectiveness etc (Froud 2003, Homburg et al 2007, Klijn et al 2007 and Ferlie et al 1996).

Reforms such as PPPs introduced in the developed countries due to variety of reasons under the umbrella of the NPM agenda were then adopted by the developing countries though with varying nature of motives. For developed countries PPPs were mostly adopted to improve the quality of service provisioning and efficient resource allocations etc, whereas most of the developing countries opted for such reforms in the wake of their inherent problem of lack of financing for funding infrastructure growth (Joyner 20007, Thiel et al 2007, Akintoye 2009). Diffusion of these NPM related reforms into the developing countries is a result of policy transfer from developed countries with donors and international financial institutions playing the role of policy transfer agents. This diffusion process is generally perceived to be coercive in nature and reforms fail to take root in the developing countries owing to their non-conformance to the local context. (Rogers 2003, Holden 2009, Dobbin 2007, Evans 2009, Pessoa 2011 and Appuhami et al 2011). Drawing upon these findings of the literature review discussed in Chapter 2, the conceptual framework of the study was developed and presented in Fig. 1.1. According to this conceptual framework, the concept of PPPs originated in the developed countries as a policy innovation necessitated by endogenous reasons under the influence of NPM agenda of reforms. This policy innovation was then induced in the developing countries through a process of policy diffusion through donor countries and IFIs which played the role of policy transfer agents. This diffusion process often is perceived to be coercive in nature and fails to deliver the desired policy outcomes until

local contextual factors are kept in view and divergent interests of multiple stakeholders with different expectations are managed properly.

6.2.2 Review of Research Methodology

Keeping in view the nature of research objectives and questions it was difficult to associate this study with either of the two most prevalent research paradigms i.e. Positivist and Phenomenological paradigms as it was felt that the study has had attributes of both paradigms to a certain extent. The ontological position of this study is associated with the ‘constructivism’ which is aligned with the positivist paradigm of research and its epistemology is more inclined towards ‘realism’ which shares some beliefs of the positivist paradigm as well but in its own right represents an independent research paradigm (as explained in detail in Table 3.1). Therefore current research cannot be associated to any single research paradigm as the researcher supports the view point of Saunders (2009: 109) that research questions shape up the epistemology, ontology and axiology of the research as either of these may be more apt than the other in answering the research questions and such aspects of research are supported under the pragmatism paradigm. Many authors (Creswell & Clark 2011, Teddlie & Tashakkori 2012 etc) would endorse such paradigms to be associated with mixed methods of data collection and analysis without linking specific paradigms to any particular research methodology.

Similarly, the research has attributes of the induction approach during the first stage wherein little is known about the PPP phenomenon in Pakistan and it requires a qualitative or flexible structure to make progress. At the later stage, the deductive approach has been preferred for collection/ analysis of quantitative data in a more structured manner as supported by Saunders et al (2009). Keeping in view the ontological and epistemological underpinnings of this research and nature of the research questions itself, a case study method was chosen with use of semi-structured interviews for collection of qualitative data during the first phase of the research and questionnaire survey was selected as tool for collection of quantitative data during the 2nd phase of the research. Use of mixed methodology as the research design for this study was preferred because its philosophical assumptions and methods could help the researcher in developing a better understanding of the research problem (Creswell & Clark 2011) under the pragmatism paradigm of research (Saunders et al 2012). This research design is termed as ‘sequential exploratory design’ wherein qualitative data

and results lead the research to quantitative data collection/ analysis for interpretation of the results (Saunders et al 2012 & Creswell et al 2008).

6.2.3 Qualitative and Quantitative Data Collection/ Analysis

Due to the adoption of mixed research methodology, the qualitative and quantitative data was collected through semi-structured interviews and questionnaire survey during the 1st and 2nd phases of research respectively. A detailed research map indicating research objectives, questions and methodology adopted for each of these questions is given in Table 3.7 (Chapter 3).

6.2.3.1 Qualitative Data Collection/ Analysis

During 1st Phase of the research, qualitative data for research questions 1, 2, 3 & 4 was collected through a survey in Pakistan wherein semi-structured interviews of 12 participants were conducted. Selection of the participants in this phase of research was non-probabilistic and involved purposive as well as snowball sampling tools because of the fact that population frame in this case study was unknown and selection had to be made strictly in accordance with a laid down criteria suiting the research needs. The sample (as shown in Table 3.8) chosen for the interviews included different stakeholders involved in 28 PPP projects (26 power generation projects in the private sector – IPPs & 2 road projects procured under BOT mechanisms). A thematic analysis of interview transcripts and interview notes was carried out and following themes were analysed:-

- I. Historical overview of PPPs in developed and developing countries (like Pakistan) under the aegis of NPM reforms
- II. Nature and process of diffusion of PPPs in Pakistan
- III. Role of international stakeholders in diffusion of PPPs
- IV. Local contextual factors (social, political, economic & legal) and Stakeholders' management
- V. Exogenous/Endogenous drivers for adoption of PPPs in Pakistan
- VI. Critical success factors (CSFs) for PPP projects in developing countries like Pakistan

First 4 themes were related to research questions 1, 2 and 3 respectively. However the exogenous/ endogenous drivers for adoption of PPPs in Pakistan (theme- V) was also

added to collect data for use in the questionnaire survey to validate the findings of the 1st phase of the research in relation to first three research questions. Similarly theme –VI was used to collect data for preparing a list of critical success factors (CSFs) for use in the 2nd phase of research. Findings of the thematic analysis are presented in later sections along with results of the quantitative analysis of questionnaire data.

6.2.3.2 Quantitative Data Collection/ Analysis

During the 2nd phase of the research, a questionnaire survey was preferred for collecting quantitative data with reference to research questions 4 & 5 besides validating the findings of qualitative data analysis in relation to research questions 2 & 3. A detailed summary of the questionnaire structure is presented in Table 5.1 (Chapter 5).

The key drivers for adoption of PPPs in Pakistan (including 4 exogenous factors relating to diffusion of PPPs and 11 endogenous factors representing local contextual factors for adoption of PPPs in Pakistan) which were derived from the thematic analysis of qualitative data were made part of the questionnaire (Part 2). Similarly 45 CSFs for successful implementation of PPP projects in Pakistan which were found common in the literature review and findings of the qualitative interviews were include in part 3 of the questionnaire. As a result of pre-testing, 05 irrelevant or ambiguous CSFs were deleted from this survey and the final questionnaire contained only 40 CSFs. A survey sample of 160 participants (as outlined in Table 3.10) was selected through purposive/ snowball sampling technique as in the case of semi-structured interviews. An overall response rate of 56% was achieved for this survey which is considered sufficient for survey research in the case of developing countries.

For part 2 of the questionnaire, quantitative data analysis was carried out through SPSS (statistical package for social sciences) and it involved developing a mean ranking scale, computation of reliability coefficient (Alpha) and one way analysis of variance (ANOVA) for comparing the within-group and between-groups variance.

Similarly, for part 3-A, mean ranking scale, reliability coefficient (Alpha) and ANOVA statistics were computed through SPSS for 40 CSFs. However with a view to grouping together these 40 CSFs into a smaller number of inter-related components, factor analysis technique was also applied resulting in reduction of 40 CSFs into 8 components.

For parts 3-B, C and D, only mean ranking scale , reliability coefficient (alpha) and ANOVA statistics were computed for developing a stakeholder perception index (SPI) of CSFs for public sector, private sector and other stakeholder groups respectively. Details of the findings and discussion of the results thereof are presented in the following sections.

6.3 Research Findings and Conclusions

The research findings and conclusions are presented in the following two sections with each part addressing one of the research objectives and drawing conclusions for the research questions.

6.3.1 Public-Private Partnerships (PPPs) for Infrastructure Growth: An Overview, Diffusion Process and Local Contextual Factors

A brief summary of findings from qualitative and quantitative data analysis for the first three questions is presented in tabulated form as under (Table 6.1):

Table 6.1 PPPs in Developing Countries: Diffusion Process & Local Context

AIM	QUESTION	FINDINGS OF QUALITATIVE DATA ANALYSIS	FINDINGS OF THE QUANTITATIVE DATA ANALYSIS
<i>To study the use of PPPs for infrastructure growth and analyze the process of diffusion of PPPs from developed countries to the developing countries</i>	<i>How has the existing state of the PPPs evolved in the advanced and developing countries?</i>	<i>There has been a general consensus amongst the participants that spread of policy reforms relating to PPPs are closely linked with the NPM reforms which were initiated in the developed countries due to their peculiar socio-economic/ political needs. As in the case of NPM drive which represented various manifestations of public sector reforms, PPPs also lay emphasis upon efficiency, effectiveness, value for money and private participation in provision of infrastructure/ services. During last 4 to 5 decades, such reforms have been implemented in developed as well as developing countries though the rationale and form of these initiatives could be different in various cases. In the case of developing countries, resource scarcity, rising demand for infrastructure and need for alternative financing solutions have been the main reasons for adoption of reforms like PPPs. Most of the participants viewed spread of reforms like PPPs under influence of NPM agenda to be closely associated with global trends like reducing the size and over extended role of the state/public sector, shift towards decentralization, deregulation, privatization and alternate service provisioning mechanisms through private sector participation. Further, participants also generally agreed that PPPs can bring efficiency and improve the quality of service provisioning through private sector participation besides helping them in reducing burden on budgetary resources due to private capital investments in infrastructure.</i>	<i>No quantitative data was collected for this research question.</i>

	<i>How did PPPs diffuse in Pakistan?</i>	<i>Introduction of PPPs in Pakistan is not a local policy innovation; rather this is a case of policy transfer from developed countries where this policy innovation occurred originally. Such policy transfer through diffusion is often considered coercive in nature for the developing countries. Most of the respondents agreed to this notion to the extent that some sort of coercion has been exercised by the developed/ donor countries through international financial institutions etc to begin such a reform process but at the same time they have advocated that there was a genuine need for reforms in Pakistan to undo the effects of nationalization policy adopted during 1970's. The participants generally agreed that initial impetus for diffusion of reforms like PPPs could be termed as coercive but once the reforms were initiated, donors and IFIs helped Pakistan in developing the institutional/ regulatory frameworks besides extending financial assistance for promoting these reforms. So in Pakistan's context, the diffusion process has been described as coercive-cum-voluntary; necessitated mostly due to local contextual factors (like agenda of political leadership, recourse crunch and rising gap between demand and supply of infrastructure etc) rather than external pressures. In some cases, reforms like decentralization and privatization (which are related to NPM drive as well and lead to introduction of PPP as a policy choice for energy and road infrastructure sectors) were viewed as indigenous initiatives which were later on supported by the donors.</i>	KEY DRIVERS	Mean	Significance
			<i>Lack of domestic resources for financing the infrastructure needs</i>	3.84	<i>Significant</i>
			<i>Rising gap between demand and supply of infrastructure/ services</i>	3.80	<i>Significant</i>
			<i>Economic development pressure</i>	3.76	<i>Significant</i>
			<i>Need of foreign direct investment to boost local economy</i>	3.75	<i>Significant</i>
		<i>Most of the respondents agreed that international financial institutions (like IMF, World Bank, Asian development Bank etc) does play the role of policy transfer agents for diffusion of policy innovations from the developed economies into the developing</i>	<i>Political pressure/ agenda of political</i>	3.42	<i>Significant</i>

	<p><i>countries, though literature supports the notion that their role is often coercive in this process as they influence the decision making process in developing countries by linking their financial support with certain reforms which help in such policy transfer. However there has been a divergence of views of the respondents on this issue. Some agreed to above stated perceptions but some of them termed the role of IFS etc as positive in the sense that they do suggest certain reforms but it is up to the developing countries to make rational choice of reforms on the basis of their own peculiar circumstances and they can negotiate better deals with IFIs if they can put up better solutions for their problems which may be acceptable to IFIs too. In Pakistan's perspective, some participants were of the view that in certain cases, Pakistan made such choices which were ultimately supported by the international stakeholders as well. A few of them also took the middle ground and viewed the role of IFIs as coercive to begin which moves towards the other side of the continuum where these IFIs would support in institutional capacity building, development of regulatory/ legal frameworks etc besides financial support for the success of the reforms as well. In brief, the role of the IFIs in diffusion of reforms into developing countries is there but the very nature of this role is a subjective reality which can be defined through mutual trust and carving out win-win solutions for all stakeholders.</i></p>	<p><i>parties/ governments</i></p>			
		<p><i>Lack of business and profit generating skills of the public sector</i></p>	3.18		Significant
		<p><i>Perceived inefficiency/ in-action of the public sector</i></p>	3.02		Significant
		<p><i>Role of IFIs (International Financial Institutions) and multi-lateral donor countries/ agencies as policy transfer agents in promoting private sector participation in development</i></p>	3.00		Significant
	<p><i>To what extent do the method of diffusion and local contextual factors</i></p>	<p><i>Thematic analysis revealed that a majority of the respondents have rated the importance of political, legal and socio-economic context over and above other factors involved in diffusion of policy reforms. Some respondents argued that political support and ownership of the highest level coupled with strong legal coverage, judicial system and government guarantees are vital for success of</i></p>	<p><i>Private incentive</i></p>	2.97	Fairly Significant

	influence the implementation of the PPP projects for infrastructure development?	<p>PPPs in developing countries. Others emphasized the need for socio economic factors like social acceptance and support, consistency/ continuity of policies on long term basis, judicious risk sharing mechanisms, and favourable economic environment etc for success of policy initiative such as PPPs. It can be concluded that reforms do not have universal applicability and these have to be tailored in such a way that its contours are in uniformity with political, legal and socio-economic context of the policy adopting country.</p>	Administrative reforms - encouraged by IFIs/ multi-lateral donors to facilitate promotion of PPPs	2.92		Fairly Significant
		<p>In order to determine as to what extent do the method of diffusion and local contextual factors influences the implementation of PPP projects in developing countries, thematic analysis of the data revealed that there are 04 exogenous factors (relating to the diffusion process) and 11 endogenous factors (representing local context) and respondents have generally rated endogenous factors as more important than exogenous factors influencing the implementation of PPP projects in Pakistan. These factors include the following:</p> <p>Exogenous Factors:</p> <ul style="list-style-type: none"> ➤ Policy transfer from developed countries through conditions attached with loans/ aid for promoting public – private partnerships as a tool of infrastructure development ➤ Role of IFIs (International Financial Institutions) and multi-lateral donor countries/ agencies as policy transfer agents in promoting private sector participation in development ➤ Policy transfer due to regional/ international learning, economic 	Inefficiency because of public monopoly and lack of competition	2.89		Fairly Significant
			Avoiding public sector borrowing limits set in the annual budgets	2.88		Fairly Significant
			Policy transfer from developed countries through conditions attached with loans/ aid for promoting public – private partnerships as a tool of infrastructure development	2.73		Fairly Significant

		<p><i>competition or imitation</i></p> <p>➤ <i>Administrative reforms - encouraged by IFIs/ multi-lateral donors to facilitate promotion of PPPs</i></p> <p>Endogenous Factors:</p> <p>➤ <i>Economic development pressure</i></p> <p>➤ <i>Need of foreign direct investment to boost local economy</i></p> <p>➤ <i>Rising gap between demand and supply of infrastructure/ services</i></p> <p>➤ <i>Lack of domestic resources for financing the infrastructure needs</i></p> <p>➤ <i>Avoiding public sector borrowing limits set in the annual budgets</i></p> <p>➤ <i>Off- balance sheet financing for infrastructure with a long repayment period (i.e. the whole cost of the project is not shown as an up-front liability in the budget books)</i></p> <p>➤ <i>Political pressure/ agenda of political parties/ governments</i></p> <p>➤ <i>Private incentive</i></p> <p>➤ <i>Inefficiency because of public monopoly and lack of competition</i></p> <p>➤ <i>Perceived inefficiency/ in-action of the public sector</i></p> <p>➤ <i>Lack of business & profit generating skills of the public sector</i></p>	<p><i>Policy transfer due to regional/ international learning, economic competition or imitation</i></p> <p><i>Off- balance sheet financing for infrastructure with a long repayment period (i.e. the whole cost of the project is not shown as an up-front liability in the budget books)</i></p>	<p>2.72</p> <p>2.49</p>		<p><i>Fairly Significant</i></p> <p><i>Fairly Significant</i></p>
<p><i>* exogenous factors relating to process and mode of diffusion</i></p> <p><i>** endogenous factors relating to local context</i></p>						

6.3.1.1.1 Public-Private Partnerships: An Overview

The concept of PPPs is considered to be a continuation of the agenda of reforms under the banner of new public management (NPM) which started in the developed countries of Europe and the USA during late 1960's-1970's and gained prominence during the 1980's and 1990's. The NPM reforms represented various facets of public sector reforms which were primarily aimed at redefining the role of the state and governance paradigms with a view to bring efficiency, effectiveness, economy and other best practices of the of the private sector into public sector with different motivating factors. Motivation for such reforms was either necessitated by political philosophies of the developed countries or driven by the nature of their economies. Public-private partnerships (PPPs) are also believed to be an off-shoot of those reforms which were chosen by various developed countries around the globe for various domestic considerations. However, it can be argued that while developed countries adopted reforms such as PPPs for their infrastructure growth, their drivers were indigenous and it was a kind of policy innovation for the developed countries. But in the case of developing countries, reforms under NPM agenda –like the introduction of PPPs, are influenced by the their economic constraints alone and such partnerships are seen as an alternate financing solution for infrastructure growth in these countries. The results of this research support the findings of the literature review to the extent that the spread of PPPs during the last 3 to 4 decades is closely associated with the NPM agenda of public sector reforms wherein involvement of private sector was encouraged for efficient, innovative and effective policy outcomes and products in developed and developing countries; though motives and choice of form/ mode of these reforms can be described as individualistic for each of these countries depending upon their unique socio-political and economic environments.

6.3.1.2 Process & Method of Diffusion of PPPs

Reforms such as PPPs are a case of policy innovation and learning for the developed countries but in the case of developing countries, such reforms are introduced through a process of policy diffusion wherein policy innovation gains impetus from exogenous factors spreading the policy innovations through learning, economic competition, imitation or coercion. However, the policy diffusion process in the case of developing countries is perceived to be characterized by coercion by developed countries/

international organizations through conditional incentives for political/ economic reforms in the intended countries.

From Pakistan's perspective, reforms like privatization, de-regulation and public-private partnerships were introduced during the late 1980's and 1990's. The findings of this research support the notion that the policy diffusion process has some form of coercion involved in it but such coercion is not the sole driving factor for adoption of such reforms in Pakistan. Research findings reveal that local contextual factors coupled with socio-economic needs provided an opportunity for the reforms under the NPM agenda and similarly PPPs were also introduced in energy and road infrastructure sectors in Pakistan during the 1990's. These reforms were not merely imposed by the developed countries but there was an indigenous understanding that Pakistan needed to reform its economic policies to reverse the implications of its nationalization policies adopted during the 1970's. So the need for reforms was indigenous which later attracted policy diffusion from the developed countries through policy transfer agents such as the World Bank, IMF, Asian Development Bank etc.

These findings of the qualitative data analysis are supported by results of quantitative data analysis as well. All four exogenous drivers relating to mode and process of diffusion have been ranked as 'fairly significant' or 'significant' and these 4 drivers have been ranked as under (on the basis of their respective mean scores):

- 1. Role of IFIs (International Financial Institutions) and multi-lateral donor countries/ agencies as policy transfer agents in promoting private sector participation in development*
- 2. Administrative reforms - encouraged by IFIs/ multi-lateral donors to facilitate promotion of PPPs*
- 3. Policy transfer from developed countries through conditions attached with loans/ aid for promoting public – private partnerships as a tool of infrastructure development*
- 4. Policy transfer due to regional/ international learning, economic competition or imitation*

Therefore it can be argued that IFIs play the most important role in the diffusion of PPP related reforms in the developing countries while acting as policy transfer agents for the developed countries from where these reforms originate. IFIs and multilateral donors/ agencies encourage administrative reforms in developing countries through conditional

offers of support and financing from the developed countries as well as their own sources to help promote PPPs as a tool for infrastructure growth. However, in the case of developing countries, the importance of such policy transfer due to regional/international learning, economic competition or imitation cannot be ignored as well as in case of Pakistan where results of qualitative data analysis revealed that adoption of reforms (like PPPs) cannot be solely attributed to coercive policy transfer from developed countries through IFIs etc but indigenous learning through regional and international experiences in the wake of local needs also played an important part in this respect.

6.3.1.3 Role of Diffusion and Local Contextual Factors in Implementation of PPPs in Developing Countries

From the above discussions it can be deduced that public-private partnerships are diffused in developing countries through IFIs and multi-lateral donors etc and such reforms are not a home grown policy. But the key question is whether implementation of PPPs in developing countries is driven by policy diffusion or local contextual factors – or a combination of both? How do the method of diffusion and local contextual factors affect the actual implementation of the PPPs in developing countries and which factors have primacy over the other?

Qualitative data analysis results reveal that there has been a mixed response towards level of significance of drivers relating to local contextual factors and actual method of diffusion of PPPs. the four factors relating to process of diffusion labelled as exogenous factors (as mentioned in Table 6.1) are deemed to be significantly important towards implementation of PPPs in developing countries. Another 11 local contextual factors labelled as endogenous factors (also given in Table 6.1) have been derived through thematic analysis of qualitative data. The majority of the respondents considered local contextual factors to be more important than the diffusion related factors though the latter were also termed as important in their own right.

The relative significance of these exogenous factors (relating to diffusion process) and endogenous factors (relating to local context) were analysed quantitatively as well during this research (Table 6.1) and it can be concluded from the results that all the factors have been deemed to be ‘fairly significant’ or ‘significant’ and none of these have been termed as irrelevant or not significant at all. Further, the following seven

drivers for PPPs in developing countries are related to local contextual factors and these include:-

1. *Lack of domestic resources for financing the infrastructure needs*
2. *Rising gap between demand and supply of infrastructure/ services*
3. *Economic development pressure*
4. *Need of foreign direct investment to boost local economy*
5. *Political pressure/ agenda of political parties/ governments*
6. *Lack of business and profit generating skills of the public sector*
7. *Perceived inefficiency/ in-action of the public sector*

The remaining endogenous factors have been ranked 9th, 11th, 12th and 15th in this list of key drivers for PPPs. The exogenous factors which relate to the process and method of diffusion of PPPs have been ranked as 8th, 10th, 13th and 14th in this list. Therefore it can be concluded that though the method and process of diffusion plays a significant role in the implementation of PPPs in developing countries, yet local contextual factors have a primacy over these diffusion related factors.

6.4 Critical Success Factors (CSFs) For Implementation of PPPs

40 critical success factors (CSFs) for successful implementation of PPP projects in developing countries were analysed to develop their mean ranking scale and analysis of variances (ANOVA) for public sector, private sector and other stakeholder groups through SPSS on the basis of data collected through part 3-A of the questionnaire. For drawing better conclusions and understanding, factor analysis technique was used to club together related CSFs to produce a fewer number of principal components. During the process of factor analysis, 5 CSFs (including 'good governance', 'broader political consensus towards adoption of PPPs as a policy tool for infrastructure growth', 'social support', 'trust in government policies' and 'acceptance of the right of the private sector to earn reasonable profit for their investment in PPPs') were eliminated because these were having values of MSA (measure of sampling adequacy) less than 0.7 which were not considered good enough for further factor analysis. After eliminating these CSFs, factor analysis of 35 remaining CSFs was again performed to compute 8 principal components/ factors which were given a suitable label to describe the nature of the constituent CSFs. These principal components/ factors for implementation of PPP projects in developing countries have been discussed in detail in Chapter 5 (section

5.5.3). However, a summary of these principal factors, their labels and constituent critical success factors (in terms of their relative levels of significance) is presented in Table 6.2:-

Table 6.2 Results of Factor Analysis for Critical Success Factors

FACTOR 1	<i>Governance of Public-Private Partnership (PPP) Projects</i>
	➤ <i>Efficiency gains in terms of time & cost</i>
	➤ <i>Transparency in the procurement process</i>
	➤ <i>Strong/ experienced private consortium</i>
	➤ <i>Strong & capable PPP unit</i>
	➤ <i>Due diligence in planning & implementing PPP projects</i>
	➤ <i>Partnership spirit / commitment/ trust</i>
	➤ <i>Economic/ financial viability of projects</i>
FACTOR 2	<i>Stakeholder Engagement In Planning Process</i>
	➤ <i>Exploring stakeholder needs to the project</i>
	➤ <i>Engagement with stakeholders according to their areas of interest</i>
	➤ <i>Stakeholder identification</i>
FACTOR 3	<i>Risk and Financial Management in PPPs</i>
	➤ <i>Availability of long-term/ low cost financing</i>
	➤ <i>Standard contract documents; flexible enough for changes in output specifications</i>
	➤ <i>Risk sharing between partners</i>
FACTOR 4	<i>Enabling Socio-Economic Environment for PPP Projects</i>
	➤ <i>Sound governmental economic policy</i>
	➤ <i>Stable law & order situation</i>
	➤ <i>Stable & favorable economic environment</i>
FACTOR 5	<i>Proactive Stakeholder Management During Lifecycle of PPP Projects</i>
	➤ <i>Pre-empting the stakeholder reactions towards management strategies</i>
	➤ <i>Selecting appropriate strategies to deal with stakeholders having different attributes (urgency, power, proximity)</i>
	➤ <i>Conflict management between stakeholders</i>
FACTOR 6	<i>Well Developed Legal Framework For PPPs</i>
	➤ <i>Strong judicial system</i>
	➤ <i>Government guarantees</i>
FACTOR 7	<i>Efficiency Gains, Trust and Public Acceptance</i>
	➤ <i>Value for money viz a viz public financing option</i>
	➤ <i>Trust between partners/ stakeholders</i>
FACTOR 8	<i>Affordability of Services For End Users</i>
	➤ <i>Toll/Tariff is acceptable for end users</i>

6.5 Critical Success Factors (CSFs) for Public, Private and Other Stakeholder Groups: Variance in Perceptions and Perspectives of Different Stakeholders

The critical success factors (CSFs) for implementation of PPP projects in developing countries like Pakistan have been discussed in the above section and explained through eight principal components/ factors which reflect the whole set of CSFs. These findings were based upon input from all three stakeholder groups i.e. public sector, private sector and other stakeholders which were related to PPP projects in Pakistan. However, it is also important to analyse the CSFs for each stakeholder group individually as well because every stakeholder has a unique perspective and relative level of criticality of the CSFs also differs for various groups accordingly. Therefore mean ranking scales and ANOVA statistics for each of these stakeholder groups were computed through analysis of data collected through parts 3 – B, 3 – C and 3 – D respectively to compare their intra-group and within-group variance. Detailed analysis of results has been presented in Chapter 5 (section 5.6). The research findings for each of these stakeholder groups are discussed in the following section.

6.5.1 Critical Success Factors (CSFs) for Public Sector in PPP Projects

Results of the quantitative data analysis (presented in Table 5.11) reveal 38 CSFs have mean values ranging between 3.94 and 3.00 which can therefore be labelled as ‘critical’ in terms of ranking scale used in the questionnaire survey. Only two CSFs (i.e. ‘Social support’ and ‘pre-empting stakeholder reactions towards management strategies’) have mean scores less than 3.00 and therefore are deemed to be partially critical for public sector perspective of PPP projects. All three stakeholder groups have almost similar views towards level of criticality of these 40 CSFs for public sector stakeholders in PPP projects as the variance amongst views of 3 stakeholder groups is statistically insignificant. The F Statistic/ significance value for none of the 40 CSFs was found lower than the cut off point of 0.05 (5%).

The cumulative mean ranking scale for these CSFs indicates that for public sector partners, the following five CSFs are most significant in terms of PPP projects in Pakistan:

- 1. Consistency/ continuity of government policies*
- 2. Transparency in the procurement process*

3. *Due diligence in planning and implementing PPP projects*
4. *Value for money viz a viz public financing option*
5. *Good governance*

6.5.2 Critical Success Factors (CSFs) for the Private Sector in PPP Projects

Quantitative analysis of data collected in part 3 – C of the questionnaire (as shown in Table 5.12) shows that from the private sector perspective, following five CSFs are most significant for implementation of PPP projects in Pakistan:

1. *Government guarantees*
2. *Stable law and order situation*
3. *Consistency/continuity of government policies*
4. *Acceptance of the right of the private sector to earn reasonable profit for their investment in PPPs*
5. *Risk sharing between partners*

The first three CSFs indicated above are deemed ‘very critical’ in accordance with questionnaire labelling scheme with cumulative mean values of 4.29, 4.20 and 4.01 respectively. Another 35 CSFs have been assigned to the category of ‘critical factors’ with their mean values ranging between 3.96 and 3.09 and only two factors ‘social support’ and pre-empting stakeholders reactions towards management strategies’ have been ranked as partially critical. All stakeholder groups have almost similar views towards ranking and level of significance of majority of CSFs and only 5 factors have resulted in F Statistic/ Significance values lower than cut off point of 5%. These factors include ‘availability of long term/ low cost financing’, ‘predictable and reasonable legal framework’, ‘strong/ experienced private consortium’, ‘strong public sector oversight throughout lifecycle of the projects’ and ‘public consultation and acceptance’. For the first three factors, variance occurred due to a much higher mean values assigned by other stakeholder groups as against public and private sector stakeholders which is understandable in the sense that these factors are major concern of foreign lenders/ investors/ institutions (which from part of other stakeholder group) and these concerns are a high risk for them which they must address before making any financing decisions. The last two factors have significant variance because both these factors are normally not a priority for the public sector in Pakistan and therefore these factors have

been assigned significantly lower mean values by the public sector participants of the survey.

6.5.3 Critical Success Factors (CSFs) for Other Stakeholders in PPP Projects

The findings of data analysis for part 3 – D of the questionnaire (presented in Table 5.13) reveal that the following CSFs are the 5 most significant factors from the perspective of other stakeholder groups for PPP projects in Pakistan:

- 1. Government guarantees*
- 2. Stable law and order situation*
- 3. Transparency in procurement process*
- 4. Due diligence in planning and implementing PPP projects*
- 5. Consistency/continuity of government policies*

The top CSF (Government guarantees) was deemed as ‘very critical’ (with mean value of 4.10) for other stakeholder groups and the next 36 CSFs in the ranking scale were termed as ‘critical’ with their respective mean values ranging between 3.89 and 3.16. The remaining three CSFs were labelled as ‘partially critical’ with mean values of 2.99, 2.98 and 2.89 respectively.

Analysis of variance statistics reveal that all stakeholder groups had unanimity of views towards mean ranking/ level of significance of 37 CSFs for other stakeholder groups as the variance was not considered statistically significant. However, 3 CSFs including ‘strong/experienced private consortium’, ‘adequate local financial market’ and ‘pre-empting the stakeholder reactions towards management strategies’ have F Statistic/ significance values lower than the cut off point of 0.05. This variance was found to be based on exceptional mean values assigned these factors by various stakeholders. For ‘strong/ experienced private consortium’ public sector participants have assigned too low mean value (2.86). In case of next such CSF (i.e. adequate local financial market) participants from other stakeholder groups have assigned much higher mean value (4.00) to this factor than the public and private sector participants. Last such CSF (pre-empting stakeholder reactions towards management strategies) has received much lower mean value (2.50) than in case of participants representing private sector and other stakeholder groups.

The above findings depict that while examining the significance levels for each CSF from a specific perspective of a single stakeholder group, there was very little variance in the perceptions of different stakeholder groups. As in the case of CSFs for public sector stakeholders (discussed in section 6.5.1) variance in the perceptions of 3 participants groups of stakeholders was found to be statistically insignificant for all 40 CSFs. Similarly for private sector and other stakeholder groups (as discussed in section 6.5.2 and 6.5.3 respectively), such variance could be found to be statistically significant for a few CSFs only (i.e. 5 in case of private sector and 3 in the case of other stakeholder groups). Therefore it can be concluded that for a unique perspective, different stakeholder groups have similar perceptions towards significance of these CSFs with rare exceptions. However, the variance in the terms of various perspectives, show that perceptions vary to a large extent. A critical success factor may be considered very critical in case of one stakeholder group' perspective but for other groups, same factor may have a different level of significance depending upon the perspective with which the CSF is being assessed. A comparison of 5 most important factors for private sector, public sector and other stakeholders reveals that perceptions of different stakeholders might not vary for a single perspective of the study but perception does vary significantly if we are comparing different perspectives at the same time. Therefore the ranking scale of CSFs based upon perception of all stakeholders regarding significance of these factors is quite different for public sector, private sector and other stakeholder groups as illustrated in Tables 5.11, 5.12 and 5.13 respectively. A cumulative summary of these ranking scales is presented as a stakeholder perception index (SPI) in Table 6.3 wherein 40 CSFs have been presented in an indexed order according to perception of stakeholders involved in this study for each of the public sector, private sector and other stakeholder groups.

Table 6.3 Stakeholder Perception Index (SPI) of Critical Success Factors for PPP Projects in Developing Countries

<i>INDEX</i>	<i>PUBLIC SECTOR PARTNERS</i>		<i>PRIVATE SECTOR PARTNERS</i>		<i>OTHER STAKEHOLDERS</i>	
	<i>CSFs</i>	<i>MEAN</i>	<i>CSFs</i>	<i>MEAN</i>	<i>CSFs</i>	<i>MEAN</i>
1	<i>Consistency/Continuity of government policies</i>	3.94	<i>Government guarantees</i>	4.29	<i>Government guarantees</i>	4.10
2	<i>Transparency in the procurement process</i>	3.83	<i>Stable law & order situation</i>	4.20	<i>Stable law & order situation</i>	3.89
3	<i>Due diligence in planning & implementing PPP projects</i>	3.74	<i>Consistency/Continuity of government policies</i>	4.01	<i>Transparency in the procurement process</i>	3.85
4	<i>Value for money viz a viz public financing option</i>	3.71	<i>Acceptance of the right of the private sector to earn reasonable profit for their investment in PPPs</i>	3.96	<i>Due diligence in planning & implementing PPP projects</i>	3.81
5	<i>Good governance</i>	3.70	<i>Risk sharing between partners</i>	3.89	<i>Consistency /continuity of government policies</i>	3.75
6	<i>Economic/ financial viability of projects</i>	3.67	<i>Economic/ financial viability of projects</i>	3.89	<i>Economic/ financial viability of projects</i>	3.73
7	<i>Stable administrative system capable of handling complex PPP projects</i>	3.66	<i>Transparency in the procurement process</i>	3.88	<i>Good governance</i>	3.72
8	<i>Broader political consensus towards adoption of PPPs as a policy tool for infrastructure growth</i>	3.64	<i>Availability of long-term/ low cost financing</i>	3.85	<i>Sound governmental economic policy</i>	3.58

9	<i>Political ownership of the highest level</i>	3.64	<i>Due diligence in planning & implementing PPP projects</i>	3.79	<i>Strong judicial system</i>	3.56
10	<i>Stable law & order situation</i>	3.61	<i>Strong judicial system</i>	3.76	<i>Predictable & reasonable legal framework</i>	3.55
11	<i>Strong & capable PPP unit</i>	3.61	<i>Predictable & reasonable legal framework</i>	3.73	<i>Stable administrative system capable of handling complex PPP projects</i>	3.54
12	<i>Toll/Tariff is acceptable for end users</i>	3.54	<i>Stable administrative system capable of handling complex PPP projects</i>	3.72	<i>Stable & favourable economic environment</i>	3.52
13	<i>Risk sharing between partners</i>	3.53	<i>Stable & favourable economic environment</i>	3.72	<i>Trust in the government policies</i>	3.51
14	<i>Predictable & reasonable legal framework</i>	3.45	<i>Adequate local financial market</i>	3.71	<i>Strong/ experienced private consortium</i>	3.51
15	<i>Strong/ experienced private consortium</i>	3.45	<i>Trust in the government policies</i>	3.64	<i>Strong & capable PPP unit</i>	3.49
16	<i>Strong public sector oversight throughout lifecycle of the projects</i>	3.44	<i>Sound governmental economic policy</i>	3.64	<i>Value for money viz a viz public financing option</i>	3.49
17	<i>Availability of long-term/ low cost financing</i>	3.43	<i>Good governance</i>	3.62	<i>Efficiency gains in terms of time & cost</i>	3.47
18	<i>Substantial risk transfer to the private sector</i>	3.38	<i>Efficiency gains in terms of time & cost</i>	3.62	<i>Stable macro-economic conditions</i>	3.47

19	<i>Efficiency gains in terms of time & cost</i>	3.37	<i>Standard contract documents; flexible enough for changes in output specifications</i>	3.58	<i>Stakeholder identification</i>	3.42
20	<i>Sound governmental economic policy</i>	3.35	<i>Strong & capable PPP unit</i>	3.58	<i>Availability of long-term/ low cost financing</i>	3.39
21	<i>Strong judicial system</i>	3.34	<i>Partnership spirit / commitment/ trust</i>	3.55	<i>Political ownership of the highest level</i>	3.39
22	<i>Government guarantees</i>	3.34	<i>Monetization of the risks based upon a transparent assessment</i>	3.52	<i>Acceptance of the right of the private sector to earn reasonable profit for their investment in PPPs</i>	3.39
23	<i>Stable & favourable economic environment</i>	3.34	<i>Strong/ experienced private consortium</i>	3.52	<i>Exploring stakeholder needs to the project</i>	3.39
24	<i>Trust in the government policies</i>	3.31	<i>Toll/Tariff is acceptable for end users</i>	3.48	<i>Risk sharing between partners</i>	3.38
25	<i>Standard contract documents; flexible enough for changes in output specifications</i>	3.25	<i>Stable macro-economic conditions</i>	3.46	<i>Adequate local financial market</i>	3.38
26	<i>Exploring stakeholder needs to the project</i>	3.24	<i>Exploring stakeholder needs to the project</i>	3.44	<i>Selecting appropriate strategies to deal with stakeholders having different attributes (urgency, power, proximity) etc</i>	3.37

27	<i>Trust between partners/ stakeholders</i>	3.24	<i>Trust between partners/ stakeholders</i>	3.40	<i>Conflict management between stakeholders</i>	3.36
28	<i>Conflict management between stakeholders</i>	3.22	<i>Value for money viz a viz public financing option</i>	3.39	<i>Partnership spirit / commitment/ trust</i>	3.36
29	<i>Acceptance of the right of the private sector to earn reasonable profit for their investment in PPPs</i>	3.21	<i>Conflict management between stakeholders</i>	3.38	<i>Trust between partners/ stakeholders</i>	3.31
30	<i>Selecting appropriate strategies to deal with stakeholders having different attributes (urgency, power, proximity) etc</i>	3.21	<i>Political ownership of the highest level</i>	3.36	<i>Broader political consensus towards adoption of PPPs as a policy tool for infrastructure growth</i>	3.30
31	<i>Partnership spirit / commitment/ trust</i>	3.21	<i>Substantial risk transfer to the private sector</i>	3.34	<i>Engagement with the stakeholders according to their expected level of impact</i>	3.29
32	<i>Adequate local financial market</i>	3.17	<i>Broader political consensus towards adoption of PPPs as a policy tool for infrastructure growth</i>	3.29	<i>Toll/Tariff is acceptable for end users</i>	3.29
33	<i>Monetization of the risks based upon a transparent assessment</i>	3.17	<i>Engagement with stakeholders according to their areas of interest</i>	3.28	<i>Standard contract documents; flexible enough for changes in output specifications</i>	3.27
34	<i>Public consultation and acceptance</i>	3.15	<i>Stakeholder identification</i>	3.28	<i>Strong public sector oversight</i>	3.26

					<i>throughout lifecycle of the projects</i>	
35	<i>Engagement with the stakeholders according to their expected level of impact</i>	3.12	<i>Engagement with the stakeholders according to their expected level of impact</i>	3.28	<i>Monetization of the risks based upon a transparent assessment</i>	3.20
36	<i>Stable macro-economic conditions</i>	3.10	<i>Strong public sector oversight throughout lifecycle of the projects</i>	3.25	<i>Engagement with stakeholders according to their areas of interest</i>	3.19
37	<i>Stakeholder identification</i>	3.03	<i>Selecting appropriate strategies to deal with stakeholders having different attributes (urgency, power, proximity)</i>	3.15	<i>Substantial risk transfer to the private sector</i>	3.16
38	<i>Engagement with stakeholders according to their areas of interest</i>	3.00	<i>Public consultation and acceptance</i>	3.09	<i>Public consultation and acceptance</i>	2.99
39	<i>Social support</i>	2.98	<i>Social support</i>	2.99	<i>Pre-empting the stakeholder reactions towards management strategies</i>	2.98
40	<i>Pre-empting the stakeholder reactions towards management strategies</i>	2.85	<i>Pre-empting the stakeholder reactions towards management strategies</i>	2.96	<i>Social support</i>	2.89

6.6 Contribution to Body of Knowledge

The conceptual framework of this research (as illustrated in Table 1.1) involves study of diffusion of policy reforms relating to public – private partnerships (PPPs) in developing countries and examining the nature and role of international financial institutions/ stakeholders, local contextual factors and stakeholder management in successful implementation of such reforms resulting in the framing of critical factors and a stakeholder perception index thereof in the context of developing countries. However it has been established through the literature review that research of administrative reforms under the NPM umbrella in the case of developing countries and studies on critical success factors for PPPs in the case of the developed countries can be found in abundance but study of PPPs in context of developing countries alone has not been given much importance in the previous research. Further the topic of critical success factors (CSFs) has been well researched in the past with focus upon the developed countries wherein most of the times, target population/ sample of study were not representing multiple stakeholder groups. Similarly, stakeholder management has rarely been studied as an integral part of CSFs for successful implementation of PPP projects though it has been researched frequently for successful project management but such dedicated study for PPP projects is also an area of research which has failed to gain the attention of the research community. A study conducted in 2009 by Ke et al highlighted these limitations in the current research literature by examining research trends on PPPs in 7 leading construction journals. The results of this study highlighted the fact that 79% of the research papers on PPPs originated from 7 developed countries and the context of developing countries was not considered in these papers.

With these missing links in the existing body of knowledge, current research aims at making a contribution to these knowledge areas. It will add to the body of knowledge in areas such as new public management reforms, policy diffusion, importance of stakeholders and local contextual factors towards adoption of such policies under NPM agenda and critical success factors (CSFs) for PPPs in developing countries' context. Another contribution of this research lies in the fact that it is an inclusive kind of study wherein findings have been drawn through a sampling frame representing multiple stakeholder groups involved in PPP projects at various stages of the lifecycle of such projects. Therefore findings of this research have the backing of a broader stakeholder network relating to implementation of PPP projects in developing countries.

Stakeholder perceptions and perspectives have been duly reflected in findings of this research which can help developing countries in contextualizing their future agendas of reforms for promoting PPPs as a policy tool for infrastructure growth.

6.7 Research Limitations

Though this research is a manifestation of the best possible efforts of the researcher made in good faith and based upon a rational choice of principles of research methodology, yet it is better to take hindsight of the process and find out what could have been better for this research than in its current shape. Like any other research, this research has had a few limitations which could have affected the outcomes to a certain extent. However an effort has been made to minimize the negative implications of research limitations through choice of a pragmatic research methodology.

In the researchers' view, the most important limitation of this research lies in its relative low potential for generalization across various sectors (where the concept of public – private partnerships can be applied) and developing countries in general due to its reliance upon data collected from a few infrastructure sectors in a single developing country. As the research was a the case study of PPPs in Pakistan where only 28 such projects could be found in electric power generation and road infrastructure sectors, the research findings can only be reflective of these two sectors in case of Pakistan alone. Generalization of these results over other sectors and countries might not be strongly advocated. Therefore it would have been advantageous for this research if data could have been collected from multiple sectors in various developing countries for better comparison and generalization purposes.

Another important limitation of the current research was non-availability of any database of stakeholders for PPP projects in energy and road infrastructure projects in Pakistan which could have helped the researcher in identifying a sizeable population and a bigger sample of participants for qualitative and quantitative data collection. Furthermore, out of 28 projects included in the case study for recruitment of research participants, 26 were power generation plants where access is very restricted due to security concerns. Therefore, the researcher had to face lot of difficulties in gaining access to these sites for collecting the requisite information for recruitment of suitable research participants and then contacting them to seek their informed consent for their participation in this research. Further, many projects are in the pipeline for procurement

under PPP mode but non-availability of any solid database caused exclusion of such stakeholders from this research framework.

Last but not the least, the current research was primarily focused towards policy implications of diffusion of PPPs, local contextual factors and issues arising out of stakeholder management. Technical or process related factors for PPPs were included in this research but it is perceived that relative importance of these factors/ issues changes overtime during various stages of the lifecycle of the PPP projects. However this element could not be covered in the current research due to time and financial constraints of the researcher as well as the research participants.

6.8 Recommendations for Future Research

Taking a lead from the above cited limitations faced during the current research, the following recommendations are suggested for future research initiatives for improving the actual process of research especially in the case of developing countries and generalization of research findings for multiple sectors and cross-country validation:

- I. The scope of the research may be expanded to multiple sectors having relevance with the concept of PPPs in more than one developing country so as to enable the research to present findings which can be validated / generalized through cross-country and cross-sectoral comparisons.
- II. Time and financial constraints are major impediments which restrict the scope of a comprehensive research which covers multiple research locations in developing countries as well as multiple sectors associated with PPP mode of procurement. Therefore if any organization can finance such research in future, it can be of vital importance for the developed countries as well as international financial institutions which have been endeavouring for success of PPP related reforms in developing countries and at the same time developing countries would benefit from such research as well.
- III. In order to facilitate access to the relevant stakeholders associated with the process of implementation of PPP projects in developing countries, it is suggested that an organizational arrangement must be made at local level which can act as a hub for coordinating the research activity and help the researcher in gaining access to the requisite information and relevant stakeholders in an unbiased and ethical manner.

- IV. Each phase of the PPP project has its own peculiar nature of requirements which affect the significance level of critical success factors as well for its various stages. Therefore a longitudinal study would be recommended to ascertain the relative significance of CSFs during various stages of the actual lifecycle of PPP projects.

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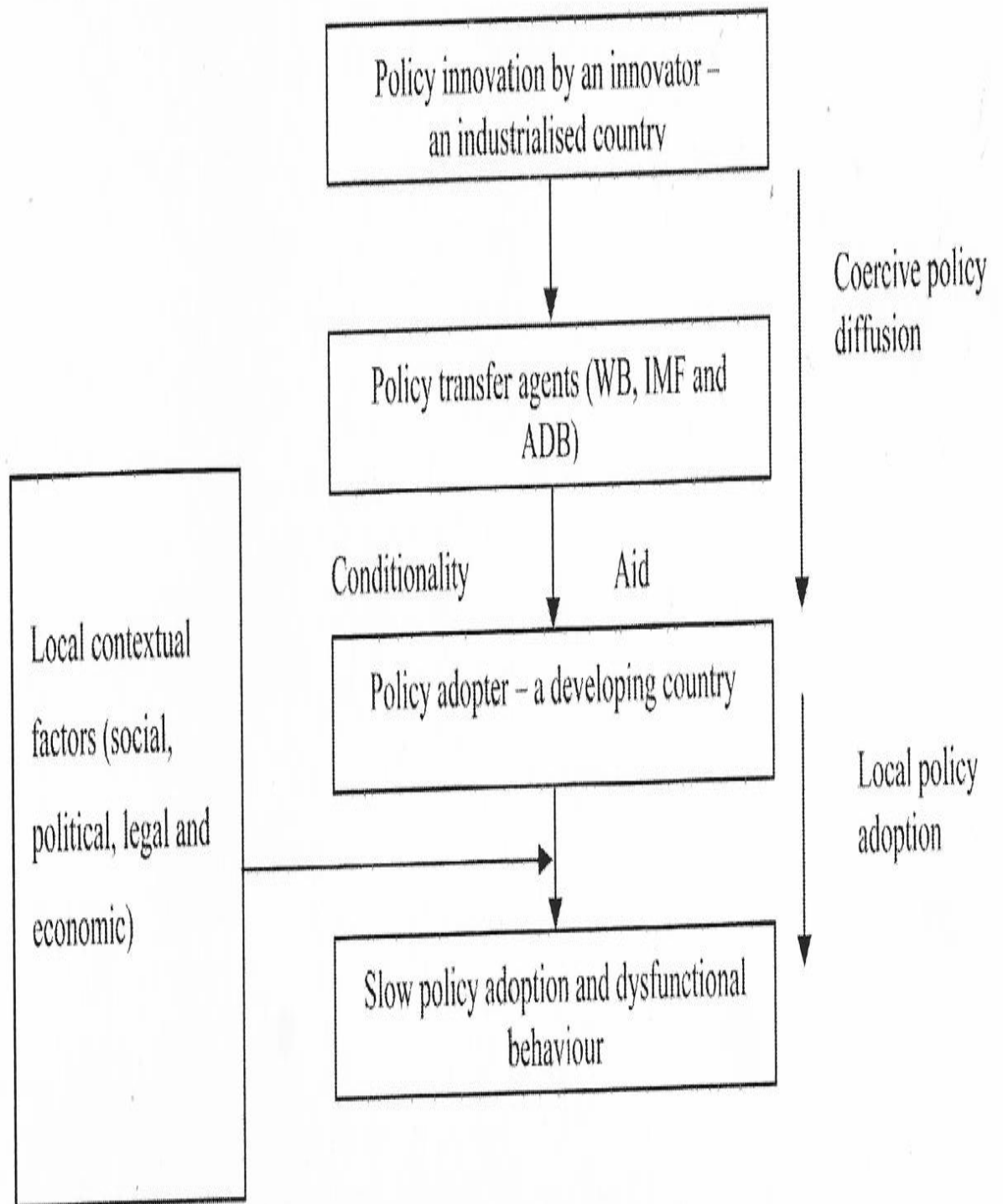
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APPENDICES

**ANNEXURE – A Conceptual Framework Developed by Appuhami et al
(2011:435)**



ANNEXURE – B: Consent Form and Participant Information Sheet for Semi-Structured Interviews

**University of Manchester
School of Environment and Development**

**RESEARCH TITLE: PUBLIC PRIVATE PARTNERSHIPS FOR
PROVISION OF PUBLIC INFRASTRUCTURE IN DEVELOPING
COUNTRIES: A CASE STUDY OF PAKISTAN**

[For items 3, 4 and 5, put a cross if you do not wish to authorize these actions]

CONSENT FORM

If you are happy to participate please read the consent form and initial it:

	Please Initial Box
I confirm that I have read the attached information sheet on the above project and have had the opportunity to consider the information and ask questions and had these answered satisfactorily.	
I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving a reason and without detriment to any treatment/service	
I understand that the interview can be audio/video-recorded with my prior permission.	
I agree to the use of direct quotes.	

OR

I agree to the use of anonymous quotes only.	
--	--

I agree to take part in the above project

Name of participant (Farrukh Naveed)	Date	Signature
Name of person taking consent	Date	Signature

Participant Information Sheet

1. What is the title of the research?

PUBLIC PRIVATE PARTNERSHIPS (PPPs) FOR PROVISION OF PUBLIC INFRASTRUCTURE IN DEVELOPING COUNTRIES: A CASE STUDY OF PAKISTAN.

2. Who will conduct the research?

The research shall be conducted by Mr. Farrukh Naveed who is currently a postgraduate research student at the University of Manchester, UK.

3. What is the aim of the research?

The aim of the research is to evolve a framework of key factors which influence the successful adoption of PPPs as a tool for infrastructure growth in the developing countries context. In order to achieve the above said aim, the proposed research has following objectives:-

To study the use of PPPs for infrastructure growth and analyze the process of diffusion of PPPs from developed countries to the developing countries.

To investigate the critical factors for successful implementation of infrastructure related PPP projects and stakeholder perceptions thereof under local context.

Therefore, a case study of PPPs in Pakistan is being carried out which will focus upon projects relating to power and road infrastructure sectors.

4. Why have I been chosen?

During the first phase of research, semi- structured interviews are being planned with a view to solicit your opinion on the given topics (list attached as Annex – A). You have been chosen as a participant for this research due to following consideration(s):

You are an expert having sufficient knowledge about the research topic

You have the requisite experience of working in an operational PPP project in Pakistan

Your current position/ job status relates to the implementation of PPP projects for infrastructure development in Pakistan.

You are considered to be an important stakeholder in the field of infrastructure projects undertaken/ planned under PPP arrangement in Pakistan.

5. What would I be asked to do if I took part?

After going through the contents of this participant information sheet, you can contact the researcher to seek any further clarifications to enable you to make an informed decision about your participation in this research. You can thereafter opt to sign the accompanying consent form to confirm your participation in this research. Interview shall be conducted by the researcher at a mutually convenient date & time. For your convenience, a broad outline of questions/ topics to be discussed during these interviews is attached with this sheet as Annex – A.

6. What happens to the data collected?

The data collected through interviews / questionnaire survey shall be stored in shape of hard copies (e.g. printed paper documents etc) and/or soft copies (electronic/ scanned documents and audio/video recordings stored on CDs/ DVDs/ other electronic storage devices). This data shall be retained for a period of ten years as per requirements of academic practise and shall not be shared with any third party or organization without the explicit permission of the participants.

7. How is confidentiality maintained?

Confidentiality of the data collected through this research will be ensured through use of coding system to refer to each participant (removing all identifiers) and breaking the linkage between data and identifiable individuals (through use of pseudonyms). The coding frames shall not be stored on the PC / laptop which contain the data base. However, it is possible that identity of the participants might be recognised by others due to specific comments / views. Therefore, researcher is not in a position to offer unequivocal guarantee of confidentiality and anonymity towards the information collected during the course of this research. However, participants may decide at their own to skip any specific questions which might compromise their anonymity/ confidentiality.

8. Will interviews be video and/or audio recorded?

The researcher intends to record (video and /or audio) these interviews for reference and transcription purposes only. However, such recordings will only take place with your explicit written permission (recorded in the consent form) and in no case, these interviews will be recorded without such permission. In case you don't allow such recordings, the researcher will rely upon interview notes prepared during these interviews.

9. What happens if I do not want to take part or if I change my mind?

The participants are at liberty to stop or withdraw their participation in the research activity at any point in time during the conduct of the research without any fear or prior notice to the researcher and they are not required to intimate the explicit reasons for their decision to the researcher.

10. Will I be paid for participating in the research?

No direct or indirect monetary benefit / payments are available to the participants of this research. Therefore, it must be understood that your participation in this research is absolutely voluntary and free of charge.

11. What is the duration of the research?

In case of interviews, the expected duration of the interview is one hour (approximately) which may exceed this estimation in certain cases where the researcher and participants deem it necessary to continue the discussion in the interest of research.

12. Where will the research be conducted?

The research (interviews) will be conducted at a suitable place (most probably your own office) where you may feel satisfied about your personal privacy and confidentiality of your views (if so required).

13. Will the outcomes of the research be published?

The outcomes of the research shall be presented in a dissertation for award of a PhD degree at the University of Manchester, UK.

14. Contact for further information

You can contact the researcher during and after the research at the following email in connection with your queries relating to this research:

e-mail : farrukh.naveed@student.manchester.ac.uk

Mobile: +92 306 4248888 / +44 7424674417

15. What if something goes wrong?

In case anything goes wrong, please contact investigator of this research. His contact details are provided above. If you wish to make a formal complaint about conduct of this research please contact: the Head of the Research Office, Christie Building, University of Manchester, Oxford Road, Manchester, M13 9PL.

Broad Topics/ Questions for Semi – Structured Interviews

Overview of PPPs in Pakistan:

- Since when PPPs have started to be used for infrastructure related projects in Pakistan?
- Rationale for PPP initiatives in Pakistan in social, economic and political contexts.
- Circumstances (endogenous/exogenous) which lead to introduction of PPPs in Pakistan
- Role of various stakeholders in diffusion of such partnerships into Pakistani context.
 - Role of International Donors/ Multi-lateral aid agencies.
 - Role of International Financial Institutions (IFIs).
 - Regional/ other influences for adoption of PPP for Pakistan
 - Role of local stakeholders
 - Any other stakeholders?
- Mechanism adopted for diffusion of such partnerships in Pakistan?
- How would you describe the process of diffusion of PPPs in Pakistan?
- How would you describe Pakistan's experience towards diffusion of PPPs and local policy adoption?
- What are the local contextual factors which affect the PPP policy adoption process (social, political, legal, and economic etc.)?
- What is the importance of stakeholder management towards successful implementation of PPP projects?
- Do all stakeholder groups share the same goals and expectations?

- Does various stakeholder attributes (i.e. power, legitimacy, urgency, position values, knowledge level and proximity etc) vary for different stakeholder groups?
- How these attributes can be used to assess the impact of any specific stakeholder upon possible outcome of the project?

CRITICAL FACTORS IN SUCCESSFUL APPLICATION OF INFRASTRUCTURE PROJECTS UNDER PUBLIC PRIVATE PARTNERSHIP MECHANISM

- Socio- economic factors.
- Legal coverage for PPPs.
- Institutional support and capacity issues in terms of public and private sector stakeholders.
- Critical factors for each stage of lifecycle of PPP related infrastructure projects (Planning, Bidding, Procurement, Monitoring of the operations during concession period, Project closure at the end of concession period).
- Factors which you consider to be negatively critical (which often lead to failure of PPP projects in Pakistan).
- Factors which you consider to be positively critical (which often lead to successful PPP projects in Pakistan).

ANNEXURE – C Questionnaire for Quantitative Data Collection

Institute of Development Policy &
Management (IDPM)
School of Environment, Education &
Development (SEED)
The University of Manchester
Oxford Road
Manchester, M13 9PL
United Kingdom
www.seed.manchester.ac.uk/idpm

**SUBJECT: REQUEST FOR PARTICIPATION IN A RESEARCH PROJECT AT THE
UNIVERSITY OF MANCHESTER, U.K.**

Dear Sir/ Madam

I am writing this letter to seek your participation in a questionnaire survey for a research project being carried out at the University of Manchester, UK titled as “**Public Private Partnerships (PPPs) for Provision of Public Infrastructure in Developing Countries: A Case Study of Pakistan**”. The aim of this research is to evolve a framework of key factors which influence the successful adoption of PPPs as a tool for infrastructure growth in the developing countries. In order to achieve the above said aim, the proposed research has following objectives:-

- I.** To study the use of PPPs for infrastructure growth and analyze the process of diffusion of PPPs from developed countries to the developing countries.
- II.** To investigate the critical factors for successful implementation of infrastructure related PPP projects and stakeholder perceptions thereof under local context

For this purpose, a questionnaire survey is being conducted for energy and road infrastructure sectors of Pakistan as PPPs have been in vogue in Pakistan especially in energy sector through IPPs and few road infrastructure projects have also been procured in Punjab & Sindh provinces of Pakistan under BOOT (Build-Own-Operate-Transfer) mechanism.

I shall be grateful if you can spare some time to complete the attached questionnaire by answering the questions on the basis of your experience/ knowledge about PPP projects. This questionnaire will not take much time to complete but your feedback shall be very crucial for the outcome of this research project. Further, I would also like to assure you that information collected through this survey shall only be used for academic research purposes and shall be treated as **strictly confidential**.

Once you complete the questionnaire, you can return the same as early as possible through email and/or post at the addresses given below. In case you need to discuss the questionnaire, please feel free to contact the undersigned.

Looking forward to your feedback/ response.

Yours sincerely

Farrukh Naveed

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IDPM, School of Environment,
Education & Development (SEED)
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United Kingdom.
Email: farrukh.naveed@student.manchester.ac.uk
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Postal Address in Pakistan:
62 – B, G.O.R. (III), Shadman, Lahore, Pakistan.

QUESTIONNAIRE SURVEY

PUBLIC-PRIVATE PARTNERSHIPS (PPPs) FOR PROVISION OF PUBLIC INFRASTRUCTURE IN DEVELOPING COUNTRIES: A CASE STUDY OF PAKISTAN

Dear Participant,

Thank you very much for your participation in this survey.

Part 1 of this questionnaire is about your personal details and work experience which will help the researcher in classifying your feedback. This information along with your response to the questions in the following parts shall be treated as **strictly confidential** and shall be used only for academic research purposes.

Part 2 of this questionnaire contains 15 questions with following 05 options:-

0=Not relevant; 1=Least Significant; 2=Fairly Significant; 3=Significant; 4=Very Significant; 5=Extremely Significant

You can answer each question on the basis of your personal experience/ knowledge about PPP projects by putting "X" in the relevant box.

Part 3 of this questionnaire contains 45 questions. For each question, there are 04 parameters which require your input/ ranking to indicate level of criticality of each factor viz a viz each of 04 parameters. Ranking options are as under:-

0 = Not relevant; 1 = Not Critical; 2 = Partially Critical; 3 = Critical; 4 = Very Critical; 5 = Extremely Critical

Your cooperation in this research is very crucial and shall be duly acknowledged.

With warm regards,

Farrukh Naveed

PART 1

Name: **Gender (optional):** Male ☐ Female ☐

Qualification: **Age (optional):-** Years

Organization: **Total work Experience:-** Years

Current Position/ Designation: **Experience in current position:-** ... Years

Has your organization experience of dealing with PPP projects in Pakistan?

No ☐ Yes, One ☐ Many ☐

Nature of PPP projects : Energy ☐ Roads ☐ Other ☐

Please describe your nature of experience/ role in PPP projects in Pakistan:

.....

Which stakeholder group do you represent?

Public Sector Partners (i.e public sector organizations dealing with PPP projects in energy/ road infrastructure projects) : ☐

Private Sector Partners (dealing directly or indirectly with PPP projects in energy / road infrastructure projects): ☐

Others (all other national/ international stakeholders having direct/ indirect stakes in PPP projects): ☐

PART 2

CRITICAL FACTORS FOR ADOPTION OF PUBLIC PRIVATE PARTNERSHIPS (PPPs) IN							
QUESTIONS		STAKEHOLDERS' PERCEPTION INDEX					
		Not Relevant	Least Significant	Fairly Significant	Significant	Very Significant	Extremely Significant
		0	1	2	3	4	5
Exogenous (External) Factors Influencing Adoption of PPPs							
1	Policy transfer from developed countries through conditions attached with loans/ aid for promoting public – private partnerships as a tool of infrastructure development						
2	Role of IFIs (International Financial Institutions) and multi-lateral donor countries/ agencies as policy transfer agents in promoting private sector participation in development						
3	Policy transfer due to regional/ international learning, economic competition or imitation						
4	Administrative reforms - encouraged by IFIs/ multi-lateral donors to facilitate promotion of PPPs						
Endogenous (Internal) Factors Influencing Adoption of PPPs							
5	Economic development pressure						
6	Need of foreign direct investment to boost local economy						
7	Rising gap between demand and supply of infrastructure/ services						
8	Lack of domestic resources for financing the infrastructure needs						
9	Avoiding public sector borrowing limits set in the annual budgets						
10	Off- balance sheet financing for infrastructure with a long repayment period (i.e. the whole cost of the project is not shown as an up-front liability in the budget books)						
11	Political pressure/ agenda of political parties/ governments						
12	Private incentive						
13	Inefficiency because of public monopoly and lack of competition						
14	Perceived inefficiency/ in-action of the public sector						
15	Lack of business & profit generating skills of the public sector						

PART 3

CRITICAL SUCCESS FACTORS (CSFs) FOR IMPLEMENTATION OF PPP PROJECTS IN DEVELOPING COUNTRIES

Based upon your knowledge/ expertise and perception, please answer each of the following 04 parameters for every CSF by putting a "X" in the relevant choice of scale ranging between 0 to 5. The ranking scale is explained as under:-

0 =Not Relevant ; 1 =Not Critical ; 2 =Partially Critical ; 3 =Critical ; 4 =Very Critical ; 5 =Extremely Critical

Parameter A : requires your input to reflect the level of criticality of each CSF towards successful implementation of PPP projects in developing countries perspective.

Parameter B : requires your input to reflect the criticality of each CSF specifically for public sector partners

Parameter C : requires your input to reflect the criticality of each CSF specifically for private sector partners

Parameter D: requires your input to reflect the criticality of each CSF specifically for other local / international stakeholders

CRITICAL FACTORS		STAKEHOLDER PERCEPTION INDEX (SPI)																			
		A					B					C					D				
							LEVEL OF CRITICALITY OF EACH FACTOR FOR EACH														
							Public Sector Partners					Private Sector Partners					Other Local / International Stakeholders				
							1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
POLITICAL FACTORS																					
1	Good governance																				
2	Broader political consensus towards adoption of PPPs as a policy tool for infrastructure growth																				
3	Political ownership of the highest level																				
4	Consistency /continuity of government policies																				
5	Stable administrative system capable of handling complex PPP projects																				
SOCIAL FACTORS																					
6	Social support																				
7	Public consultation and acceptance																				
8	Toll/Tariff is acceptable for end users																				
9	Trust in the government policies																				
10	Stable law & order																				

	<i>situation</i>																			
11	<i>Acceptance of the right of the private sector to earn reasonable profit for their investment in PPPs</i>																			
LEGAL FACTORS																				
12	<i>Predictable & reasonable legal framework</i>																			
13	<i>Strong judicial system</i>																			
14	<i>Government guarantees</i>																			
ECONOMIC FACTORS																				
15	<i>Stable & favorable economic environment</i>																			
16	<i>Sound governmental economic policy</i>																			
17	<i>Adequate local financial market</i>																			
18	<i>Stable macro-economic conditions</i>																			
STAKEHOLDER MANAGEMENT																				
19	<i>Stakeholder identification</i>																			
20	<i>Exploring stakeholder needs to the project</i>																			
21	<i>Engagement with stakeholders according to their areas of interest</i>																			
22	<i>Engagement with the stakeholders according to their expected level of impact</i>																			
23	<i>Selecting appropriate strategies to deal with stakeholders having different attributes (urgency, power, proximity) etc</i>																			
24	<i>Pre-empting the stakeholder reactions towards management</i>																			

	<i>strategies</i>																		
25	<i>Conflict management between stakeholders</i>																		
26	<i>Partnership spirit / commitment/ trust</i>																		
Technical/ Process Related Factors																			
27	<i>Due diligence in planning & implementing PPP projects</i>																		
28	<i>Value for money viz a viz public financing option</i>																		
29	<i>Economic/ financial viability of projects</i>																		
30	<i>Transparency in the procurement process</i>																		
31	<i>Efficiency gains in terms of time & cost</i>																		
32	<i>Strong & capable PPP unit</i>																		
33	<i>Strong public sector oversight throughout lifecycle of the projects</i>																		
34	<i>Trust between partners/ stakeholders</i>																		
35	<i>Strong/ experienced private consortium</i>																		
36	<i>Availability of long-term/ low cost financing</i>																		
37	<i>Standard contract documents; flexible enough for changes in output specifications</i>																		
38	<i>Risk sharing between partners</i>																		
39	<i>Substantial risk transfer to the private sector</i>																		
40	<i>Monetization of the risks based upon a transparent assessment</i>																		