

BARRIERS AND MOTIVATIONS FOR DEVELOPING TRANSPORTATION PUBLIC PRIVATE PARTNERSHIPS IN PAKISTAN

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ABSTRACT

This study has attempted to unveil barriers and potential opportunities for developing transportation public private partnerships (PPPs) in Pakistan. A list of barriers and motivational factors have been identified through literature review and then expert group discussions. Statistical analysis is then performed to comprehend the significance of factors for both public and private sector. The identified factors will help researchers and policy maker to address the potential obstacles in developing and managing transportation PPPs, and to enhance the associated motivational factors.

Keywords

public private partnerships; transportation; barriers; motivations; developing countries

1. INTRODUCTION

Public Private Partnerships (PPPs) are legal and specific departmental arrangements to facilitate private business activities in developing and managing public infrastructures. In a typical PPP arrangement private sector, partners are awarded concessions or long term contracts to develop and manage, or both, public transportation infrastructures [1]. A PPP offers benefits for public and private sector partners. For private sector partners, benefits come in the form of long term and sustained business opportunities and for public sector, it comes in the form of speedy and economic delivery of public projects. The value towards the public is further aided by risk transfer to a private sector entity, which reduces public expenditures significantly.

In the recent past a huge upsurge in transportation PPPs has been observed. The motivations behind adoption of transportation PPPs have argued on their usefulness in terms of extended efficiency, effectiveness and economy in comparison to conventional public procurement systems. Nevertheless, due to the long term nature coupled with huge non-recourse financial structures and reduced public control, many economists, journalists and social activists have criticized the provision of transportation PPPs. However, the

transportation PPPs have proved their worth by delivering projects on time and on budgets. The World Bank's database for private participation in infrastructure (PPI)[2] reflects a list of total 1150 transportation PPP projects that are successfully completed since 1990.

A PPP arrangement may have many variants; such as 'Build Operate Transfer (BOT)', 'Build Own Operate (BOO)', 'Design Built Finance & Operate (DBFO)' etc. All variants of PPPs actually depict the level of responsibility and risk sharing among public and private sector partners. Moreover, it also describes the level of freedom in terms of law and regulation applicability a private operator may enjoy. Figure 1 shows types of commonly adopted PPP and their respective level of responsibility.

Despite the proven success in both developed and developing country, Pakistan still lapses in attracting a notable amount of private investments in the transportation sector. This study is motivated by such a fact. This study therefore looks in the background of persisting problems that are acting as a barrier for developing new partnerships and then looks in to the possible motivations that attract government and private sector to develop transportation PPPs.

1.1 The Transportation PPPs in Pakistan

It is a sad fact that despite a huge potential in the local market, the share of Pakistan in adoption of transportation PPPs, in comparison with its

neighbouring countries is quite low. The World Bank's database of public participation in infrastructure [2] reflects quite surprising facts. The figure 2 shows the regional share of transportation PPPs in South Asia, in which India has clearly surpassed all other countries.

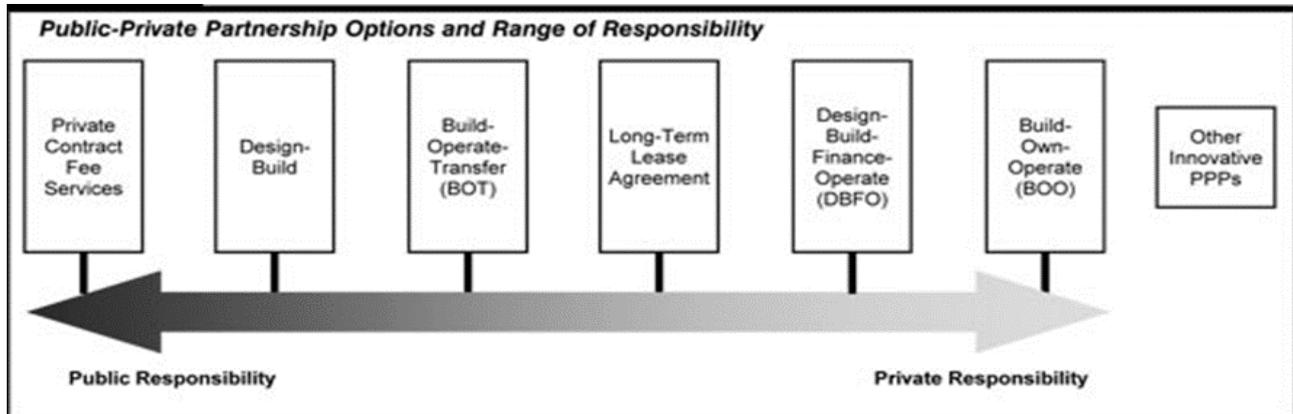


Figure 1 Variants of transportation PPPs (Source <http://www.fhwa.dot.gov/>)

2. RESEARCH METHODOLOGY

The research methodology is comprised of following consecutive stages;

- i. Literature Review
- ii. Selection of Participants
- iii. Expert Group Consultation
- iv. Statistical Analysis and Conclusions

i. Literature Review

A comprehensive literature on developing and managing transportation PPPs is reviewed to uncover factors act as barrier and motivation for both public and private sector partners. Among reviewed literature the most prominent publications are the ref [3] to [6], which reflected the number of factors identified by respective authors as PPP barriers and potential motivations to embrace PPP culture. Identified factors are then presented to the expert group for further rephrasing, adding and removing factors to illustrate potential domains of barriers and opportunities.

ii. Selection of Respondents

As this study has aimed at identifying barriers and motivational factors associated with developing transportation PPPs, identifying potential participants is the first step moving forwards after literature review. It is reminded that transportation PPP practice in Pakistan is still in initial stages, and therefore very few projects are currently operational. Among this small group of transportation PPP practitioners, very few were ready to be a part of this study; given a fact that information on PPP cases are usually kept confidential [7]

A total of 11 professionals specialized in the field of transportation PPPs have agreed to be a part of this study. The participants included director and deputy directors of PPP cell, three deputy directors of different department (working on PPP projects) of a public sector highway authority, a CEO and a financial analyst from two private sector companies and two academic researchers. Both public and private sector representatives depict a high profile in their organization in developing, managing, regulating, researching and providing training sessions on managing transportation PPPs in Pakistan. Therefore, the authors are assured that conclusions made based on the analysis are enough to depict the right picture of transportation PPPs in Pakistan. Table 1 shows the profiles of transportation PPP experts participated in this study.

Table 1 Profile of participants of the expert group

Nature of Organization	QTY	Designation	Experiment with PPP (in Years)
Public Sector Partners	2	Director and Deputy Director (PPP Cell)	9
Public Sector Partners	4	Deputy Director (Engineering); Deputy Director (Construction); Deputy Director (Revenue)	5
Private Sector Partners	3	CEO and Financial Analyst	10
Academic Researchers	2	Assistant Professor	6

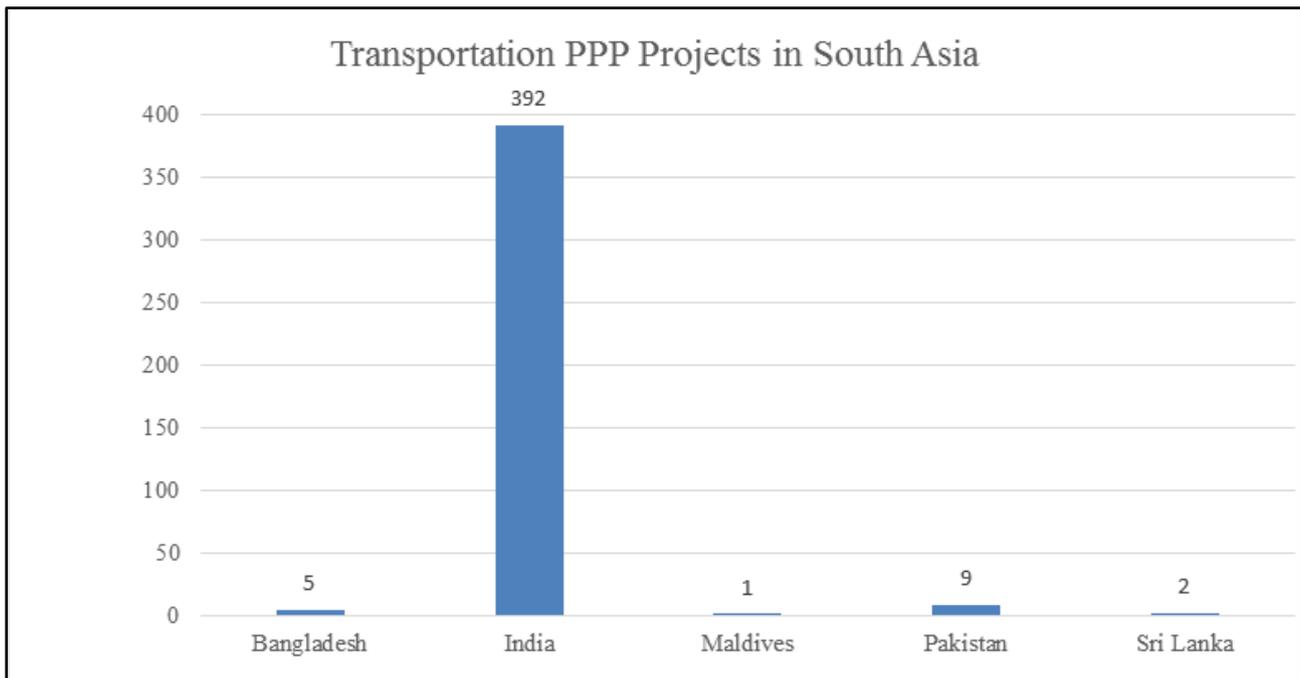


Figure 2 Regional share of transportation PPPs in South Asia

iii. Expert Group Consultation

The 11 personnel having PPP experience agreed to be a part of this study comprises the expert group. An 'expert group' is a cluster of personnel having certain attributes of expertise [8] in a particular field that is being investigated. The selection of experts is explained in the previous section. The expert group is consulted in two consecutive phases. In a first stage experts are asked to elaborate the general behaviour of PPP climate in Pakistan, which is then followed by a structured interview. In the second stage, the experts are presented with the identified factors, i.e., barriers and motivations, and are asked to rate its importance on a 5 point Likert scale. The collected responses are the statistically analysed.

iv. Statistical Analysis

Basic statistical tests conducted are included frequency analysis, central tendency of responses (i.e., mean and median and standard deviation). In addition, the Cronbach Alpha test is also conducted to assess if the designed scale is able to measure the construct. Cronbach's alpha is used to determine if the questionnaire variables are measuring the targeted domain [9; 10; 11]. By default, the Cronbach alpha test values range between 0 and 1. If the measured scores demonstrate good internal correlations among the items

or construct being measured, the value of Cronbach's alpha test must exceed 0.7. The Software Package for Social Scientists (SPSS) [20] has been used to perform Cronbach's alpha test. The Cronbach alpha's results for the factors, representing barriers and the motivational factors are provided in the table 2; which reflects the stability of the designed scales to measure the constructs.

Table 2 Cronbach's Alpha Statistics

Questionnaire parts	Cronbach's Alpha
Assessment of motivational factors to develop transportation PPPs in Pakistan	0.935
Assessment of barriers to develop and operate transportation PPPs in Pakistan	0.751

The mean score ranking [4] is performed to reflect the collected responses in each category. Table 3 shows the mean score ranking of barriers in implementing transportation PPPs; while table 4 shows the motivational factors for both public and private sector partners in developing transportation PPPs in Pakistan. The statistical scores illustrated by both tables are based on the cumulative responses collected during the expert group consultation. Due to a small number of participants, categorical analysis is not conducted.

Table 3 Mean score ranking of barriers in developing and implementing transportation PPPs in Pakistan

Rank	Barriers	Mean	Std. Deviation
1	Lengthy negotiation periods	4.64	0.50
2	Lack of awareness about PPPs in public sector officials	4.45	0.69
3	Poor understanding of PPPs by politicians/ decision makers	4.36	0.81
4	Lack of ownership and support for PPP programs by the government	4.18	0.75
5	Lack of capacity in public (and private) sector (at the working level) concerning project development and implementation	4.09	0.83
6	Lack of public sector project development funds	3.55	1.13
6	Difficulties in acquiring long-term finance	3.55	0.93
6	Lack of coordination between governmental institutions	3.55	0.93
7	No provisions by the governments on incentives/ subsidies/ viability gap funding	3.45	1.04
7	Land acquisition difficulties	3.45	0.93
8	Contagion effects of domestic/ regional economic and political environment	3.36	0.92
9	High transaction and bidding cost complex contracts	3.27	0.65
10	Absence/ inadequate Institutional framework on PPP process	3.18	0.75
11	Inadequate legal framework on PPPs	2.91	0.70
11	Un-availability of model concession agreements	2.91	1.04

3. DISCUSSIONS ON RESULTS

3.1 Barriers in developing transportation PPPs

The results in this part have surprised the author, as it differs what is previously established hierarchy of transportation PPP barriers in Pakistan. The top ranked barrier is 'lengthy negation periods', which is also internationally highlighted by many authors. Nevertheless, barriers ranked second to sixth are quite important and most visible in the local market and also highlighted by interviewees as well.

The interview highlighted a fact, even for the personnel working on PPPs, that PPPs are mean to reduce their authority over project. Even one interview also indicated that at some places PPPs are considered as

selling out national transportation assets and therefore they are mean to destroy public jobs and public ownership of the infrastructure. Feared with losing jobs and authoritative power, consequently, personnels are not efficient in developing new or managing existing transportation PPPs.

The participants also highlighted a fact that transportation PPP program in Pakistan has suffered through political interference. The political sources are found influencing from project conceptualization to selection of private partners. Sometimes, the political intervention is not the only force authorities to award contracts but also to influenced by other means of corruption such as bribes or other tangible advantages.

Lack of capacity in public institution is also highlighted as a major barrier. The lowered capacity is, in fact, coupled with the second ranked barrier, i.e., 'lack of awareness in PPP'. The expert group also highlighted that many public organizations look at the private sector partners as 'from a foreign land to educate public personnel'. There is no local institute that provides basic training on procuring PPPs. In fact, one interviewee highlighted a fact that not many people having knowledge of PPP system don't want to work for the government due to the facts of low pay and high political influence in public institutions.

Among other barriers, 'lack of coordination between governmental/ public institution' is the one working at its peak in Pakistan. The ref [7] highlighted M9 motorway project in Pakistan that went fail because of interdepartmental conflicts.

3.2 Motivational factors to develop transportation PPPs in Pakistan

All identified motivational factors have achieved mean scores above 3.5, determining their level as 'significant level'. The top motivational factor, for public sector partners, is 'unavailability of the funds to develop public infrastructures', and the same is highlighted by the transportation PPP experts working with the National Highway Author of Pakistan (i.e., part of the expert group). The second ranked motivation factor, i.e., 'to acquire private capital' also highlights the fiscal deficit at public sector agencies of Pakistan. The third and fourth ranked motivational factors are internationally used as the slogan for the proliferation of PPPs; the results have also shown their importance in developing countries like Pakistan. Nevertheless, the

desire to overcome fiscal deficits tops the list of motivation factors.

Table 4 Mean score ranking of motivation factors

Rank	Motivation factors	Mean	Std. Deviation
<i>Transportation PPP motivation factors for public sector partners</i>			
1	Unavailability of funds to develop public infrastructures	4.64	.674
2	To acquire private capital for public works	4.36	.809
3	To achieve rapid/ speedy delivery of infrastructures	4.27	.905
4	To achieve extra value (economy + efficiency + effectiveness) for public	4.18	.874
4	To increase private participation in public services delivery	4.18	.751
4	Technology transfer and building public institutional capacities	4.18	.751
5	To reduce public borrowing/ expenditures	4.09	1.136
6	To develop a competitive market for infrastructure and associated service delivery	3.91	1.044
<i>Transportation PPP motivation factors for private sector partners</i>			
1	High profits	4.64	.674
2	Stable and long term demand	4.45	.934
3	Less competition	4.27	.467
4	Higher/ reliable guarantees by the government and mediator agencies (e.g., the World Bank etc.)	4.09	.831
5	Promised off-take agreements	3.91	.831
6	Supportive government/ public institutions	3.36	.809

The high scores, though relative low ranking, the public sector partners also found interest in technology transfer and developing a competitive transportation PPP market.

For private sector partners, the top three ranked motivational factors are quite obvious. The top three motivations of private sector partners, i.e., high profits, stable and long term demand and less competition, shows the profit making behavior of private markets. The similar fact is highlighted by one of the interview at NHA that most of the PPP that are in operational phase or in the developing phase offers stable demand or rather it would be right to say that most of them are offering monopolistic opportunities. In fact, among most of the national transport network, inter-modal

connections are quite less; and a majority of the operational PPPs contain quite stable and long term demand. On one hand, it offers an opportunity to attract private capital, but on other hand it raises the issues like preserving social welfare, especially in setting toll prices. Conflicting with social welfare, a participant highlighted a case of tunnel PPP in the province of Baluchistan, which went abruptly fail as the users refused to pay.

4. CONCLUSION

This study has attempted to assess the barriers and factors that motivate public sector partners in developing and managing transportation PPPs in Pakistan. A hybrid research methodology that comprises interviews and questionnaire is adopted. Nevertheless, both interviews and questionnaire have offset each other to develop a holistic picture of transportation PPPs in Pakistan. The authors have identified 11 experts on transportation PPPs who are working in Pakistan and exhibit important roles in current PPP climate. The information collected from identified experts provided a useful insight on the various aspect of developing, managing, operating and regulating transportation PPPs.

This study has successfully identified motivation factors and barriers in developing and managing transportation PPPs. A total of 11 barriers in developing transportation PPPs has been identified. Lengthy negotiation periods, lack of awareness about PPPs in public sectors and Poor understanding of PPPs among politicians are found as the top three barriers. 14 factors are then identified as motivational factors, which are then categorized separately for public and private sectors. Unavailability of funds, acquiring private capital and speedy project delivery are identified as motivation for public sectors, while for private sectors, high profit, stable and long term demand and monopolistic opportunities found as motivation to take part in developing transportation PPPs with Pakistan government. The results, i.e., barriers and motivational factors, depicted by this paper will help practitioners in developing new policy guidelines for facilitating PPP culture in Pakistan.

5. ACKNOWLEDGMENTS

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