

Assessing Country's Readiness for adopting Transportation Public Private Partnerships: The Case of Pakistan

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Abstract: *Public Private Partnerships (PPPs) are seen as the opportunity to circumvent the budgetary and technical constraints to develop public infrastructures. PPPs are representing a useful tool for developing nations to boost the economic development by means of inducing private sector in public infrastructure business. Nevertheless, developing and managing PPPs has never been an easy job. The history is full of failed and flawed PPPs, which have yielded heavy losses to the public. As a matter of fact, there are a number of factors that collectively define the perfect environment for a successful PPP. The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) has developed an instrument, in a form of a questionnaire, which is prescribed as a test to assess PPP readiness for any country. This paper has adopted the similar questionnaire to determine if the national economic and institutional conditions in Pakistan are sufficient to develop transportation PPPs that can deliver value to the public. The results yielded by the test have shown that Pakistan still lacks the satisfactory level of necessary factors, which are considered a precursor. Such, identification of this study will help policy makers in understanding the persisting issues pertaining to the development of transportation PPPs in Pakistan, and will help the private sector investors in better understanding of the local market.*

Keywords –*transportation; public private partnerships; readiness assessment; Pakistan*

I. Introduction

Private sector involvement has always been a constituent of economic growth. With growth, comes the requirement of infrastructure. Or, with the availability of better infrastructure, comes along the economic growth. The participation of private entities in partnership with government agencies to build the infrastructure brings a win-win situation for both the public and the private sector [1]. The developed economies, and even the developing ones, have recognized the importance of the private sector's role in the economic and social development [2].

Public Private Partnership (PPP) is a tool that enables efficient partnership between a public sector organization and a private sector entity. A PPP may have many types; such as 'Build Operate Transfer (BOT)', 'Build Own Operate (BOO)', 'Design Built Finance & Operate (DBFO)' etc.,[3]. All variants of PPPs actually depict the level of responsibility and risk sharing among public and private sector partners. The PPPs facilitate governmental agencies in building and managing public infrastructure by means of averting restrictions of limited resources, reducing the risks associated with project execution, refuting the problems of funds shortages; and creating a prospect business for private sector to invest in infrastructure market. Since the requirement of infrastructure is always there, and the budgetary allocations for development cannot do the justice, especially in the case of developing countries. Therefore, the PPPs are the greatest opportunity for executing public projects with the extended economy, efficiency and effectiveness.

Transportation is one the major infrastructure sector in which PPPs have shown remarkable achievements. However, it is a sad fact that despite a huge potential in the local market, the share of Pakistan in developing transportation PPP market, in comparison with its neighboring countries is quite low. The World Bank's database of public participation in infrastructure [4] reflects the low investment standing. Such fact persists due to a reality that organizing PPPs is never been an easy job.

The recent PPP literature points to the importance of favorable PPP factors, especially, positive regulatory and public institutional framework [5]. However, the successful implementation of Transportation PPP requires far-more fundamentals. The fundamentals of PPP framework are refereeing to the availability of a variety of protocols in legal, political, social, institutional, and in policymaking domains, which must collectively recognize and regulate private business activities in public infrastructures. Therefore, without taking any of the above mentioned domains in considerations, any transportation PPP venture may not deliver the desired goals, and then may be rated a failure.

Previously many researchers have strived hard to evaluate and formulate factors that are necessary to make PPP projects a success. Among such efforts, the most cited and prominent findings are provided below;

The Ref [6] has identified six critical success factors (CSFs) in winning BOT contracts: (1) entrepreneurship and leadership, (2) right project identification, (3) strength of the consortium, (4) technical solution advantage, (5) financial package differentiation, and (6) differentiation in guarantees. The approach of identification of potential success factors is then succeeded by the reference [7] by broadening the scope to other forms of PPPs. The reference [7] has presented five critical success factors (CSFs), with sets of sub success factors, for infrastructure development PPPs. The five CSFs are (1) favorable investment environment, (2) economic viability (3) reliable concessionaire with strong technical strength (4) sound financial package and (5) appropriate risk allocation via reliable contractual arrangements. The reference [9] then has evaluated CSFs for private finance initiative (PFI), a variant of PPP, projects in the United Kingdom. Besides the CSFs approach, massive research has been conducted on other PPP issues. For example, [8] has worked out methods and criteria for selection of concessionaire, The reference [10] has presented a knowledge based approach for PPP stakeholder management, and the reference [11] has applied alliance principals for better outputs of PPP projects.

All such factors, collectively determines a mature environment to develop a PPP or a transportation PPP that could yield benefits for both, the public and the private sector. Similarly, this study attempts to identify the readiness of Pakistani environment to embrace transportation PPPs. For this purpose, a questionnaire developed by the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) [12] is used with slight modifications in its measuring scales. This paper intends to capture PPP readiness to develop transportation PPPs in Pakistan. The following paragraphs further elaborate on the methodology adopted.

II. Research Methodology

The research methodology is divided in three sequential phases, i.e., as follow;

1. Design of transportation PPPP readiness assessment instrument
2. Selection of participants
3. Expert group consultation
4. Statistical analysis and interpretation of results

1. Design of transportation PPPP readiness assessment instrument

The instrument to assess a country's readiness to embrace transportation PPP regime is borrowed from the Transport and Tourism Division department of The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) [12]. The ESCAP's [12] questionnaire instrument, titled 'Public Private Partnership Readiness - Self Assessment Form', contains the most rigors among all other available instruments or researches done previously.

The questionnaire is subdivided in two main parts. The first part tends to focus 'indicators on general business background', which is assessing the availability and status of fundamental factors that assures positive gestures for private investments. The indicators on general business backgrounds are then assessed under four subheads, i.e., (i) macroeconomic environment, (ii) business climate, (iii) financial environment and, (iv) legal and governance Environment. The second part of the questionnaire is designed to solicit information on factors pertaining specifically to the establishment of PPPs. The indicators assessing PPP environment are, (i) legal and regulatory provision for PPP, (ii) PPP policy framework, (iii) PPP capacity, (iv) PPP process: project selection and contracting, (v) PPP process: post-selection, and (vi) social dimension of PPP policy.

2. Selection of participants

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 the PPP cell of the National Highway Authority, 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 respective organizations 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

Nature of Organization	QTY	Designation	Experiment with PPP (in Years)
Private Sector Partners	3	CEO and Financial Analyst	10
Academic Researchers	2	Assistant Professor	6

Table 2 the scores attained by the transportation PPP readiness assessment test

<i>Indicators on general background</i>		Mean	St. Dev
Macroeconomic Environment			
1	Satisfactory balance of payments position	3.27	0.86
2	Low unemployment rate	3.09	0.51
3	Stable and reasonable real interest rates	3.09	0.90
4	Acceptable debt service ratio	3.09	1.08
5	Satisfactory growth rates in key sectors	3.00	0.74
6	Business confidence high	2.82	1.03
7	Stable exchange rate	2.82	0.83
8	GDP growing at an acceptable rate	2.73	0.86
9	Fiscal budget balance	2.73	1.05
10	Price stability	2.64	0.88
Business Climate			
11	Education produces sufficient quantity of sufficiently skilled graduates	3.36	0.77
12	Few restrictions on repatriation of profits	3.18	0.57
13	Convertibility of foreign exchange	3.18	0.83
14	Rational, equitable and predictable taxation policies	2.91	0.90
15	Reasonable tax levels for corporations	2.91	0.51
16	Possible to register and get permission to start up a new business quickly and easily	2.91	1.00
17	Physical infrastructure adequate	2.91	0.67
18	Fields of specialized education appropriate for country needs	2.82	0.57
19	Precedents shows government to be responsive to PPP business concerns	2.73	0.62
20	Commitment to maintain policy continuity	2.64	0.77
Financial Environment			
21	Effective financial regulatory regime in place	3.82	1.03
22	Developed banking system services corporate needs	3.73	0.62
23	Developed equity markets	3.45	0.78
24	Credit rating agency(s) exist and offer ratings on individual businesses	3.27	0.96
25	Developed pension and insurance market	3.18	0.72
26	Clear and effective provision for bankruptcy and limited shareholder liability	3.18	0.94
27	Financial sector experienced in assessing long-term lending decisions	3.18	1.19
28	Bond market exists and is open to private participation	3.00	0.74
Legal and Governance Environment			
29	Environmental laws are clear and transparent and are all available from a single source	3.45	0.89
30	Press is free, formally and in practice	3.27	0.96
31	Government procurement is fair and transparent in practice	2.91	1.31
32	Property rights effectively enforced, and compensation for expropriation is fair	2.82	1.11
33	Community and stakeholder participation in government policy making	2.82	1.03
34	Labor legislation effective in protecting workers' wages and safety	2.82	1.11
35	Judiciary demonstrates competence, independence and efficiency	2.73	1.05
36	Environmental protection adequate	2.73	1.14
37	Effective protection for intellectual property, including business models	2.64	0.98
38	Government addressing problems of corrupt corporate practices	2.64	1.07
39	Effective political commitment to eradicate public sector corruption	2.55	1.23
40	Political commitment to public and private financial transparency	2.45	0.99
Indicators focusing on PPP issues			
Legal and Regulatory Provision for PPP			
41	Authority and procedures are clear for acquiring rights of way	3.73	0.96
42	Legal basis for private sector participation in PPP is clearly defined	3.45	0.89
43	Limited restriction on participation of foreign investors in PPP projects	3.45	0.99
44	Regulatory authority is clear for all PPP types expected	3.36	1.07
45	Powers and resources are adequate to regulate PPP	3.36	0.98
46	Accounts of PPP projects available to regulators and subject to effective query	3.36	1.07
47	Price regulation sufficiently flexible to adjust to major cost changes	3.18	0.83
48	Judiciary understands and accepts PPP policy framework	3.00	1.21
49	Price and quality of PPP monopolies regulated to protect consumers and others	3.00	1.13
50	Regulators demonstrate competence, independence and efficiency	2.91	1.16
PPP Policy Framework			
51	PPP policy has clearly allocated authority and responsibility within the parts of government	3.73	1.14
52	Distinct process for unsolicited PPP proposals in policy framework	3.73	1.05
53	Projects are integrated with the national and local planning process	3.73	1.05
54	Project support requirements are integrated with government budget process	3.73	1.05
55	Policy framework generates commercially viable project proposals	3.64	1.15
56	Criteria for project support by government are clearly defined	3.64	1.30

57	Effective process defined for proposing, identifying and structuring projects	3.55	1.30
58	PPP policy undergoes evaluation and revision in response to experience	3.45	1.30
59	Private participation in PPP projects has clear basis in policy, with broad government support	3.18	1.11
60	Sectoral competition and regulatory regime chosen to limit market power	3.18	1.11
61	Stakeholders can participate in project planning and implementation	3.09	1.24
PPP Capacity			
62	PPP process has sufficient political support, due to positive record or political "champion"	3.55	1.16
63	Defined government mechanisms in place to coordinate PPP needs	3.27	0.96
64	Staff can assess outside work, including feasibility studies and risk mitigation strategies	3.18	0.72
65	PPP documentation/best practices available in public domain	3.18	1.34
66	Technical capacity sufficient to ensure construction and service standards	3.09	0.79
67	Provision for assisting line agencies and local government in undertaking PPP projects	2.91	0.90
68	Staff capable of routine operations in PPP project development	2.82	1.11
69	Staff of relevant government agencies have resources/information for managing PPP process	2.64	0.88
70	Staff aware of legal, financial and basic technical issues in PPP projects	2.64	0.88
71	Adequate resources/facilities and expertise to train in PPP	2.45	0.66
PPP Process: Project selection and contracting			
72	Bidders given proper information, including requirements for submitting proposals	4.00	1.13
73	Verification of business information used in sponsor selection	3.73	1.35
74	Objective criteria for project sponsor selection are known and applied	3.73	0.86
75	Transparent procedures specified for all stages of the PPP process	3.55	1.08
76	Project feasibility studies undertaken for larger proposals	3.55	1.30
77	Environmental and social impact assessment required	3.45	1.23
78	Customer safety assessment fully incorporated	3.36	1.37
79	Conflict of interest results in exclusion from contracting	3.27	1.21
80	Competitive tendering process is transparent in practice	3.27	1.29
81	Predictable staging of project identification, selection and contracting	2.82	0.94
PPP Process: Post-Selection			
82	Defined performance requirements available prior to bidding	4.00	0.74
83	Penalties enforced for failure to meet contractual obligations	3.64	1.23
84	Technical regulation is appropriate to project requirements	3.64	0.98
85	Contracts for PPP are irrevocable except through due process	3.45	1.08
86	Conflict resolution process clear, including alternatives to judicial resolution	3.45	0.99
87	Rulings by technical and economic regulators can be appealed	3.45	0.99
88	Performance monitoring effective and transparent	3.27	1.14
89	Arrangements for risk sharing are sensible and manageable	3.18	1.34
90	International arbitration recognized and effective for dispute resolution	2.91	1.08
Social Dimension of PPP Policy			
91	Resettlement and rehabilitation provided for communities disrupted by PPP projects	3.18	1.27
92	Planning system addresses the needs of the poor and marginalized	3.09	0.90
93	Pricing policies reflect the needs of the poor in basic services	3.00	1.04
94	Funds available for projects with added social welfare purpose	2.91	0.79
95	Mechanism for undertaking community-based infrastructure projects using PPP	2.91	0.90
96	Community instruments (such as cooperatives) for equity participation in PPP available	2.64	0.77
97	Civil society views PPPs as viable means of providing infrastructure and basic services	2.36	1.07
98	Program to educate the public concerning the need for user-pays principle	2.09	0.51

Table 3 Summarized results of transportation PPP readiness assessment

Indicators on general background	Total score	Mean score	% gained score
Macroeconomic Environment	45	29.27	65.05%
Business Climate	50	29.55	59.09%
Financial Environment	40	26.82	67.05%
Legal and Governance Environment	60	33.82	56.36%
Indicators focusing on PPP issues			
Legal and Regulatory Provision for PPP	50	32.82	65.64%
PPP Policy Framework	55	38.64	70.25%
PPP Capacity	50	29.73	59.45%
PPP Process: Project selection and contracting	50	34.73	69.45%
PPP Process: Post-Selection	45	31.00	68.89%
Social Dimension of PPP Policy	40	22.18	55.45%
Total	485	308.55	63.62%

3. 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 [13] 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 behavior of PPP climate in Pakistan, which is then followed by a structured interview. In the second stage, the experts are presented with

the questionnaire, and are asked to rate its importance on a 5 point Likert scale. The collected responses are the statistically analyzed.

4. Statistical Analysis

Basic statistical tests conducted are included frequency analysis, the 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 [14; 15; 16]. 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 responses collected on the questionnaire is found as 0.991, which reflects stability and higher consistency.

The mean score ranking is performed to reflect the collected responses in each category. Furthermore, ESCAP [12] has defined a rule for calculating the readiness assessment questionnaire responses, and the same method is then applied in this study. The method defined by the ESCAP [12] is simple, as it takes the average of all responses and then calculates the total score under each subhead and then totals it to reflect the readiness assessment in terms of percentage. Table 2 shows the scores attained by each factor and the respective subhead in the readiness assessment test. The summarized scores are then illustrated in the Table 3, to demonstrate the country's readiness to embrace PPPs in the transportation sector. The readiness assessment conducted by this study has demonstrated 63.62% readiness, which shows that our economy is still in primitive stages.

III. Discussions on questionnaire survey results

The transportation PPP readiness assessment of Pakistan consists of two main parts; i.e., the indicators for general business background and the indicators focusing PPP issues. Indicators on general business backgrounds have attempted to evaluate the general behavior of business climate, especially financial and legal aspects. While, the indicators on PPP have attempted to identify capacity and provisions of facilitating private sector partners in general or specific area of public service and infrastructure delivery. As this study has focused transportation sector, therefore the results are explicitly demonstrating the readiness to develop transportation PPPs. Discussion on both categories is provided in following paragraphs.

Indicators on General Background

Among subheads in this part, the 'financial environment' has gained the highest score, i.e., 67.05. The financial environment pertains to the banking system, pension & insurance markets, bond market, equity market, effective financial regulatory regime, bankruptcy & limited shareholder liability, credit rating agencies, experienced financial sector, etc. The relative high scores by the participants of the expert group have shown confidence on the current financial environment.

The statistics for the 'macroeconomic environment' and the 'business climate in Pakistan' have scored quite near to each other. However, the percentage gained scores of around 60%, for both subheadings, are not sufficient enough to attract foreign investors.

Figure 1 contains a line chart depicting private investments in Pakistan [4] in various sectors since 1989. Among all sectors, the share of transport is at the lowest. The private investment trend shown by the figure 1 clearly confirms the notion illustrated by the readiness test that still transport sector in Pakistan need to be enhanced a lot.

The subhead 'Legal & governance environment' has marked the lowest scores in this category, which shows the need of huge improvement to attract private capital. The reference [17] has highlighted the economic consequences of judicial actions. The reference [17] has provided examples, based on previous cases highlighting PPP transactions, on the impedes associated with the judiciary system, which has quoted a conclusion as "After all of the approvals are obtained, there is a fear that the court of law may take *Suo-motto* cognizance of the transaction and may issue the stay order. Consequently, a lengthy and time consuming proceedings may occur to decide the case. Alternatively, some other party not pleased with the outcome of the executive decision, given by the court of law, may file a petition that is again admitted by the courts". Such kinds of actions may be right in some contexts, but the cost of the economy associated with their actions must also be addressed.

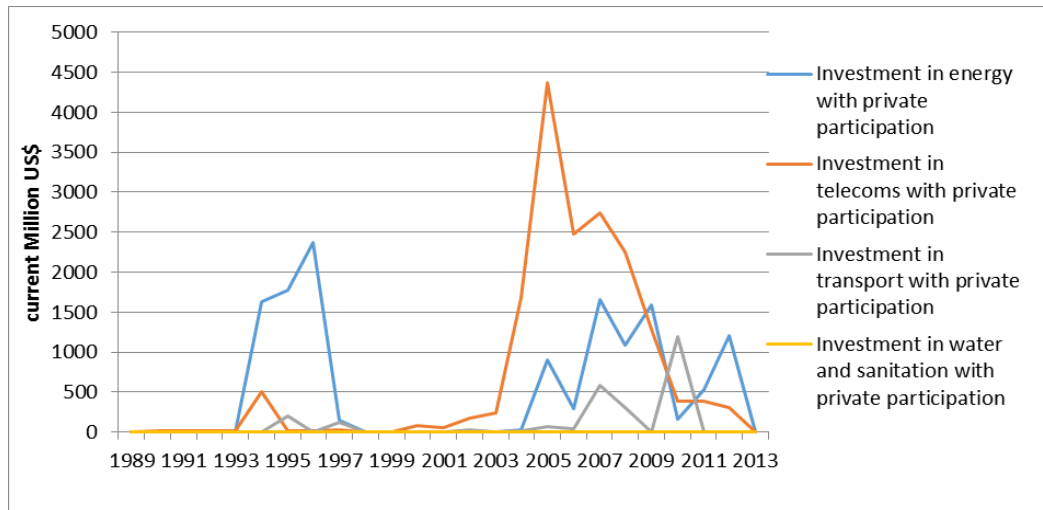


Figure 1 Private investments in Pakistan in various sectors since 1989.

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Indicators Focusing on PPP Issues

This part is divided in six subheads, i.e., systematically inspecting every fundamental aspect of developing and operating transportation PPPs. The total readiness indicator shows Pakistan’s readiness at 63.62%, however, if we look at the independent standing of indicators focusing PPP issues only, which is a bit higher at 65.2%. Nevertheless, this score is indicating a huge room of improvement in almost every aspect of PPPs. Among all sub-categories, the highest scores of 70.25% are found for PPP policy framework and lowest scores 55.45% for the social dimension of PPP policy.

The expert group consultation, while informally interacting, has revealed a fact that policy on the PPP framework is quite mature, and especially for the road sector it is quite clear. Similar is the reason that most of the transportation PPPs are in the road sector. Nevertheless, other transportation infrastructure sectors such as railway has started following the road sector and has embarked on very first PPPs [18]. However, the recent improvement in Bus Rapid Transport Systems (BRTS) has been seen. The examples are Metro Bus in the cities of Lahore and Islamabad. Nevertheless, the BRTS is still limited only to the province of Punjab. Few attempts of developing policy framework for local PPPs in taxi services have been made by the government in the province of Sindh, but still no successful outcome is witnessed.

The ‘PPP process’ has attained the second rank, with relative scores of 69.5%. Nevertheless, the situation of PPP process in terms of selecting and contracting lapses a lot from minimum requirement in many infrastructure sectors. For example, Capital Development Authority (CDA) is one of the prominent public sector institutions responsible for developing the capital territory. The CDA has no provision at all for facilitating any kind of PPP, a fact that is revealed by a participant of the expert group. However, the National Highway Authority of Pakistan, which is operating and regulating the largest segments of the country’s highway infrastructure has established PPP cell, which is responsible for timely and efficiently processing the PPP proposal and the consequent procurement process. Nevertheless, an interview with the expert group participant has identified that despite the availability of proper framework, PPP procurements are taking a long time to realize. Upon enquiring about an approximate time, a rough estimate tells, that it takes at least 1 to 2 years from calling bids to finalize the selection private sector partner.

In order to speedup PPP process and to bring PPP policy and its associated advantages on grassroots level, provincial PPP units have been established in Pakistan. Such units have shown quite improvements in

attracting private investors, and also have played an important role in bringing social and institutional understandings about PPPs and its advantages. The PPP units also have played a role in managing post concessionaire selection process, which includes finalizing the financial closure and deciding upon final allocation of the risk.

The expert group has identified a fact that, in the local scenario, the public sector has always wanted to transfer maximum risks to private sector partners, than to practice the fundamental law of the risk allocation, which emphasizes on allocation of a risk to the party able to mitigate it at the lowest cost. The expert group has also disclosed a fact that public sector institutions only wishes to retain legal and political risk.

The current 'legal and regulatory system' as an indicator on the PPP has scored 65.6%, which marks the need of improvement in the respective sector. This study has identified interesting facts on local legal and PPP regulating system. Following paragraph has summarized the findings on PPP associated legal system.

Pakistan's legal system offers complex structures, which is due to the fact that the national federation is organized in multiple layers, i.e., ministries, the divisions, statutory bodies, etc. Among many of these, no hardline authority distinction is prescribed. Many of these layers depend upon each other in-terms of running their governmental business. Within such kind of legal framework, there are many restraints within the statutory framework to facilitate laws on the PPP. Nevertheless, some statutory bodies such as the National Highway Authority (NHA) are given limited power to develop legal aspects of PPP, up to some extent.

The lack of effective arbitration system adds further to the uncertainty circling transportation PPPs. Pakistan has the oldest arbitration law (1940) among all South Asian Association for Regional Cooperation (SARC) countries [19]. Therefore, to facilitate a PPP contract, there is a dire need to develop new effective laws for an effective resolution system. All other common wealth countries have amended and improved their arbitration laws, but Pakistan is still dealing with the 1940's law of arbitration, in which parties still have to approach the court after the resolution of dispute through arbitration to make it a legal binding. The expert group consultation has revealed that foreign investors are sensitive to the existing arbitration system, and, therefore, have been seeking guarantees from international mediators, such as the World Bank etc., to get PPP conflicts matters resolved in any other foreign arbitrator's office.

The indicators on social dimension of PPP policy have scored the least, i.e., 55.4%. It is quite true that the current PPP system doesn't take notion of social welfare; or if it is considered, usually it is at its least. The expert group highlighted the strong need of community mobilization while developing transportation PPPs, especially when PPPs are meant to be developed on the only route corridors between two destinations.

IV. Conclusions

This paper has attempted to assess Pakistan's readiness to embrace PPP culture to develop new and manage, both new and existing, transportation infrastructures. For the purpose, an expert group consultation is used to gather information on general business and PPP environment. The expert group is then asked to rate a series of factors prescribed by the UNESCAP [12], which collective can reflect a country's readiness to start PPP programs. The collected responses are then analyzed to comprehend the status of factors necessary to build successful PPPs. The PPP readiness assessment has reflected the country's readiness assessment at 63.62%. If looking independent score of two main parts, then it is reflected that indicators on PPP issues have the readiness factor of 65%. Among sub-categories, the highest readiness scores of 70.25% and 69.45% were found for PPP policy framework and for PPP process of selecting and contracting respectively. Nevertheless, the low score of legal framework and the social dimension has reflected the strong need of improvement. Based on the total scores, it is concluded that Pakistan is still in primitive stages to be a PPP favorite for both local and foreign investors.

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