

## An Evaluation of Barriers obstructing the Applicability of Public Private Partnership (PPP) in Infrastructure Development

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### Abstract

Shortage in funds after the declining in oil prices since 2014, made Iraq government encourage private sector engagement in financing infrastructure projects through PPP. However, private sector reluctance was notable. Therefore, this research is conducted to assess if Iraq is a supportive environment for PPP projects development. 25 risk factors of PPP projects have been listed and organized within a questionnaire that was conducted with a participation of 98 respondents from public, private institutions and academics. Means comparison was used to rank and identify respondent agreement on assessing the level of importance of these risk factors, also nonparametric tests were used. Findings indicated that all respondents groups have agreed on ranking corruption on the top of barriers that government should deal with to ensure the success of PPP projects. Afterward scarcity of private funds came in the first place followed by insufficient public administration processes and then by the lack of legal framework followed by the delays in acquisition of land and while the lack of sovereign guarantee came at the fifth place. The perceptions of survey groups' respondents concerning the importance of risk factors differ, where both public and academics respondents have serious concerns regarding the private sector capacity to carry out the task and the availability of private funds. On the other hand the private sector concerns the availability of government incentives to support for infrastructure PPP projects. Overall findings indicated that government must work on building a solid enabling environment before the initiation of PPP approach in Iraq.

*Keywords:* PPP; Enabling Environment; Barriers; Risk Factors; Iraq.

### 1. Introduction

PPP defined as long-term contractual agreement between a public agency and a partner or consortium of companies from private sector to carry out the design, implementation, financing, operating and management of the infrastructure. In the partnership the responsibility of financing, constructing, asset management and maintenance, and service provision will be on the private partner; in return the private partner will obtain payments from the government and/or from user fees [1]. As PPP agreements depend on private funding it will be an efficient tool for delivering infrastructure and filling the gap between required capital cost and government limited financial resources in addition to cost-effectiveness [2]. A proper risk sharing assumes to transfer risk to the party that best able to control. Accordingly government should not transfer risks that private sector will not be able to control and manage [1]. PPP have been used worldwide in industrialized, industrializing, and developing countries. The purpose of PPPs adoption varies greatly from country to another, in industrialized countries like UK and Germany; PPP adopted in public service provision. Meanwhile industrializing countries, with tremendous needs for basic infrastructure like China and India, PPPs used to sustain rapid economic growth it's usually seen in power, water or road sectors [3]. In developing countries PPP adopted to overcome

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the shortage in the governments' financial resources or to fulfill conditions imposed by International Organizations to provide loans [4-7]. In the case of Iraq as developing country, Government of Iraq (GOI) faced a severe shortage in funding due the decline in oil prices in 2014, which made GOI suspend near 2700 under-construction infrastructure projects funded under the government capital budget projects [8]. As a solution to prevent destruction of the projects that had reached high percent of completion and to fulfill the shortage in basic services by new project too, the PPP appear to be as appealing solution. Accordingly, government encouraged governmental institutions to engage private sector in financing infrastructure projects that have been suspended due the financial crisis through public- private sector partnership to be another financing option. However, private entities' involvement in filling that gap was unpromising. Therefore, this study aims to explore major barriers and risk factors to PPP projects in Iraq using quantitative methods.

The paper consists of the following sections; section 2 discuss advantages & criticisms of the PPP, section 3 discuss the required conditions for successful application of section 4 review PPP experience and major barriers and risk factors impacting PPPs Projects in Middle East and North Africa (MENA) to take advantage of their experience and the similarities in conditions with Iraq as developing countries, section 5 discuss challenges and risks associated with PPP's contracts in Iraq, section 6 provides details about the applied research approach, section 7 highlighted Results discussions, and finally, section 8 summarizes overall conclusions of this paper

## 2. Advantages and Criticisms of the PPP

PPPs as tool for infrastructure projects development and provision coupled with many advantages, which chiefly resulted from PPP major three features: private fund, creativity and proper risk sharing [9]. Figure 1 shows PPP contracts main feature and advantages.

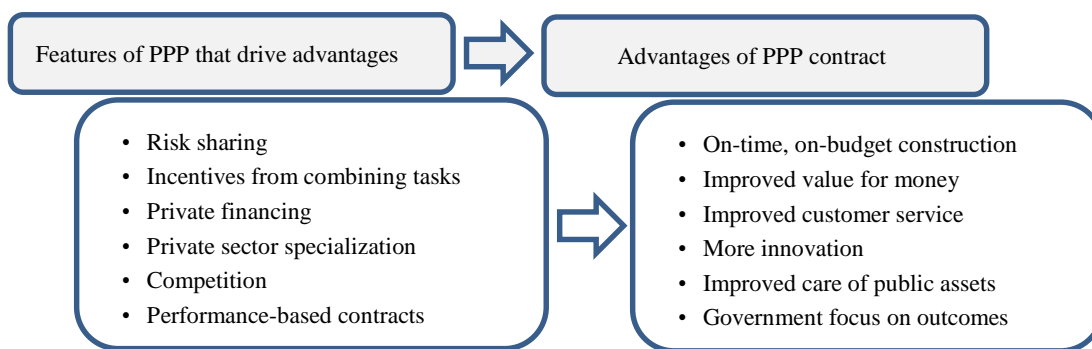


Figure 1. Main feature and advantages of PPP contracts [10]

On the other hand, critics on using PPPs for infrastructure provision are mainly about:

- Weakness and poor ability of public entities to manage the implementation of PPP projects, high costs of bidding poor ability in contracts design and bids formulation in addition to the need to hiring services' advisory [11-13].
- The complex nature of these contracts makes it difficult to structure PPP projects and predict its contingencies [14].
- Improper contracts' design may fail to deal flexibly to make the needed adjustments to boost public authority requirements in the provided services. Moreover, if risks weren't sufficiently allocated private partners this may lead to costly consequences on public authority [12].
- Added future expenditures resulted fiscal obligations which impose constraint on governments [9, 11].
- Long term contracts may lead to opportunistic behaviour and underinvestment [1].
- As private entities may not be able to borrow money with a low rate of interest as the public agencies leading to higher project capital costs [14]
- Investor's transparency about returns could be questioned, in addition to liabilities imposed by PPP projects on users and taxpayers [12].

## 3. Conditions for Successful PPPs

Although PPP considered being a promising approach for infrastructure development and the provision of services in the different countries around the world, PPP could be inadvisable for some government and for some projects. Accordingly, lessons learned from international best practices have identified conditions that should be fulfilled to increases the possibility of a successful PPP implementation [10, 15]. Alternatively, government can achieve value for money through traditional procurement by applying a sound procuring and oversighting procedures and strategies [16].

### 3.1. Committed Political Leadership

The transition in infrastructure's procurement from traditional public procurement to PPP is an approach adopted by political leadership and be obligated to by the top of governmental hierarchical. If PPP be committed at that level, the mobilization of resources needed for PPP success will be guaranteed. Building mutual trust between the different partners and stakeholders by establishing enabling environment that provide guaranties and safeguard equally for all partners and investors will also lay on the political leadership [17-19].

### 3.2. Project is Suited to PPP Model

Project that best suits the PPP model should have a number of the following features: 1) adequate number private companies a proper qualification to ensure competitive bidding; 2) Innovation possibilities; 3) project is self-financed ; 4) provide loop of feedback starting from price setting to a provision of service; 5) possibility of tasks bundling; 6) Possibility of proper risk transfer to private partner; 7) the need to obtain private sector specialization that public sector is lacking to; 8) Project outputs' specifications can be well defined and measured; 9) Large strategic projects to obtain a possibility of spreading out the capital cost of along the contract term; 10) An adequate preparation time to ensure the contract will be negotiated properly [20-22].

### 3.3. Institutional Structures and Legal/Regulatory Framework

There are fundamental principles for PPP implementation at the program level which include: 1) The availability of PPP institutional legal framework and Policy; 2) Developing competent PPP units where, the establishment of competent PPP units to deal with PPPs projects represents a substantial element in overcoming institutions' poor qualification and capabilities'; 3) Perception of PPP objectives; 4) Performance and method specifications [23, 24]; 5) Initiating a systematic assessment and revision of current legislation and regulations and the need for development of new ones; and the establishment of a standardized approval's processes and a sound interagency coordination to avoid and eliminate any institutional and/or regulatory barriers to PPP implementation [15], this may implemented on both levels local and national.

### 3.4. The Proper Risks Sharing

Allocating anticipated risks to the party that best able to manage and control it is the only way to achieve value for money. Furthermore, the lack of transferring enough risk to the private partner, will lead to the lack of motivations to achieve PPP expected objectives [25]. A proper risk sharing represent a major attribute of well-developed public entities managerial and technical abilities [15].

### 3.5. Law Authority and the Independence of Judiciary System

One of the most attractive factors for investors to undertake PPP projects is the Law authority and the independence of judiciary system in protecting contractual and ownership rights [17]. Another important factor is the clear and timely manner disputes' resolution procedures. Where government must set into place such procedures to ensure a good disputes resolution are available wherever disagreements arise throughout the agreement term [26].

### 3.6. Public Sector Ability

Government should work on three aspects to ensure a proper implementation of: 1) Consensus building between the different stakeholders including society to ensure acceptance of PPP projects; 2) Sustain an efficient PPP contract management throughout PPP project lifecycle; 3) highly qualified staff legally, financially, and technically apart from political impact to ensure that PPP optimum features risks sharing, value for money, and PPP project monitoring is achieved [20]. Building a well-qualified public entities technically and managerially is a major step in overcoming institutional constraints that may hamper the implantation of PPP projects [15].

## 4. PPP in Middle East and North Africa (MENA)

In developing countries there are four major themes should be taken into consideration to achieve a successful implementation of PPP projects and gain its favorable benefits; 1) macroeconomic indicators impacts, 2) political situation's influences, 3) organizational structures circumstances, and 4) factors associated to PPP project. It's important to understand that the elements of these themes are interrelated and all should be dealt with and improved [27] Figure 2, summarize these factors.

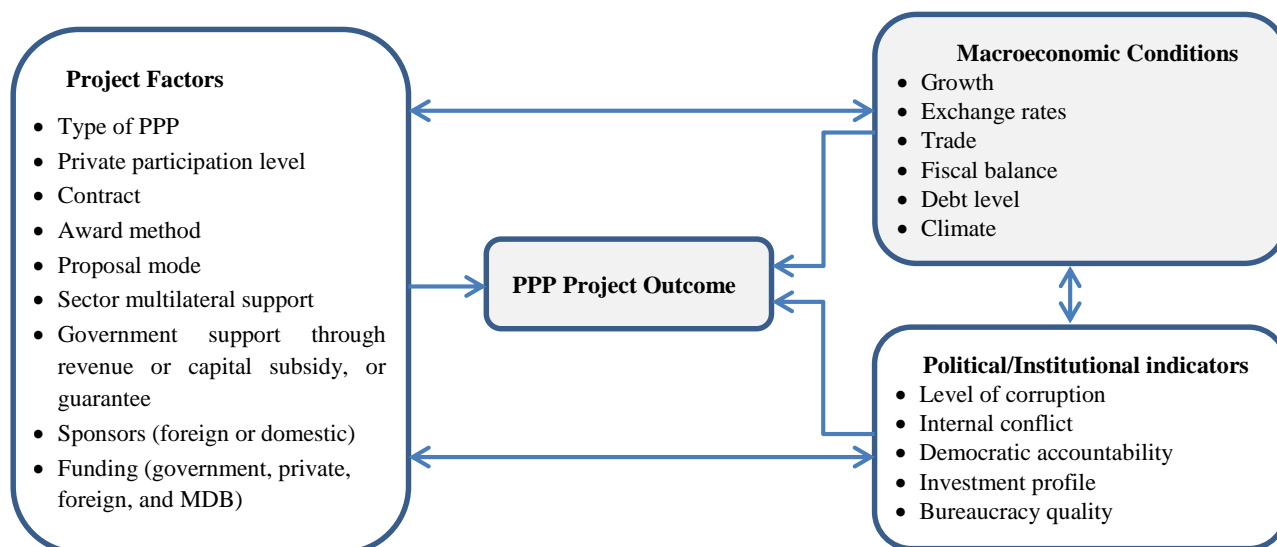


Figure 2. Factors influencing PPP project success and anticipated benefits [27]

MENA countries as other developing countries have unfavorable business environment with high level of potential risks resulted in investors' reluctance, in addition to the political and security turmoil which have made the situation even worse. This section will focus on six countries in the region which have passed through similar conditions to Iraq and have earlier experience with PPP and passed through conditions similar to the conditions that Iraq has passed through like; Egypt, Tunisia and Morocco, or have a well-developed experience with PPP projects implementation like Turkey, Dubai and Jordan who have recognized the importance of engaging private sectors in the development of infrastructure and started to found the required enabling environment for this participation by establishing the needed legal/regulatory framework to support the success PPP program implementation. The Main findings include:

#### 4.1. PPP Legal and Policy Frameworks in MENA

##### 4.1.1. Turkey

Despite the fragmented legal and institutional structure and improper interagency coordinating and management, Turkey succeeded in developing public entities' capacities to undertake PPP projects implementation. This can be clearly seen in a good number of PPP projects conducted in the different sectors since the 90s. PPP unit have been established in the Ministry of development (MoD) in 2007. The unit made a significant contribution in the Tenth Development Plan [28]. Table 1 summarizes the number of projects and their value in the six focus countries plus Iraq [29].

Table 1. PPP in Infrastructure throughout 1990 - H1 2017 in US\$ billion [29]

Country	Jordan	Morocco	Tunisia	Egypt	Turkey	Dubai*	Iraq
Total Investment in US\$ billion	13.348	32.848	7.052	26.776	168.616	9.351	11.444
Projects reaching financial closure	40	22	9	30	213	8	13
Sector with largest investment share	water & Sewerage	Ports	water & Sewerage	water & Sewerage	Roads	Social & Health	Ports
Infrastructure Sectors Reported	ICT & Sewerage	Natural gas	Natural gas	ICT & Sewerage	ICT & Porst	All	ICT
Type of PPI with largest share in investment	Mgt. & lease contracts	Greenfield project	Greenfield project	Mgt. & lease contracts	Mgt. & lease contracts	NA	Greenfield project
Cancelled Projects	1	0	0	0	1	0	0
% Cancelled Projects of total investment	11%	0	0	0	9%	0%	0

\* Dubai data between 2013-2018, source: www.infrapppworld.com

##### 4.1.2. Jordan

Has a good track and has enacted new PPP law no. 31 of 2014 anticipated to bring greater clarity to the legal framework [29, 30].

#### 4.1.3. Morocco

Has engaged private sector in developing infrastructure by concession. In 2011 the central PPP unit has been established [17]. Moreover, PPP new Law No. 86-12 on PPP contracts enacted on December 24, 2014 followed by Decree no 2-15-45 on May 13th, 2015 providing regulation for PPP law [30].

#### 4.1.4. Tunisia

Has also fragmented legal and institutional structure in implementing PPP projects [17]. In November 27th, 2015 Law No. 49-2015 on PPPs enacted, and PPP unit formulated [30].

#### 4.1.5. Egypt

Has a specific PPP law no. 67 enacted in 2010 [30]. Also a competent and efficient central PPP unit has been established. Despite that, concession contract is still in use according to sectorial statutes [17].

#### 4.1.6. Dubai

Has enacted PPP law no. 22 of 2015, which consider a mature approach to attracting long-term investment to the Emirate [31]. There is no centralized PPP authority according to Dubai's PPP act. In fact, Dubai's PPP act gives government entities entering into a PPP arrangement the flexibility to manage the financial, economic and social feasibility of a project, as well as the distribution of risk between the parties [32].

### 4.2. Major Barriers and Risk Factors Impacting PPPs Projects in MENA

#### 4.2.1. Egypt, Jordan, Tunisia and Morocco

The examination of the enabling environment in these countries throughout 2005 to 2015, it can be concluded that the highest level of potential risks lay within institutional and legal aspects (which include; 1) Lack of Legal framework, 2) Interagency coordination, 3) Poor public decision-making process, 4) Project scoping (incl. contract design & risk allocation), 5) Bidding process, 6) Government Capacity, and 7) The capacity of the private sector) where the highest frequencies of barriers have been indicated. It forms with operational barriers (which include; 1) Land acquisition, 2) Choice of location, 3) Construction risks, and 4) Social & Environmental risks) the larger percent of risks that hindering the PPP progress as presented in Figure 1. The interesting finding, risks related to political considerations (which include; 1) Government stability/ security conditions, 2) Corruption/ lack of transparency, 3) Public understanding & opposition, and 4) Change of law & Breach of contract) indicated low percent than other risks ranged from (10-25) % to Morocco and Tunisia respectively. Meanwhile financial consideration (which include; 1) lack of private funding, 2) Transfer of funds, 3) lack of sovereign guarantee, 4) Inflation rate, 5) Changes in interest rate, 6) Changes in currency exchange rates, and 7) Tax regulation) came after ranged from (10-24) % to Tunisia and Egypt respectively. From Figure 3 it can be noticed that Egypt and Tunisia have higher percent compared to the other countries indicating the impact of political turmoil started in 2011[17].

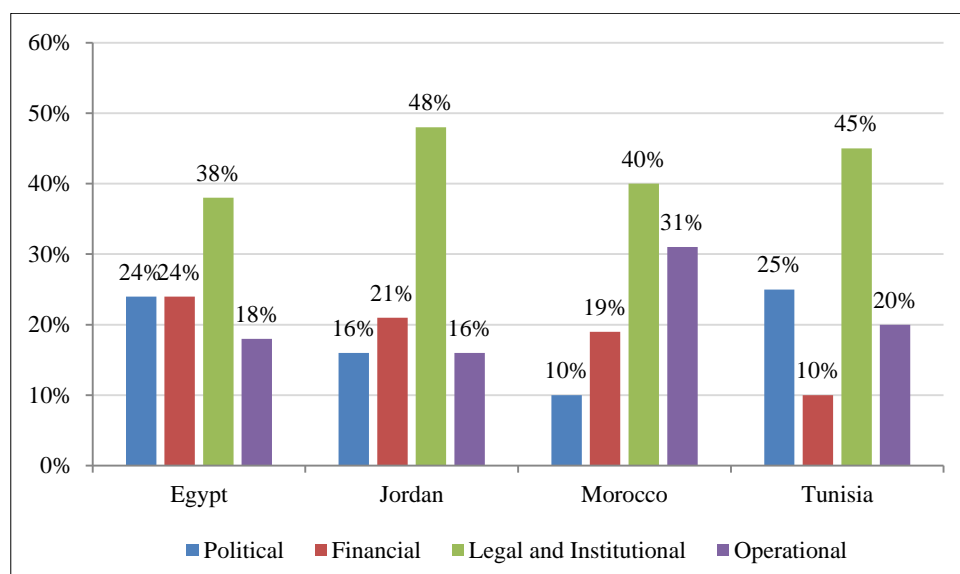


Figure 3. Risk factors to PPP in Egypt, Jordan, Morocco, and Tunisia [17]

This could be explained by risks related to political considerations is uncontrolled, changing them will take long time to achieve political stability on the other hand statutory and organizational risks can be under government control and

can be improved quicker than political risks. Accordingly if government urging to succeed in undertaking PPP approach it must adopt a scheduled reforming program that support PPP implementation in the different stages of PPP projects development.

#### 4.2.2. Dubai

Knight (2016) identifies two challenges Dubai needs to deal with in implementing PPP program. Firstly, specify certain sectors to apply PPP, this will enable investors to reduce the cost of bids preparation if they fail in one project they are almost prepared to redirect their efforts to another one within the same sector. Secondly, to overcome oil prices fluctuation that may have high effect on the available liquidity of public authorities. Government should ensure a proper risks sharing and sufficient pricing to attract to foreign funders in filling that gap [33]. Despite Dubai PPP Law is considered an overwhelmingly positive step forward in facilitating PPP projects in the Emirate [32] in more deep examination, the top ten critical success factors to PPP projects in UAE are: 1) Public and private partners commitment, 2) Proper risk sharing, 3) Ability and qualification of public sector entities, 4) Transparency of the processes, 5) Competent private partner, 6) Competitive bidding procedures, 7) Committed political leadership, 8) sound feasibility studies, 9) Proper administration, and 10) Supporting legal/Regulatory Framework [34].

#### 4.2.3. Turkey

Turkey as a developing country in order to succeed in PPP should establish a solid ground to support PPP program initiation and implementation that would include; 1) PPP institutional structure and enabling legal/regulatory framework; 2) Overcoming The struggle of powers within public authorities to ensure effective coordination; 3) Careful study for financial amplifications of suggested PPP to minimize financial consequences to State budgetary; 4) Huge need for infrastructure development may led to aggressive use of PPPs with no consideration for value for money which should be considered; 5) Adequate capacity building program should be provided to governmental entities to implement PPP contracts successfully [28].

In a deeper exploration, studies illustrated that proper institutional structures and legal/regulatory framework, precise selection of project that is suited to PPP model, and sound and comprehensive feasibility studies indicated a higher impact on PPP successful implementation. On the other hand proper consultancy to client, projects uncomplicated structural organization, and social perception and understanding seem to have lower impact [35]. In more generic and brief interpretation there are five areas need to work on to support PPP implementation; 1) PPP project financing, proper management, operational influences, competitive procuring processes, and supportive institutional structure [35].

### 5. Challenges and Risks of PPP's Contracts in Iraq

The enabling environment refers to the relevant policies, laws, regulations and institutions which allow and support the development of infrastructure projects, as well as overall government support, capacity and commitment for PPPs in the country [36]. The absence of any of these elements can lead certain themes to emerge hindering PPP progress. Iraq, through the past 15 years the existing PPP projects were procured based on different laws including act No. 22 enacted in 1997 for public firms, the act of firms No. 21 enacted in 1997, Investment act No. 13 of 2006. Where there is no designated PPP law enacted to be the legal base for PPP projects agreement in Iraq which represent a real barrier in PPP progress. In regard to other challenges, Wali (2015) had addressed a generic perception of the most important potential challenges and risks that would face the PPP implementation in Iraq. She suggested government should consider three aspects; firstly, improving government poor experience in PPP. Secondly, fulfilling stakeholder expectations and thirdly, adopting a phased, pragmatic approach [37].

In addition to these aspects the researcher identifies another two serious barriers. The first one is improving business and investment environment. The Transparency International organization ranks Iraq 166th out of 176 countries in its Corruption Perception Index [38]. Iraq also has a poor business climate and stood on place 168 out of 189 in the World Bank's Doing Business Index 2018 (a drop of 22 place over 2014), with low scores in all the indicators [39]. Table 2 shows the World Bank ranking of doing business for some countries in the region. If Iraq is to build a stronger, more resilient economy, it must improve its business and investment environment, its capacity to attract private investment will be critical in that respect.

**Table 2. Ease of doing business ranking in the region (WB/doing business, 2018)**

Economy	UAE	Turkey	Morocco	Tunisia	Jordan	Egypt	Iraq
Rank global (2018)	21	60	69	88	103	128	168
Scores (2018)	78.73	69.14	67.91	63.58	60.58	56.22	44.87
Rank global (2014)	25	51	68	56	116	113	146
Scores (2014)	75.08	68.39	64.43	67.45	58.29	59.17	50.79



The second one is the interagency coordination PPP contracts are so the complex nature of PPP arrangements required efficient and closely working relationships between competent public authorities in on hand and private partners on the other hand.

### 6. Research Approach

The applied research methodology is presented in Figure 4. Using of the same concept applied in Al-juboori (2015), Li et al. (2005) and Babatunde et al. (2016) [40-42] studies, the study implemented based on a quantitative analysis. A well-structured questionnaire (presented in Appendix I), and based on a quantitative analysis used to identify the standpoints of respondents on the theme of the research presented in this paper. The questionnaire divided into five parts. This paper is targeted to present the two parts of the questionnaire. Part 1 presents respondents' general data. Part 2 ( represent the fourth part of the questionnaire ) aims to identify respondent agreement on assessing the level of importance of risk factors related to PPP enabling environment that considered as key barriers may face the development of PPP projects in Iraq which is the target of this paper. Through the literature review of this research, 25 risk factors of PPP projects have been listed under four main groups, political situation concerns, financing, statutory and organizational, and functional risks as shown in Table 3, where their importance will be rated by the survey respondents on Likert six points scale where 1=least important", 6= very important" with an option of 0= don't know/ inapplicable.

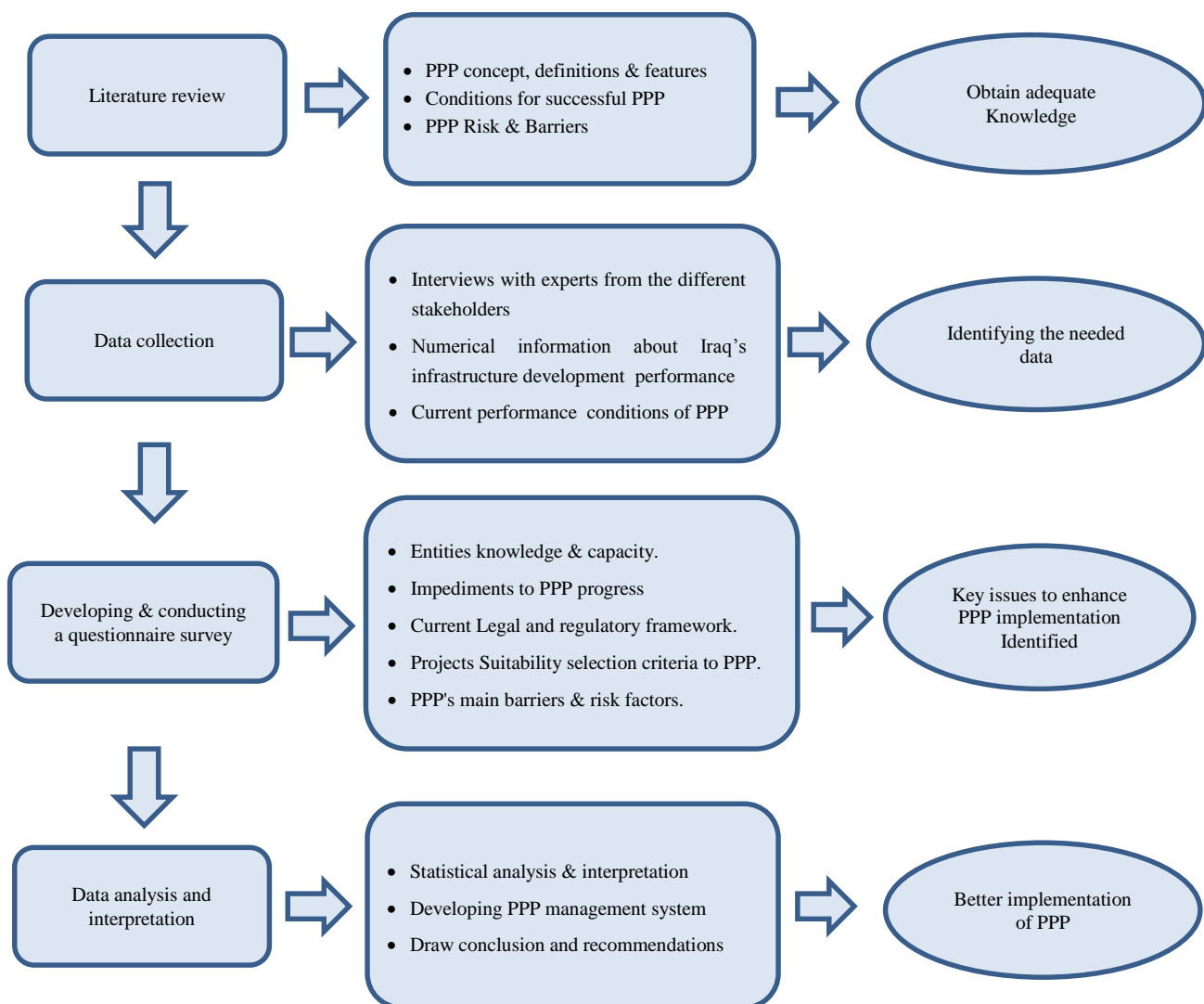


Figure 4. Research methodology

**Table 3. Risk factors related to PPP enabling environment in Iraq**

Risk Category	Code	Risk Factor
Political	PR1	Government stability/ security conditions
	PR2	Corruption/ lack of transparency
	PR3	Public understanding & opposition
	PR4	Change of law & Breach of contract
Financial	FR1	Scarcity of private fund in general ( local and foreigner)
	FR2	Transfer of funds
	FR3	lack of sovereign guarantee
	FR4	Inflation rate
	FR5	Changes in interest rate
	FR6	Changes in currency exchange rates
	FR7	Tax regulation
Legal & institutional	LR1	Lack of Legal and regulatory framework
	LR2	Interagency coordination
	LR3	Insufficient public administration processes
	LR4	Lack of government support and incentives
	LR5	Project scoping ( incl. contract design & risk allocation)
	LR6	Bidding process
	LR7	Lack of commitment of public sector
	LR8	Government Capacity
	LR9	The capacity of the private sector
	LR10	Lack of commitment of private sector
Operational	OR1	Delays and problems associated with acquisition of land
	OR2	Choice of location
	OR3	Construction risks
	OR4	Social & Environmental risks

### 6.1. Questionnaire Distribution and Data Collection

150 questionnaires survey are distributed using separate questionnaire hard copies as well as an online questionnaire using google drive forms and distributed to public sector organizations work in the infrastructure projects development, private sector companies, private banks and academics. 116 questionnaires were returned which form (77%) of the total distribution. On the other hand 98 questionnaires are answered where 18 of the returned questionnaires deemed ineligible due to improper survey's respondent, blanked answers, ineligible, and multiple answers. The percent of questionnaire returned and valid (84%) is considered adequate for the purpose of analysis and reporting based [43].

### 6.2. Data Analysis

The 98 returned valid questionnaires were analyzed using Statistical Package of Social Science (SPSS) version 25. Respondents' general information was analyzed using descriptive analysis. As the Normality test have been checked and data set is not following a normal distribution, the Kendall's Coefficient of Concordance is used to test the internal agreement between the respondents within the same group; and Kruskal Wallis test is conducted to test the agreement among respondents of the survey groups. The data is analysed in three-stages,

- 1) Identifying risk importance depending on the values of their means with ordinal organization from the highest to the lowest.
- 2) Kendall's  $\mathcal{W}$  concordance coefficient test will be used to examine inner agreements within the same group.
- 3) Determining the differences between any two groups' participants' ratings on any individual risk factor, through applying Kruskal Wallis and Mann–Whitney U tests.



## 7. Results and Discussions

### 7.1. Respondents General Information and Rate of Response

Table 4 shows the general information of the respondents. Public sector respondents form 56% of survey respondents, while private sector form 27% and academics form 17%. In regard the general work experience, respondents who have general work experience not less than 21 years form 50% of the whole respondent followed by those with general work experience of 16-20 years by 29.6% then those with general work experience of 11-15 years by 14.3% and those who have general work experience of 6-10 years by 5.3%. While those with general work experience of 5 years or less were only 1%. Findings show that those who have at least 21 years of general working experience form majority of public, private sectors and academics respondents by 43.6%, 57.7%, and 58.8% respectively. Indicating that the target respondents have an adequate experience that to provide a balanced view and reliability for the research survey. In relation to the years of experience in PPP projects implementation, finding shows that 53% of respondents from the public sector are lacking the experience in PPP projects, forming the highest percent within the three groups of respondents, followed by academics respondents with 41.2%. Meanwhile the percentage of respondents from the private sector who have no previous experience is 30.8%. Furthermore, the lowest percentage is 10.9% of public sector's respondents, who have over 6 years' of experience. As the implementation of PPP projects is not conducted widely and limited to a few number projects in Iraq [29], it is expected to find that more than one-half (53%) of respondents from the public sector have no previous experience in PPP.

**Table 4. General information of respondents**

Respondents profile		Percentage of respondents in the survey sample				
1	<b>Sector of work</b>	Overall	Public	Private	Academics	
		100%	56.2%	26.5%	17.3%	
2	<b>Years of Experience in work</b>	Overall	Public	Private	Academics	
		5 Years or less	1%		3.8%	
		6-10 Years	5%	9.1%		
		11-15 Years	14.3%	18.2%	11.5%	5.9%
		16-20 Years	29.6%	29.1%	26.9%	35.3%
		Over 21 year	50%	43.6%	57.7%	58.8%
3	<b>Years of experience in PPP projects implementation</b>	Overall	Public	Private	Academics	
		Non	44.9%	52.7%	30.8%	41.2%
		1-2 years or less	13.3%	14.5%	11.5%	11.8%
		3-5 years	21.4%	21.8%	23.1%	17.6%
		Over 6 years	20.4%	10.9%	34.6%	29.4%

### 7.2. Result on to Risk Factors Importance Ranking

Mean (M) and standard deviation (SD) values obtained using SPSS illustrated in Table 5 in addition to risk factors ranking as viewed by the sample respondents in the three groups. It can be concluded from Table 5 that the scores are close to the mean since SD of all rated factors is relatively small. It can also be noted that the M scores values of all factors ranged between 4.13-5.76 which means all the tested factors considered important based the ratings of all participants since it vary from important to highly important to ensure a successful implementation to PPP adoption.

It can be seen from Table 5, that the means values for the factors as rated by the respondents from public sector are ranged from 4.13 to 5.60, which indicate a relatively small variance in the responses by (1.47). The means values of private sector and academics respondents are from 4.27 to 5.73 and 4.41 to 5.76 respectively. Means values differences are also small by (1.46) and (1.62) respectively. The small differences in means shown in the survey groups indicate that survey respondents have rated these factors much more consistently.

**Table 5. Relative importance of risk factors for PPP projects in Iraq rated by the survey respondents**

Code	Public			Private			Academic			Overall respondents		
	Mean	SD	Rank	Mean	SD	Rank	Mean	SD	Rank	Mean	SD	Rank
PR1	5.20	0.704	9	5.35	0.797	6	5.65	0.606	2	5.32	0.726	8
PR2	5.60	0.596	1	5.73	0.667	1	5.76	0.562	1	5.66	0.608	1
PR3	4.82	0.796	21	5.12	0.816	13	5.47	0.800	7	5.01	0.831	16
PR4	5.05	0.989	12	4.77	0.992	19	5.12	1.054	18	4.99	1.000	17
FR1	5.60	0.596	2	5.31	0.788	7	5.35	0.862	12	5.48	0.707	2
FR2	4.27	1.079	24	4.42	0.987	23	4.82	1.237	23	4.41	1.092	24
FR3	5.45	0.571	5	5.42	0.758	5	5.35	0.931	13	5.43	0.689	6
FR4	5.05	0.756	13	5.04	0.774	15	5.18	0.728	17	5.07	0.750	13
FR5	4.64	1.060	23	4.69	1.087	21	4.53	1.007	24	4.63	1.049	23
FR6	4.13	1.001	25	4.27	0.874	25	4.41	1.121	25	4.21	0.987	25
FR7	5.00	0.770	14	4.92	0.628	18	5.06	0.966	20	4.99	0.767	18
LR1	5.55	0.689	3	5.23	0.765	9	5.41	1.064	11	5.44	0.787	4
LR2	5.13	0.668	10	5.19	0.567	10	5.41	0.618	9	5.19	0.637	11
LR3	5.36	0.729	6	5.69	0.549	2	5.47	0.717	6	5.47	0.692	3
LR4	5.07	0.920	11	5.50	0.762	4	5.47	0.874	8	5.26	0.889	9
LR5	4.89	0.956	18	5.19	1.021	11	5.29	0.772	14	5.04	0.952	14
LR6	4.89	0.994	17	5.15	1.084	12	5.24	0.752	16	5.02	0.984	15
LR7	4.98	0.991	15	5.27	0.667	8	5.41	0.870	10	5.13	0.904	12
LR8	5.27	0.849	8	4.96	1.148	17	5.59	0.795	3	5.24	0.942	10
LR9	5.53	0.690	4	5.00	0.894	16	5.53	0.800	5	5.39	0.795	7
LR10	4.93	0.766	16	4.35	0.936	24	5.29	1.047	15	4.84	0.916	20
OR1	5.33	0.668	7	5.54	0.582	3	5.59	0.618	4	5.43	0.642	5
OR2	4.85	0.705	19	5.08	0.891	14	5.12	0.697	19	4.96	0.759	19
OR3	4.69	0.979	22	4.73	1.041	20	4.94	1.144	22	4.74	1.019	22
OR4	4.84	0.714	20	4.65	0.846	22	5.00	0.707	21	4.82	0.751	21

### 7.2.1. Risk Factors' Importance Ranking from the Perspective of Overall Respondents

From the perspective of all respondents, findings from Table 5 indicate that the main risks challenges to PPP in Iraq as it have been agreed on by all respondents is "Corruption" the following top five most important barriers and risk factors (in descending order) that may prohibit the implementation of PPP projects in Iraq are:

- Scarcity of private fund in general (local and foreigner);
- Insufficient public administration processes;
- Lack of Legal framework;
- Delays and problems associated with acquisition of land.

"Corruption/lack of transparency in public administrative" is ranked on the top of risks factors and barriers that government should deal with to ensure the success of PPP projects. It is not surprising that overall respondents have ranked corruption as on the top of risks factors hampering PPP in Iraq's business environment, as Iraq stood on the order 167th out of 176 countries in its Corruption Perception Index [38]. Corruption represents the main barrier not for PPP implementation only but in the country development process and stability.

The second one is "private funding's Scarcity". Financial scarcity may lead to termination of the project and losing the invested funds. Act of Investment no. 13 enacted in 2006 and its amendments, provide incentives to risks related to political and market demand risks to attract private investors as well as government liabilities or repayment obligations, in addition to provision of exemption related to certain taxes, which justify the relative low rating of "Taxing system" FR7 and "Exchange rates fluctuation" FR6, this doesn't mean these factors are satisfying investors expectation as the taxing system and legislations is too old and need to be modernized by considering Tax as an economic tool employed properly in encouraging foreign and local investors and the private sector in general in compliance with provision of

article 25 and 26 of the Iraqi constitution regarding the reformation of Iraqi economic and encouragement of investments in the different sectors.

The third risk factor of PPP projects, as respondents generally recognized, is "insufficient public administration processes". In general, inefficient management will lead to increased costs, in addition to undefined and lack of transparency processes will raise the level of uncertainty for investors and eventually increase the cost or loss the interest in the project.

For example in Iraq if you want to start a project it need to pass by 11 steps in average and a total time period of 77 days, costing about 117% of income per capita. Meanwhile UAE the process will pass by 6 step with total time to complete is only 13 day, costs 6% of income per [39].

Fourth barrier is the "Lack of Legal and regulatory framework" as there is no designated PPP law enacted to be the legal base for this type of contracting methods. The government tried to provide a legal cover for that purpose within the provisions of article (16), (15) and (14) of the State Budget Law of 2015, 2016, and 2017 respectively also the Council of Ministers' decision No. 96 of 2016 and the PPP guidelines and project selection criteria issued by the MoP. Unfortunately provisions of PPP article have been removed from the State Budget Law of 2018 and 2019 due to political oppositions leaving the PPP without legal cover.

The fifth one is "Delays and problems associated with acquisition of land" which represent a significant barrier to PPP projects in developing countries, in particular problems related to squatters in addition to unsolved land ownership disputes for PPP project purposes [27] where any delay even if in a small part project area can lead to a delay in the whole timetable and scheduling as well as project feasibility [44].

### 7.2.2. Risk Factors' Importance Depending on Participants' Point of View in Each Group of the Survey

From Table 6, generally the three groups have agreed that Corruption stood in the top of the risk factors in Iraq. Afterward public sector respondents have ranked "Scarcity of private fund" at the second order. Meanwhile private sector and academics respondents ranked this barrier lower at seventh and twelfth order respectively. From perspective of public sector this can be explain due to private sector reluctance from submitting to PPP infrastructure projects despite the actions that government have taken to encourage private sector entities to finance the implementation of under-construction infrastructure projects by issuing the Council of Ministers' decision No. 340 of 2015, which authorize the governmental institutions to negotiate with the contractors for the completion of the projects by them or through a second financier to complete the remaining works of the projects that have high percent of completion with an interest rate not exceeding 10%. On the other hand the lower ranking of this factor by respondents from both private sector and academics can be explained by their believe that private fund is available but the problem is the lack of confidence in the Government's commitment to fulfill its obligations under PPP contracts as oil represents the main resource of the government budget which always is affected by the fluctuation in the oil markets, the government ability to fulfill these obligations will be questioned since government has no future vision of Iraqi cash status, to set timetables for payments.

Furthermore, the respondents from both private sector and academics have ranked "Insufficient public administration processes" and "Government stability/ security conditions" respectively at the second place. From the private sector perspective the current institutional procedures and process is not fulfilling their expectations as long as the routine and the complex procedures are still exist which is economically consuming for time and money. Meanwhile the academics ranking of government stability/ security conditions explained by their realization for the role stable political will in supporting PPP approach and attracting foreign investors as the security conditions have been improved.

**Table 6. Top five risk factors from the perspective of each group of the survey sample**

Rank	Public Sector	Private Sector	Academics	Overall respondents
1	Corruption/ lack of transparency in public administrative	Corruption/ lack of transparency in public administrative	Corruption/ lack of transparency in public administrative	Corruption/ lack of transparency in public administrative
2	Scarcity of private fund in general (local and foreigner)	Insufficient public administration processes	Government stability/ security conditions	Scarcity of private fund in general ( local and foreigner)
3	Lack of Legal and regulatory framework	Delays and problems associated with acquisition of land	Government Capacity	Insufficient public administration processes
4	The capacity of the private sector	Lack of government support and incentives	Delays and problems associated with acquisition of land	Lack of Legal framework
5	lack of sovereign guarantee	lack of sovereign guarantee	The capacity of the private sector	Delays and problems associated with acquisition of land
6	Insufficient public administration processes	Government stability/ security conditions	Insufficient public administration processes	lack of sovereign guarantee

The third barrier as ranked by public sector's respondents is "Lack of Legal and regulatory framework" where, a well-developed PPP regulation that consistent with the Iraqi's laws and regulations is needed to eliminates any crosses in related laws and can facilitate and clarify any ambiguities regarding the types of PPP contracts, contract forms and the requirements of each type. The need of such regulation is highly increased when there is a limited experience with PPP as in the case of Iraq especially within public entities that will be responsible about the whole process management. As they perceive that the legal cover to PPP projects in the provided by government within State Budget Law of 2015, 2016, and 2017 through the provisions of articles 16, 15 and 14 respectively. And the issued guidelines and regulation for PPP projects implementation by the Ministry of Planning (MoP) was not enough to support and clarify any ambiguities related to this new type of contracts in regard to infrastructure projects. this lack became more outstanding when Parliament for political reasons disapproved the inclusion of PPP article in the State Budget Law of 2018 and 2019 which have obstruct the use of PPP.

On the other hand the lower ranking of this factor by respondents from both private sector and academics at the ninth and eleventh place respectively can be explained based on the perception that after 2003, government worked on developing an enabling business environment by changing the legal and regulatory frame to bring in foreign investors and encourage local investors as well. By 2005, the Ministry of Industry adopted a promising program under firms act No. 22, by selecting 36 state owned factories and firms with a share of 51% of a project total ownership and a share of the production too, encouraging by that private investors to engage in management and operation partnership. In 2006, the government had legislated investment act no. 13 which has been amended twice in 2010 and 2015 to give more clarification to major principles of investments, and providing better assurances. Under the 2nd amendment investors are allowable to own lands. Accordingly, undertaking project under Build Operate Transfer (BOT), Build Own Operate Transfer (BOOT) arrangements became available options. Moreover, as leasing for long period (limited to 50 years) is allowable under this act, PPP arrangements such as Building Leasing Operating Transferring (BLOT) and Building Transferring Operating (BTO) became applicable too (investment law 2<sup>nd</sup> amendment No.50 of 2015).

Meanwhile, the third place as ranked by the respondents from both private sector and academics is "Delays and problems associated with acquisition of land" and "Government Capacity" respectively. Reflecting private sectors concerns regarding the secure access of land and assets which represent a prominent concern and obstructing investors' participation construction industry Iraq. On the other hand the academics ranking for government capacity as public organizations have a big role throughout the different stages PPP projects' lifecycle accordingly PPP units must be established and supported with the adequate capacity building programs to handle the management of PPP development and implementation to overcome any institutional weakness before the initiation of PPP program.

The fourth barrier as ranked by the respondents from public sector is "The capacity of the private sector" and at the fifth place by the academics respondents indicating realistic fears of both public sector and academic respondents from the consequences if the private partner fails in fulfilling his obligations. Meanwhile respondents of private sector placed it lower at sixteenth place, ranking instead of at the fourth place the "Lack of government support and incentives" as they believe that PPP infrastructure projects are not feasible if implemented as an investment opportunity unless being supported financially by government. Meanwhile academic respondent have ranked delays and problems associated with acquisition of land on the fourth place agreeing with private sector on its important impact on hampering PPP projects implementation in particular and any construction project in general.

The fifth barrier as ranked by respondents from both the public and private sector is "Lack of sovereign guarantee" reflecting their understanding for the importance of providing sovereign guarantee, such as bond with long maturity term that suit PPP project will provide significant governmental backed risk. And private entities and investors will be encouraged to benefit of these backing guarantee. Meanwhile academics respondents have ranked this barrier lower at the thirteenth place reflecting their concerns regarding the exposer of the government to payment risk on sovereign and/ or sub-sovereign borrowers/guarantors.

In general it can be concluded, that public respondents ranking is reflecting their deep understanding for what should work and focus on to build enabling environment for the development of PPP projects. Participants from private entities reflect their concerns about factors under the control of government that have high impact on sustainability of cash flow for PPP projects. Meanwhile academic tend to have more balanced vision that can see things form the different sides resulted in impartial ranking.

Furthermore, as we have mentioned before since the research used Likert scale from 1 to 6, accordingly a value that's above 3.5 indicate that the barrier is important. Findings show that all barriers are above a mean of 3.5 they are all important to deal with in order to improve the applicability of PPP in Iraq.

### 7.2.3. Testing Inner Agreement within Each Group

Kendall's  $\mathcal{W}$  concordance coefficient will be used for this purpose. The suppositions are; zero supposition, where  $H_0: \mathcal{W}=0$ , alternative supposition,  $H_1: \mathcal{W}\neq 0$ . As tested number of attributes is greater than seven, the value of Chi-square

would be considered instead  $\mathcal{W}$  value. It can be seen from Table 7 that the Chi-square critical value for each one of the three groups is 33.20 at degrees of freedom (df) = 24. As the calculated Chi-square values for the three groups of the survey, obtained by the outputs of SPSS are all larger than Chi-square critical value as shown in Table 7, indicating an agreement between the respondents within the same group on these rankings' of risks.

**Table 7. Kendall's  $\mathcal{W}$  test results on risk ranking of PPP projects**

Item	Public sector	Private sector	Academics
Number of survey respondents	55	26	17
Kendall's $\mathcal{W}$	0.179	0.200	0.154
df	24	24	24
Asymp. Sig.	0.000	0.000	0.000
Chi-Square	236.922	124.796	62.863
Critical value Chi-square	33.20	33.20	33.20

**7.2.4. Testing Inner Agreement within the Sample groups**

For this purpose Kruskal Wallis test will be used. Where the supposition are:

Zero supposition,  $H_0: Mg_1=Mg_2= Mg_3$

Alternative supposition,  $H_a$ : as minimum, one difference amongst the tested groups' medians will be found. Whereas  $Mg_1, Mg_2, Mg_3$  are the median values for public sector (Group 1) private sector (Group 2), and the academics (Group 3) respectively, Table 8 presents obtained outputs from SPSS.

It can be concluded from Table 8 that there are differences in participants' rating within groups of the sample on PR3 (Public understanding & opposition), LR9 (The capacity of the private sector) and LR10 (Lack of commitment of private sector) which came from the different their understandings and work interest of the participants. This means that the rest 22 factors are rated almost at the same way by all sample groups, with a level of confidence equal to 95%

**Table 8. Kruskal Wallis test for risk factors among survey groups**

Risk factors	Chi-Square (H value)	Asymp. Sig. (p-value)	Significant	Risk factors	Chi-Square (H value)	Asymp. Sig. (p-value)	Significant
PR1	5.662	0.059	No	LR3	4.200	0.122	No
PR2	2.736	0.255	No	LR4	5.932	0.052	No
PR3	9.545	0.008	Yes	LR5	3.493	0.174	No
PR4	2.732	0.255	No	LR6	2.453	0.293	No
FR1	2.936	0.230	No	LR7	3.369	0.185	No
FR2	3.338	0.188	No	LR8	4.540	0.103	No
FR3	0.045	0.978	No	LR9	8.230	0.016	Yes
FR4	0.397	0.820	No	LR10	13.877	0.001	Yes
FR5	0.256	0.880	No	OR1	3.191	0.203	No
FR6	1.528	0.466	No	OR2	2.342	0.310	No
FR7	0.930	0.628	No	OR3	1.305	0.521	No
LR1	3.903	0.142	No	OR4	3.470	0.176	No
LR2	2.582	0.275	No				

As Kruskal Wallis test refer to the existence of the difference without specifying in which group, Mann–Whitney–Wilcoxon will be used to identify that using below suppositions:

Zero supposition,  $H_0: \mu g1=\mu g2$

Alternative supposition,  $H_a: \mu g1\neq\mu g2$

Where  $\mu g1$  and  $\mu g2$  are the Mean values of score for G1/ public and G2/ Private and G3/ Academics, zero supposition assumes equal mean between paired groups. If  $P$ -value is not larger or equal to 0.05, zero supposition not accepted, as the two groups under the study focus indicates a significant difference.

Where the level of confidence ( $\alpha$ ) will be equal to 0.05 and will be modified and divided over 3 to get rid of I error. Thus, the 3 test will be significant at level equal to 0.0167.

Based on the results of Mann-Whitney test presented in Table 9, It can be seen that, G1 and G2 differs significantly on LR9 with (0.007) and LR10 with (0.008) on the other hand G1 and G3 differs significantly on PR3 with 0.003 in addition to G2 and G3 which also differs significantly on LR10 with 0.001. With end of this test no further tests is required both tests (Mann–Whitney & Kruskal Wallis) conformed each other.

**Table 9. Mann- Whitney U-test for risk factors between paired groups**

Risk Factor	Group 1 and 2				Group 1 and 3				Group 2 and 3			
	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
PR1	623.50	2163.50	-1.002	0.316	302.50	1842.50	-2.391	0.017	177.500	528.50	-1.240	0.215
PR2	609.00	2149.00	-1.344	0.179	393.50	1933.50	-1.218	0.223	218.00	569.00	-0.110	0.912
PR3	572.00	2112.00	-1.538	0.124	255.00	1795.00	-2.981	0.003	163.00	514.00	-1.560	0.119
PR4	579.00	930.00	-1.479	0.139	441.50	1981.50	-0.378	0.706	170.00	521.00	-1.332	0.183
FR1	576.50	927.50	-1.616	0.106	400.50	553.50	-1.042	0.298	210.00	561.00	-0.300	0.764
FR2	655.50	2195.50	-0.628	0.530	340.00	1880.00	-1.753	0.080	170.50	521.50	-1.303	0.192
FR3	698.50	2238.50	-0.187	0.851	458.00	1998.00	-0.142	0.887	219.00	372.00	-0.056	0.955
FR4	707.00	1058.00	-0.087	0.931	427.00	1967.00	-0.577	0.564	199.50	550.50	-0.574	0.566
FR5	695.00	2235.00	-0.210	0.834	439.00	592.00	-0.392	0.695	202.00	355.00	-0.489	0.625
FR6	660.00	2200.00	-0.584	0.559	384.50	1924.50	-1.145	0.252	190.00	541.00	-0.809	0.418
FR7	645.00	996.00	-0.816	0.414	438.50	1978.50	-0.425	0.671	192.00	543.00	-0.779	0.436
LR1	547.00	898.00	-1.925	0.054	460.00	613.00	-0.118	0.906	174.00	525.00	-1.282	0.200
LR2	684.00	2224.00	-0.355	0.722	362.50	1902.50	-1.544	0.123	177.00	528.00	-1.253	0.210
LR3	536.00	2076.00	-2.057	0.040	428.00	1968.00	-0.582	0.561	186.00	339.00	-1.057	0.291
LR4	526.00	2066.00	-2.064	0.039	344.50	1884.50	-1.749	0.080	220.50	373.50	-0.015	0.988
LR5	577.50	2117.50	-1.466	0.143	359.00	1899.00	-1.518	0.129	219.50	570.50	-0.041	0.968
LR6	591.50	2131.50	-1.316	0.188	384.00	1924.00	-1.170	0.242	216.50	369.50	-0.121	0.904
LR7	620.50	2160.50	-1.015	0.310	349.00	1889.00	-1.670	0.095	183.00	534.00	-1.039	0.299
LR8	622.00	973.00	-1.014	0.311	355.50	1895.50	-1.649	0.099	148.00	499.00	-1.992	0.046
LR9	475.50	826.50	-2.687	0.007	457.50	1997.50	-0.156	0.876	142.50	493.50	-2.102	0.036
LR10	467.50	818.50	-2.663	0.008	317.00	1857.00	-2.123	0.034	94.50	445.50	-3.282	0.001
OR1	597.00	2137.00	-1.329	0.184	366.50	1906.50	-1.486	0.137	208.00	559.00	-0.376	0.707
OR2	610.00	2150.00	-1.134	0.257	374.50	1914.50	-1.344	0.179	218.00	569.00	-0.079	0.937
OR3	698.00	2238.00	-0.181	0.856	385.00	1925.00	-1.158	0.247	189.50	540.50	-0.819	0.413
OR4	602.50	953.50	-1.225	0.220	391.50	1931.50	-1.109	0.267	155.50	506.50	-1.736	0.082

## 8. Conclusions

- 1) The main risk challenge to PPP in Iraq as it has been agreed on by all respondents is “Corruption” that government should stop or minimize to the lowest level to improve the government performance in general and in PPP in particular. The following top five risks factors are:
  - Lack of private funding in general
  - Insufficient public administration processes
  - Lack of Legal and regulatory framework
  - Delays and problems associated with acquisition of land
  - Lack of sovereign guarantee
- 2) The perceptions of survey groups respondents concerning the importance of risk factors differ based on their point of view, where both public and academics respondents have serious concerns regarding the private sector



capacity to carry out the task. On the other hand the private sector concerns the availability of government incentives to support for this type of infrastructure.

- 3) Improving the capacity of the public sector and other stakeholders by intense and specialized capacity building programs is a priority. Contracting with specialized agencies to support the public organizations with the required expertise and provide in-job training to run the process is a favored option in this initial stage.
- 4) Legislating PPP law as soon as possible to cover this type of contract, in addition to the establishment PPP units, the development of a comprehensive regulatory framework combined with specific and clear selection criteria of the best private partner.
- 5) Reforming and standardizing approvals procedures wherever possible, delegate the authorities wherever necessary, and improve the interagency coordination is extremely important to save time and support the application of PPP approach.
- 6) Risk factors and barriers identified in the enabling environment of Iraq necessitate government commitment and intervention to provide the different types of support including issuing long term bonds to encourage the participation of the private banks and private sector and find a solution to the delay and the problems of land acquisition to attract experienced, well reputation and eligible international firms to ensure good performance and empower the local private sector firms through side by side work enrollment. And in the top of all that minimizing corruption and increasing transparency.

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## 10. Conflicts of Interest

The authors declare no conflict of interest.

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## Appendix I

### A Survey on Public-Private Partnership as an Alternative to Financing Suspended Infrastructure Projects in Iraq

To the Respondent

Dear Madam / Sir,

This questionnaire survey is prepared to be a part of a master thesis entitled “Public-Private Partnership as an Alternative to Financing Suspended Infrastructure Projects in Iraq”, submitted to the college of engineering of university of Baghdad in partial fulfilment of the requirements for the degree of Master of Science in civil engineering / project management. The purpose of this study is to assess whether the use of PPP as governmental approach in filling the financing gap is a viable solution for Financing Suspended Infrastructure Projects due to the financial crisis of 2014 and the inability of government to provide all of the required funds for infrastructure development in Iraq.

PPP can be defined as “an agreement between a government and a private firm under which the private firm delivers an asset, a service, or both, in return for payments contingent to some extent on the long-term quality or other characteristics of outputs delivered”. PPPs in facilities development involve private companies in the design, financing, construction, ownership and operation of a public sector utility for long term contract (20-30) year. PPPs are known worldwide with various other alternative names such as Private Participations in Infrastructure (PPI), Private-Sector Participation (PSP), P3, Privately Financed Projects (PFP), and Private Finance Initiatives (PFI).

The survey contains 13 questions, and we estimate it will take an average of 25 minutes to be completed. Your completion of this survey is voluntary and questions are individual, subjective assessments. Your participation in this survey renders me a highly appreciated assistance. Please be sure that your personal data are going to be top confidential. I welcome your comments or questions relating to this survey, you can contact me at the bellow mentioned addresses.

Notice: It is important to note that there are definitely no “right” or “wrong” answers; the only “correct” answers are what you honestly think and feel.

Thank you in advance for your help, we do appreciate your time.

Jinan k. Hassan  
MSc. Student  
College of engineering  
University of Baghdad  
E-mail: [jinan\\_gataa@yahoo.com](mailto:jinan_gataa@yahoo.com)

<b>Section 1: Respondent's general information</b>				
Age:	<input type="radio"/> 20-30 years	<input type="radio"/> 31-40 years	<input type="radio"/> 41-60 years	<input type="radio"/> Above 60 years
Name of company/ organization:				
Your position in the company/organization:				
Email Address:				
Phone Number:				
Please select your main role below:				
How many years of work experience do you have?				
<input type="radio"/> 5 years or below	<input type="radio"/> 6 – 10 years	<input type="radio"/> 11 – 15 years	<input type="radio"/> 16 – 20 years	<input type="radio"/> 21 years or above
Which sector do you have experience with?				
<input type="radio"/> Public sector (State)		<input type="radio"/> Private sector		
<b>Section 2: General Experience with PPP</b>				
<b>1. How many years of PPP experience do you have?</b>				
<input type="radio"/> None	<input type="radio"/> 1-2 years or below	<input type="radio"/> 3 –5 years	<input type="radio"/> 6 years or above	
<b>2. Was there or is there any PPP project undertaken by your company/organization?</b>				
<input type="radio"/> Yes		<input type="radio"/> No		<input type="radio"/> No sure
<b>3. If yes, what is the type of the project that undertaken by your company/organization (you may tick more than one box)?</b>				
<input type="checkbox"/> Transportation	<input type="checkbox"/> Water and Sewer		<input type="checkbox"/> Housing	
<input type="checkbox"/> Roads & Bridges	<input type="checkbox"/> School and Education		<input type="checkbox"/> Power and Energy	
<input type="checkbox"/> Health & Environment	<input type="checkbox"/> Other (please specify)			
<b>4. What is the contract type of the PPP project that undertaken by your company/organization (you may tick more than one box)?</b>				
<input type="checkbox"/> Design and build (DB)*	<input type="checkbox"/> Build-Operate- Transfer (BOT) †		<input type="checkbox"/> Concession model‡	
<input type="checkbox"/> Lease contract (LC)§	<input type="checkbox"/> Build-Own-Operate (BOO)²		<input type="checkbox"/> Management contract†	
<input type="checkbox"/> Service contracts**	<input type="checkbox"/> Other (please specify)			
<b>5. Which of the following projects do you think are best suited for PPP projects in Iraq (you may tick more than one box)?</b>				
<input type="checkbox"/> All Projects	<input type="checkbox"/> Social infrastructure††		<input type="checkbox"/> Projects with subsidy††	
<input type="checkbox"/> High risk projects§§	<input type="checkbox"/> Governmental infrastructure***		<input type="checkbox"/> Economical infrastructure†††	
<input type="checkbox"/> Other (please specify)				

\* It is one of the most common contracts in the current government projects. Through the design / construction contract, the owner contracts with one company. According to this contract, the design and construction works are carried out by this company. This company can complete the entire work, or work with sub-contractors through a specific agreement. Design standards must meet the owner's requirements.

† This type of contract is called Greenfield, where a private partner in a public-private joint venture constructs and operates a new facility for a specified period of the project contract. The facility may be returned to the Government at the end of the concession period, ownership, operation, capital expenditure and operating expenses shall be the responsibility of the private sector or jointly. These contracts also include contracts: BLO (Build -Lease- Owen) Build-Lease-Own (BOT) Build-Operate-Transfer (BOO) Build-Operate-Operate. Such as oil refinery projects, airports and others.

‡ The private partner shall manage, operate, capitalize and run the operating expenses of state-owned enterprises within a certain period with significant investment risks.

§ This type of contract is specifically designed for a management contract or long-term lease contract for the processing of a particular public service through negotiation and contracting with a specialized private company. The private partner manages and operates. The general partner handles capital and property expenditures, either private or public. Such as privatized projects according to the Investment Law.

\*\* In this type of contract, the private sector partner enters into a number of supply or service contracts with other entities / service providers to supply equipment, materials, fuel or electrical energy to working children. Non-core activities (public or private) such as catering, hygiene, medical services, passenger baggage management, security and transport services for staff can be provided by private providers.

†† Social infrastructure: These structures are linked to the provision of physical assets and services for human development, in sectors such as education, public housing, health care and security (e.g. prisons and rehabilitation centres)

‡‡ The government may decide to provide direct support to the project, for example through direct financial support (in cash or in kind, to bear construction costs, purchase land, provide assets, compensate for bid costs, or support major maintenance), or waive fees. (Such as exemptions from tax exemptions or waiver of tax liability), financing for the project in the form of loans (including mezzanine debt) or equity investment (or in the form of financing) Feasibility gap), and finance the shadow definitions of roads And raise the tariffs paid by some or all consumers (in particular, the least able to pay) as in water and electricity projects to reduce the risk of demand borne by the project company. These mechanisms are particularly useful when the project itself does not achieve debt sustainability or financial feasibility or exposure to certain risks so that investors or private lenders are not well placed for management. In developing countries where private funding is most needed, these constraints may require more government support than is required in more developed countries.

§§ High-risk projects are highly visible projects that have a comprehensive impact within and outside the organization and pose significant threats to the project team's ability to implement coupled with high probability of achieving profits or returns.

\*\*\* Government infrastructure: includes the provision of facilities to provide services to citizens and administrative centres.

††† Economic infrastructure refers to the provision of physical assets and services related to economic growth, such as sanitation, energy, transit, transport, ports, railways, bridges and highways.

Section 3: Criteria and Performance of PPP in Iraq							
This part aims to study and evaluate the level of awareness and knowledge and current condition of Iraq public sector. Please rate the following statements based on a Likert scale from 1 – 6, where (1= completely disagree; 6 = completely agree; 0= inapplicable).							
<b>6. Do you think that PPP is a viable solution for an accelerated public infrastructure projects in Iraq?</b>							
<input type="radio"/> Yes		<input type="radio"/> No			<input type="radio"/> No sure		
<b>7. Do you think it is more suitable to:</b>							
	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Suspended under-construction infrastructure projects implemented under government capital budget?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Development of new infrastructure projects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>8. Has your organization or company contracted under the PPP Implementation Guide and the Project Regulations* issued by the Ministry of Planning in July 2016?</b>							
<input type="radio"/> Yes		<input type="radio"/> No			<input type="radio"/> No sure		
<b>9. If the answer to question 21 is "No" (not contracted under this guide), to what extent do you agree with the following points as being impediments for not applying PPP to finance and complete suspended under-construction projects?</b>							
	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Lack of a solid mechanism for PPP projects feasibility studies preparation in government organizations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There is no competent office (PPP units) have been established in governmental organizations in both levels of national and local government, provided with the needed capacity building on PPP to run and manage the process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of clear selection criteria for private partner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of a clear and specific mechanism for negotiation, risk identification and better allocation of responsibilities between the two sectors in the different types of PPP.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of political commitment to mobilize the needed resources and the establishment of supporting legal and regulatory framework to the success of PPP.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The issued PPP guidelines and regulations are complicated not easy to be understood by public sector organizations resulted in weak ability for implementation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lengthy approvals procedures as it related to higher authorities, which requires more time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PPP law hasn't been legislated yet to cover this type of contract.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The majority of suspended projects are related to obstacles and pending problems (including contractors' unpaid payments) that must be resolved first before setting PPP transition agreement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Private sector reluctance to submit for PPP infrastructure projects as they are not feasible if implemented as an investment opportunity unless being supported financially by government.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Some projects required additional costs as their previous feasibility study is not prepared in accordance to PPP from technical and economic aspects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Government has no future vision of Iraqi Cash status, to set timetables for payments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scarcity of local private funding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>10. Do you consider your organization is prepared and has the knowledge and the capacity to get involved in a PPP project in regard to the following points?</b>							
	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Identifying PPP project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identifying risks & allocating risks and responsibilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PPP project appraisal ( project feasibility, commercial viability, whether PPP will provide value for money, whether PPP is fiscally responsible)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Designing PPP contracts (performance requirements, payments mechanism, finance options, adjustment mechanism, dispute resolution mechanism)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Managing PPP Transaction (tendering, evaluation, negotiation, contracting)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Managing PPP contract (establishing contract management structure, monitoring and managing PPP delivery and risk, deal with change)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. Considering the following points, do you think that the current legal framework suitable for PPP projects?							
	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Institutional Structures and Legal/Regulatory Framework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\* You can see this guide on this link: <https://www.dropbox.com/sh/mhzqzzfwhk7uui3/AAD3zdN2rxr1KZUsockfcdOya?dl=0>



The Independence of judiciary from the influence of government and politics.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Law authority and the independence of judiciary system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Availability of a proper regulations specifying PPP types, contracts' templates and required conditions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The effectiveness of government initiatives for institutional reforms to support PPP development; e.g. that is related to tariffs and tolling to be paid for the services provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>Section 4: Barriers and obstacles that may encounter the implementation PPP.</b>							
This part aims to study and evaluate the importance of major perceived Barriers associated with Iraq's PPP projects. You are asked to circle the number indicating the importance index (1 = Least important; 6 = Most important; 0= not applicable)							
<b>12. Considering the following points, how do rate the importance of major barriers and obstacles associated with Iraq's PPP Infrastructure Projects and the ability to solve or mitigate?</b>							
<b>Risk factors in PPP projects</b>	<b>Importance</b>						
	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>Political</b>							
Government stability/ security conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corruption/ lack of transparency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public understanding & opposition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change of law & Breach of contract	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Financial</b>							
	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Scarcity of private fund in general ( local and foreigner)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transfer of funds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
lack of sovereign guarantee	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inflation rate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Changes in interest rate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Changes in currency exchange rates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tax regulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Legal &amp; institutional</b>							
	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Lack of Legal and regulatory framework	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interagency coordination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insufficient public administration processes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of government support and incentives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Project scoping ( incl. contract design & risk allocation)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bidding process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of commitment of public sector	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Government Capacity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The capacity of the private sector	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of commitment of private sector	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Operational</b>							
	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Delays and problems associated with acquisition of land	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Choice of location	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Construction risks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social & Environmental risks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Section 5: Future Prospects**

This part is the end of the survey it aims to obtain participants suggestion and vision to improve PPP implementation in Iraq.

**13. Please provide any suggestions and comments that you see is important to improve applying PPP in implementing and financing suspended under-construction infrastructure projects or new projects (please specify)**

**« End of the questionnaire »**

**« Thank you for your valuable cooperation»**