Advances in Consumer Research
https://acr-journal.com/
Volume-3 | Issue-1 | Jan 2026
Original Researcher Article

A Study of Key Success Factors in Implementation of Public Private Partnership Infrastructure projects in Ghana – A Comparison of Perspectives of Government Sector Officials and Private Sector Officials

Paul Rex Danquah[1]*, H.S. Srivatsa[2]
[1]*PhD Scholar, Department of Management and Commerce, Ramaiah University of Applied Sciences, Bangalore, India
[2]Professor, Department of Management and Commerce, Ramaiah University of Applied Sciences, Bangalore, India,
Email ID : srivatsa.ms.mc@msruas.ac.in
***Corresponding author:**
Paul Rex Danquah
Email ID : pdanquah@gimpa.edu.gh

ABSTRACT
The research objective is to explore the key success criteria to guide stakeholders in the successful implementation of Public Private Partnership (PPP) projects from the perspectives of government officials and private investors in Ghana. A survey questionnaire was administered to government officials and private investors with considerable knowledge in the concepts and experience in the implementation of PPP projects in Ghana. One hundred and thirty-nine (139) filled questionnaires were received for research analysis. Seventy-seven were government officials and sixty-two (62) were private officials. The Mann-Whitney findings revealed three of the twelve variables of key success factors of PPP projects are significantly different among the public officials and respondents from the private entities. The three variables that were significant were - Supports improved delivery of public services, expansion of infrastructure; and offers support to socio-economic development. Additionally, centered on the analytical cut-off point of 4.10, results from mean ranking analysis for both public officials and respondents from private entities for PPP projects.; four (4) variables were selected, namely: (i) Improve government comprehensive solution competence; (ii) lessens the government administrative cost; (iii) Delivery of vital publicly accepted services; and (iv) promote sustainable public service delivery and infrastructure development. The results of this paper contribute to the worldwide acceptable practice framework for promoting the implementation of PPP projects in developing countries. Both government officials and private investors will be informed as to the expectation and success factors and stakeholders' expectation in their PPP engagement in the context of developing countries.
Keywords: Ghana, Public Private Partnership, Infrastructure, Mann-Whitney.

1. INTRODUCTION:

Public Private Partnership (PPP) is a progressively well accepted alternative to address infrastructural deficit, as a result of financial problem and technical managerial incompetence on the part of government (Dolla & Laishram, 2020). PPP serves as a financial vehicle for governments that are facing financial difficulties with the current economic environment, to exploit unorthodox private sector means of financial support while instantaneously attaining the benefits that the private investor can support in terms of technical and managerial skills (Jayasena, Chan, & Kumaraswamy, 2021). Finally, PPP can ensure improved value for money (VfM) from a country's public resources (Syuhaida & Aminah, 2009; Halim & Khalid, 2017).

With an increase in population and emerging economy, Ghana presently has an infrastructural gap deficit in various key sectors that needs to be addressed (Issifu, 2015). For instance, electricity production and supply have been the sole responsibility of government since independence in 1957. However, with obsolete machineries, enlarged urbanization of major cities, increased in household consumption of electricity, Infrastructure distribution has become unreliable resulting to the power load shedding (locally known as dumsor) in the country (Seidu, 2018). The government of Ghana has recognized the private independent Infrastructure producers (IPPs) as key partners to build more Infrastructure stations due to government inability to raise more funds to increase the number of Infrastructure generation locations in the country (Issifu, 2015). One of the efforts from government is the enactment to law of the Energy Sector Strategy and Development Plan (2010) which sought to promote financing for Infrastructure distribution from IPPs and government mandated agencies. Hence, in effect, allowing for more private participation (IPPs) in the infrastructure generation and distribution in the country.

Successful implementation of PPP projects in developed countries such as United States of America, France, United Kingdom, China, Hong Kong, Holland, and other countries, the concepts of PPP model has become generally accepted in Ghana (Osei-Kyei, Dansoh, & Ofori-Kuragu, 2014; Andisile & Bhasela, 2022; Mir & Pinnington, 2014). Nevertheless, notwithstanding the

acceptability of projects arranged under PPP financing and management in both developed and emerging economies, there is lack of research especially in emerging economies, focusing on the differences and similarities of PPP success factors by public officials and private entities in promoting PPP projects (Zayyanu, Kim, Johar, & Soheil, 2016; Yuan, Sikibniewski, Li, & Zheng, 2009; Aaltonen & Kujala, 2016). Bearing in mind that the PPP model has now developed into a global practice; where private entities and government officials partner together in the successful implementation of PPP projects despite their differences and similarities in reasons for the adoption of the concept (Jayasena N. , Chan, Kumaraswamy, & Saka, 2023). It is critical to appreciate the success criteria for the adoption of PPP projects from the perspectives of private entities and government officials to guide policy makers in the successful policy formulation and implementation of PPP projects (Bryson, 2018).

This research focused on the outcomes obtained from a recent evaluation of PPP projects in Ghana concerning the success criteria's to be considered by public officials and private investors in promoting PPP projects implementation in the infrastructure sector of Ghana. Specifically, there are two main aims of this current research. Foremost, it seeks to examine the overall success criteria's for promoting PPP projects in the infrastructure sector of Ghana as observed by the overall targeted PPP practitioners (both public and private) with extensive experience in the infrastructure sector. Secondly, the research aims to classify the differences in perception by both public officials and private investors in the success criteria's for promoting PPP projects in the infrastructure sector of Ghana.

The results of this research will contribute to the worldwide acceptable practice frameworks for improving the implementation of PPP projects in developing countries. Both government officials and private investors will benefit from the research, as the research will bring to clarity the success criteria from the perspectives of public officials and private entities in promoting the adoption of PPP projects in the context of developing countries. It is fundamental to highlight the distinctions in the motivation of the two key stakeholders because both public officials and the private investors play a vital role in the conceptualization and implementation of PPP projects. Furthermore, the current research is unique as it provides evidence relating to the success criteria for the promotion and adoption of PPP projects in Ghana.

The subsequent sections of this research are organized as follows. The following section 2 focuses on the Literature review which provides a succinct contextual of the public private partnership in Ghana and literature on the motives for implementing PPP projects. Section 3 is Research Methodology, which explains the questionnaire administered, sampling technique, sample size, data collection methods and analytical process. The findings are discussed in the subsequent section, followed by the policy implications, research limitations, conclusions and recommendations for future studies.

2.0 LITERATURE REVIEW

2.1 Public Private Partnership (PPP) in Ghana

The commencement of the Economic Recovery Programme (ERP) in the early 1980s fronted the debate of the vital role of private sector contribution in the economic development of Ghana (Issifu, 2015). Hence public private partnership has become gradually critical in the nation just like in many developing countries since the 1990s (Ansah & Takyiwaa, 2018). This kind of partnership between government and private investors in the finance and management of public infrastructure and delivery of services is due to the assumption of efficient and technical managerial competencies of private entities than the government agencies (Seidu, 2018). The notion of PPP was predominantly accepted to allow for the involvement of private entities to support government in the delivery of services and infrastructural development (Asare & Frimpong, 2013). This assumption influenced successive governments' engagement with the private sector in the course of governance history in the country (Nyanyofio, Domfeh, Maloreh-Nyamekye, & Appiah-Agyekum, 2022; Ahenkan, 2019).

Since then, the private sector has partnered with government in various sectors predominantly in the railway, aviation, telecommunication, road, water, Infrastructure, sanitation and sewage sectors (Osei-Kyei, Dansoh, & Ofori-Kuragu, 2014; Abubakari, Buabeng, & Ahenkan, 2013). The increase involvement of private sector in the public delivery of services was as a result of the inability of the government over the years to solely finance projects due to severe budget constraints (Issifu, 2015). The adoption of projects arranged under PPP has consequently become a dominant funded arrangement in the delivery of public services such as the railway, aviation, telecommunication, road, water, Infrastructure, sanitation and sewage sectors (Ameyaw & Chan, 2016).

There are three principal legal structures that underpin and legalize all PPP-related projects in the infrastructure sector of Ghana. These comprises the National Energy Policy (2010), National Guideline on Public-Private Partnerships (2011) and the PPP Act 2020 passed by the Parliament of Ghana. All the identified policies seek to increase private sector participation in the infrastructure generation and distribution in the country; for instance, the country's Energy Policy postulated that "the foremost stage concerning the distribution of dependable Infrastructure distribution services in Ghana will be to expand Infrastructure generation and supply infrastructure" (GoG, 2010:11). In line with the rationale behind the policy, the government seeks to partner with the IPPs to expand the electricity generation which presently stands at about 2000 MW to 5000MW by 2021 (Seidu, 2018). Hence, presently there are three functioning IPPs in the country who have Infrastructure Purchase Agreements with governments to generate and supply Infrastructure in the country (Ansah, 2015).

The country's policy on PPP postulated procedures on how projects arranged under PPP are conceptualized and implemented; commencing from the project initiation level to monitoring and evaluation (Dowokpor, 2013). In 2015, a PPP Bill was approved by Cabinet and laid before

Parliament for consideration. Finally, the PPP policy have been approved by Parliament to operationalize the policy for successful implementation in Ghana (Issifu, 2015). The Bill was approved by parliament and have established benchmarks under which PPP could be meritoriously applied in Ghana and also complement Government's determination to increase value, affordability and well-timed implementation of PPP projects by the government and the private sector (Seidu, 2018).

There have been other initiatives by GoG to promote PPPs in addressing infrastructural gap of the nation. The current president of Ghana, Mr. John Dramani Mahama, during his first term in office presented a proposed budget early 2016 with key policy directives significant to promoting PPP projects in Ghana. These PPP policy directives sought to promote reliable Infrastructure generation and supply to industries and households in the country which help businesses in the country to expand and increase revenue mobilization for various organizations. In other to champion the successful implementation of PPP projects, the government has also established the PPP Advisory Unit (PAU) under the Ministry of Finance and Economic Planning-Public Investment Division (MOFEP- PID) were established to front the implementation of the policy (Seidu, 2018).

2.2 Prior research on the motives for promoting PPP

In recent times, scholars have focused to identify the success criteria for PPP promotion, from the perspectives of various stakeholders in both developed and third world countries (Derakhshan, Turner, & Mancinia, 2019; King, Chilton, & Roberts, 2010; Lam & Yang, 2020). The critical success factors for PPP projects are largely substantiated by the motives for promoting PPP in a country (Mishra & Mushtaq, 2016; Shen, Platten, & Deng, 2006). Prior research revealed that from the perspectives of third world countries, success criteria and motive for promoting PPP was the fact that it helps expand public delivery of services and infrastructure management and renovation (Osei-Kyei, Dansoh, & Ofori-Kuragu, 2014; Tang & Shen, 2013; Park & Chung, 2021). Another key motive in the promotion and adoption of PPP projects is the fact that the private entity's ability to generate funds in the implementation of the project (Osei-Kyei, Dansoh, & Ofori-Kuragu, 2014; Facility, 2009; Abdul-Aziz & Kassim, 2011; Selim & ElGohary, 2020). The private partners have the capacity to increase huge funds for infrastructural developments hence supporting government inability to provide funds for the project (Chan, Lam, & Chan, 2010; Reinhardt, 2011; Chou & Pramudawardhani, 2015).

Li et al. (2005) by means of a survey instrument identified that a major motive in the promotion of PPP projects in United Kingdom include facilitating creative and innovative approaches in public service delivery and infrastructural development. Another key success criteria and motive for the adoption of PPP projects comprises promoting technology transfer and innovation (Li B. , Akintoye, Edwards, & Hardcastle, 2005). Osei-Kyei et. al. (2014) through their studies discovered a foremost motive in the adoption of PPP projects in Ghana was that it reduces the public sector administrative costs. Again it was also observed that PPP help promotes quick delivery of public services and infrastructure expansion (Li B. , Akintoye, Edwards, & Hardcastle, 2005; Chan, Yeung, Calvin, Wang, & Ke, 2011; Cheung, Chan, & Kajewski, 2010; Liu & and Wilkinson, 2011).

Another key observation from various research indicated that a foremost success criteria includes the sharing of risks between the government and private investors in the implementation of PPP project (Chan, Yeung, Calvin, Wang, & Ke, 2011; Qiao, Wang, Tiong, & Chan, 2001; Wibowo & Alfen, 2014). This was also confirmed by Osei-Kyei et al. (2014). The motive for the promotion of the PPP projects is the fact that it reduces government financial burden in the provision of public services and infrastructural development (Jamali, 2004; Ismail, 2013). Liu and Wilkinson (2011) from their studies in the context of New Zealand identified a key success criterion in the adoption of PPP projects as it providing dependable and quality in terms of services delivery. It is evidently clear that success criteria for the adoption of PPP projects had moved from the traditional financial support and risk sharing to other factors. For instance, recent studies (Ismail, 2013; Osei-Kyei et. al.; 2014) have mentioned that a key success criterion is the fact that it offers benefits to local socio-economic development. Additionally, it facilitates sustainable service delivery and infrastructural development (Dixon, Pottinger, & Jordan, 2005; OECD, 2016; Babatunde, Opawole, & Akinsiku, 2012).

Other scholars have also researched on the disadvantages of projects arranged under a PPP option (Rybnicek, Plakolm, & Baumgartner, 2020; Tam, 1999; Babatunde, Perara, Zhou, & Udeaja, 2015). The complexity of PPP arrangement tends to increase costs in the bidding, procurement processes of PPP project than a government sorely financed projects (Carbonera, Costantino, Gunnigan, & Pellegrino, 2015; Kwak, Chih, & Ibbs, 2009; Heravi, Coffey, & Trigunarsyah, 2015; Abdul-Aziz A. , 2007). The operational cost and investment by private actors in a PPP project, which is normally identified as a debt are mostly borne by government and customers of those services (Rybnicek, Plakolm, & Baumgartner, 2020). Hence the risks associated with PPP are fundamental and consequently appropriate management is prerequisite to analytically address the limits throughout the execution of PPP project (Wang, Dulami, & Aguria, 2004; Zhang, 2006; Jooste & Scott, 2011; Siemiatycki, 2012; Hwang, Zhao, & Gay, 2013).

In conclusion, from the various reviewed literature, it has been proven that the success criteria for stakeholders agreeing the implementation of PPP projects vary from developed and emerging countries. Whereas, some governments predominantly sought to allow for shared risk, reduce government financial burden, promote quick delivery of public services others rather gave success criteria like facilitate creative and innovative approaches in delivery of public services, promoting technological transfer and innovation. Nonetheless, there could be motives from the perspective of government officials and private investors in both developed and emerging countries.

It will be important for a study to be done to identify the similarities and differences in terms of success criteria in the adoption of PPP projects in both developed and developing countries to expand knowledge for improving international practices. Hence, this study sought to conduct a comparative study to evaluate PPP success criteria from the perspective of public officials and private investors in the adoption of PPP projects in the infrastructure sector of Ghana.

Table 1: Success criteria of PPP projects

Success criteria of PPP projects	Description	Osei-Kyei et al. 2014	Li et. al. 2005	Ismail, 2013	Chan et. al, 2009	Cheung et. al, 2010	Liu and Wilkinson, 2011	Jamali, 2004	Ameyaw and Chan, 2016	Ismail et al. 2012
Improve public delivery services and Infrastructure management and innovation	The technical and managerial expertise of private entities will ensure improved public delivery services	X								
Enable for shared risks	The risk factors shared among stakeholders, with private entities expected to have the large risk share.	X			X					
Private Investors capacity to generate financial resources	An acceptable financial resource can be raised by private entity for the execution of the projects.	X								
Accelerates inspired and innovative techniques in public service delivery	The managerial innovation of private entities will ensure improved public delivery services		X							
Supports technology transfer and innovation in public service delivery	The managerial innovation of private entities will ensure improved public delivery services		X							
Lessens the government administrative costs	An acceptable financial resource can be raised by private entity to lessen costs borne by government in the execution of the projects	X								
Supports improve delivery of public service delivery and infrastructure projects	The technical and managerial expertise of private entities will ensure improved public delivery services and expansion of infrastructure		X		X	X	X			
Lessens government financial inability in public service delivery	An acceptable financial resource can be raised by private entity to lessen government financial inability			X				X		
	in the execution of the projects									
Provide consistent and quality delivery of public services	The technical and managerial expertise of private entities will ensure consistent and quality public delivery services						X			
Offers support to socio-economic development	Communities will benefit in terms of social and economic development	X		X						
Promote sustainable public service delivery and infrastructure development	The partnership will ensure well sustained public service delivery services and infrastructure development				X	X				
Improves government comprehensive solution competence	The partnership will ensure well sustained capacity building of government officials and agencies to improve public service delivery services		X				X			X

3.0 RESEARCH METHODOLOGY

3.1 Research design

Both qualitative and quantitative methods are employed for this research to examine success criteria for the promotion of PPP projects in the infrastructure sector of Ghana. The exploratory technique which has an objective to describe the different parts of the research, will be adopted to establish and identify success criteria for the promotion of PPP projects in an emerging economy (Marshall & Rossman, 2011). The exploratory process would include the data collection method through administering of questionnaire, coding of collected data, data elucidation and analysed to help appreciate reasons for adoption of PPP projects from the two perspectives (Bennett, 1991; Miles & Huberman, 1994; Yin, 2014).

3.2 Data Collection

For the objective of this paper, two-step data collection procedure was employed; firstly, a prior desk review was conducted to identify success criteria for the adoption of PPP project from the perspective of developed and developing countries (Denscombe, 2017). After the secondary analysis, the second step was the fieldwork to administer questionnaires to PPP practitioners in the infrastructure sector as the primary research's instrument to collect primary data for data analysis. The basis behind the choice of the two-step approach is the fact that the success criteria identified from the literature review assisted in the development of the questionnaire. Success criteria and motives of PPP projects in the infrastructure sector are not generally known; but will be known through the literature review before opinions are solicited from respondents.

From a comprehensive secondary analysis of relevant literature, twelve distinct success criteria for promoting PPP were recognized. The list of twelve identified variables was pre-tested with ten (10) recognized PPP practitioners in Ghana to review the research instrument and help finalize the research questionnaire. The rationale behind this procedure was to determine the precision and practicality of the instrument to be employed for PPP practitioners in the infrastructure sector of Ghana. The reviewers guaranteed practicality and precision of the usefulness of the success criteria with few revisions. Evidently, the revisions were largely modifications of the research instrument structure and font size. Questionnaires were then administered to respondents in the managerial positions in the infrastructure sector with experience in PPP projects.

The criterial for choice of respondents were centered on two conditions viz; respondents experience in Infrastructure sector and have a basic understanding of PPP concept. Comparable selection conditions were applied by Osei-Kyei et al. (20014) in related research. These helped to seek views from the PPP practitioners on the chronicled list of success criteria for adoption of PPP in the Infrastructure sector from the perspective of the public officials and private investors.

3.3 Sampling Technique

The research adopted a purposive sampling in the selection process of respondents (Marshall & Rossman, 2011). The rationale for the choice of the purposive sampling technique was the fact that the researched needed to target key PPP experts with sufficient experience in the infrastructure sector in Ghana. Snowball sampling technique was also employed to complement the sampling procedure where recognized PPP experts in the infrastructure sector also recommended other expert with in-depth experience in Ghana to be added to the list of participants to be administered with questionnaires for the study.

3.4 Instrument for Collection of Data

The target participants for the research comprises various PPP experts in government agencies and private sector, in managerial positions. The questionnaires were administered in Accra (capital city of Ghana), Takoradi in the Western region of Ghana and Tamale in the Northern Region of Ghana. A total of one hundred and thirty-nine (139) PPP experts with managerial experience in PPP projects in both public and private sectors were chosen for this research. The respondents were administered with questionnaires through face-to-face interactions and data from some respondents were collected through a telephonic administration of questionnaire as well.

Thus, the desk review helped in identifying the success criteria for the adoption of PPP projects to guide in developing the research instrument to be administered to the PPP expects in the infrastructure sector. A Likert Scale from 1 to 5 (1 - not relevant and 5 - very relevant) were given to respondents to rate the 12 success variables for successful PPP projects. The developed questionnaire for the research also took into consideration demographic data of the participants for the study.

The developed questionnaire was divided into two sections with instructions assigned to each part. Section A was on the demographic data about the respondents for the study; section B is on the success variables for the adoption of PPP projects. The respondents comprising public officials and private investors of the research were requested to rank various variables for successful PPP projects in the infrastructure sector of Ghana. There was also an opened-ended question in section C to solicit respondents views on other success variables outside the pre-recorded list provided in the questionnaire.

3.5 Data Analysis

The research employed SPSS version 25.0 to perform statistical tests. In terms of detailed analysis, the research adopted a four-step analytical process for effective analysis (Field, 2013). The first step was to test for the reliability of the data collected from the field, the research used SPSS by means of Cronbach's alpha model to test for reliability of the responses of participants (Hair, 2006). Secondly, Kendall's concordance analysis was also performed to assess for the reliability of the rating of responses from the public officials and the private investors. Thirdly, the comparative significance and rating of each success criteria for promoting PPP in the Infrastructure sector was confirmed applying the average ranking score analysis.

Fourthly, non-parametric test was also performed by means of Mann-Whitney U test to recognize the significant disparities on the mean score ranking of success criteria in the promotion of PPP between the public officials and private investors. The reason for selecting Mann-Whitney U test was that the research sought to conduct a statistical test to understand whether government officials and private entities are significantly different. This was critical because both government and private entities all have different motives, so the research expected that some different motives from the perspectives of the two stakeholders (Public officials and private entities).

4.0 FINDINGS AND DISCUSSION

4.1 Descriptive Analysis

In total, 139 participants from the government agencies and private entities in the infrastructure sector of Ghana were tracked and recognized from PPP reviewed literature from the perspective of developed and emerging economies worldwide. Out of the total participants selected, 77 came from solely government agencies, whereas 62 came from PPP entities mainly from Independent Infrastructure Producers. The reason why we had a large participant from the public agencies where the fact that public officials were more approachable than officials from PPP entities who usually had to seek approval from management before participating in survey of that nature (Osei-Kyei & Chan, 2018). Again, we tend to have more employees working in the public sector than the private sector, hence there is the probability of selecting more latent PPP practitioners in the infrastructure sector of Ghana.

The self-administered questionnaires were disseminated to the targeted participants through email and via telephone as well and majority through face-to-face. A total of 139 completed questionnaires were received after distributing 180 self-administered questionnaires; 77 from government agencies, and 62 from private entities representing response rates of 77.22%. Nevertheless, the general sample size for the research of 139 participants is appropriate and acceptable for advance analysis, when likened with analogous studies including Osei- Kyei & Chan (2018). The demographic data of respondents is illustrated in Table 2. As shown in Table 2, in terms of officials from public sector, 81.8% of respondents were Male (men), while 18.2% were female (women); from the private sector, 71.0% were Male, whilst 29.0% were female participants. Again, in terms of level of education, from the public sector perspective, 83.3% of participants had Master's degree, whilst 11.7% of respondents had PhD; from the private sector perspective, 19.4% of participants had undergraduate degree, whist 80.6% of respondents had Master's degree. Thus, it is evidence that majority of the respondents (public and private sector) were well educated.

Table 2: Demographic data

Category	Public sector (Government)		Private Sector	
	No of Respondent	Percent (%)	No of Respondent	Percent (%)
Gender				
Male	63	81.8	44	71.0
Female	14	18.2	18	29.0
Total	77	100	62	100
Level of Education				
First Degree			12	19.4
Masters	68	88.3	50	80.6
PhD	9	11.7	-	-
Total	77	100	62	100
Number of years working on PPP projects in the infrastructure sector				
1-3 years	5	6.5	13	21.0
4-6 years	50	64.9	31	50.0
7-9 years	22	28.6	18	29.0
Total	77	100	62	100

Further, almost 28.6%, 64.9% and 6.5% of participants from the public sector had 7-9 years, 4-6 years, 1-3 years respectively on number of years working on PPP projects in the infrastructure sector of Ghana. Again, almost 29.0%, 50.0% and 21.0% of participants from the private sector had 7-9 years, 4-6 years, 1-3 years respectively on number of years working on PPP projects in the infrastructure sector of Ghana. In other words, majority of respondents have more than four years of PPP experience in the infrastructure sector of Ghana either as energy sector researchers and/ or industrial PPP experts. This implies the participants opinion on this research were reliable because they have vast experience in the infrastructure sector of Ghana.

4.2 Reliability Analysis

Table 3 and 4 illustrate the outcomes of the Cronbach's alpha reliability test for the reasons for adopting the implementation of PPP projects in the infrastructure sector of Ghana. The outcomes for the public officials and private entities illustrate that the data gathered are reliable at 0.812 and 0.793 respectively. The alpha value is beyond the satisfactory alpha value of 0.70 proposed by Norusis (2008).

Table 4: Result of data reliability (private sector)

Cronbach's Alpha	No. of Items
0.793	12

Table 5. Results of Kendall's coefficient of concordance analysis

Characteristics	Public	Private	Overall
Number of Respondents	77	62	139
Kendall's W[a]	0.271	0.291	0.264
Chi-square	229.913	198.312	404.201
Degree of Freedom (df)	11	11	11
Critical value of Chi-square	19.675	19.675	19.675
Asym. Sig	0.000	0.000	0.000

a = Kendall's Coefficient of Concordance (W)

Table 5 above illustrates the test outcomes of the Kendall's concordance analysis in both public sector and the private entities each at a significance test value of 0.05. The Kendall's W[a] for the rating of variables within each group is 0.271 and 0.291 for public officials and private entities respectively. Both the government officials and private entities group of participants attained a significance value of 0.000. Again, for the data received for the degree of freedom (df), the critical value of chi-square is 19.675 for the both government and private respondents of 229.913 and 198.312 respectively. Undoubtedly, this insinuates that the participants have remarkable knowledge on the concepts of PPP and appreciates the questions in the instrument (Osei-Kyei & Chan, 2018). Additionally, the outcomes of the survey illustrate that there is marginal changeability in the ratings provided by the PPP practitioners in each group (Public and Private stakeholders), and this suggests that the participants options captured from the fieldwork are reliable and acceptable for auxiliary discussion and analysis.

4.3 Mean analysis and significant difference(s) on rankings of the success criteria for promoting PPP in the Infrastructure Sector of Ghana

The mean ranking analysis of public and private officials for the success criteria of adoption of PPP projects is illustrated in table 6. It is perceptible that the mean figure for public official range from 4.84 to 3.39, and 4.87 to 3.21 for private officials, respectively. The overall mean values are 4.86 and 3.31 for public and private officials. Noticeably, the huge difference in the overall mean values insinuates that public officials and the respondents from private entities have different motives in the promotions of PPP projects in the infrastructure sector of Ghana. Evidently, this finding from the research supports the viewpoint that public officials have different assertions from respondents in private entities in the promotion of PPP policies and projects (Liu & and Wilkinson, 2011).

Essentially, the success criteria for the adoption and promotion of PPP policies and projects in the infrastructure sector from the perspective of the public officials which had a mean critical value above 4.10 are: (i) Improve government comprehensive solution competence; (ii) lessens the government administrative cost; and (iii) Delivery of vital publicly accepted services. The conclusions are coherent with previous research including Osei-Kyei et al. (2018), where the underlying success criteria for governments and for that matter the public officials oblige in projects arranged under PPP contract is as a result of financial support to reduce government cost as a major motive. Thus, the major success criteria in the adoption and promotion of PPP projects in various sectors in Ghana including Infrastructure sector, water and road sector is to lessen government administrative cost and improve delivery of services through the PPP arrangement.

Improve government comprehensive solution competence is ranked first for the viewpoint of respondents from private entities as a major success criterion in the promotion of PPP projects in the infrastructure sector. This viewpoint is in line with affirmation by the Public–Private Infrastructure Advisory Facility (PPIAF) (2009) that private investors motive in joining projects arranged under PPP is to improve on government tasks in the delivery of services by building their competences. Managerial competences are vital in the successful implementation of PPP projects in Ghana because lack of managerial competencies can affect the successful PPP policy formulation and implementation of projects. Definitely, formulation and strategizing a PPP policy in the infrastructure sector requires assembling technical and managerial experts for the successful implementation of the PPP projects; thus, managerial competencies are critical for any PPP projects. It must be highlighted that in Ghana's Infrastructure sector, it is not only the IPPs (private entities) who desires to improve government comprehensive solution competences; but government officials also have the same reason in the adoption and promotion of PPP projects in the infrastructure sector of Ghana. This is because the Government of Ghana (GoG) objectives are always to build the human capacity of officials in any PPP projects agreement.

Again table 6 illustrates the general mean analysis for both public officials and respondents from private entities for success criteria in the promotion and adoption of PPP projects in the of Infrastructure sector. Centered on the analytical cut-off point of 4.10; four (4) variables were selected, namely: (i) Improve government comprehensive solution competence; (ii) lessens the government administrative cost; (iii) Delivery of vital publicly accepted services; and (iv) promote sustainable public service delivery and infrastructure development. Manifestly, PPP ventures in the infrastructure sector comprise gargantuan financial involvement in the successful implementation of projects. The benefits for projects arranged under PPP have propelled key motives in the promotion of PPP projects in the infrastructure sector of Ghana. The conclusions are coherent with prior studies including Issifu (2015) and Osei-Kyei et al. (2018), where essence of promotion of PPP projects by both government and private entities is to improve competences, lessens government financial burden, improve delivery of services and sustainable infrastructural development.

The concluding column in Table 6 illustrates the significant test value of 0.05 outcomes on the ranking of success criteria in the promotions of PPP projects from the viewpoints of public officials and respondents from private entities in the infrastructure sector of Ghana. Therefore, a condition with a p-critical value < 0.05 implies that public officials and respondents from private entities opinion the relevance of that condition inversely. As illustrated in Table 6, three of the twelve success criteria of adoption of PPP projects are significantly different among the public officials and respondents from the private entities. The three success criteria that were significant were Supports improve delivery of public services, expansion of infrastructure; and offers support to socio-economic development.

Supports improved delivery of public services is ranked fifth by the public official respondents, whereas the respondents from the private entities ranked it seventh. Mostly, any projects arranged under PPP contracts seeks to improve the services of the public utility; this has become critical in Ghana, where government over the years have found it difficult to deliver public services without disruptions. For instance, over the last decade, the government has signed various agreements with the IPPs to improve distribution of Infrastructure supply to citizenry. In essence, the Ghanaian government mostly under a PPP contract for projects in the infrastructure sector to help improve services to consumers which is mostly common in most PPP projects. Facilitating IPP investment in the infrastructure sector is a major strategy for the GoG to address the infrastructure funding gap faced in the infrastructure sector. In 2011, the GoG sanctioned the country's PPP policy as part of government strategy to attract private investment agenda. Ghana currently has three successful, IPP namely Bui Infrastructure, CENIT and Sunon Asogli to help improve the services of Infrastructure distribution.

In addition, expansion of infrastructure connected with PPP execution have been recognized as some of the reasons why public officials and respondents from private entities in the infrastructure sector, enter into PPP arrangements (Issifu, 2015). Hence, it is estimated that through PPP, there will be expansion of infrastructure in the power sector of Ghana. With the construction of Bui

hydroelectric plant, the country's Infrastructure distribution capacity increased to 2,837 MW, which covered some 74% of the populace in Ghana. The power production capacity again increased by another 240 MW after the creation of the Kpone thermal Infrastructure plant, producing the aggregate instated Infrastructure distribution capacity to 3,077 MW. Hence the various agreement with private investors helped expand infrastructure, increase Infrastructure generation capacity, which resulted in consistency of the power distribution to consumers.

Offers support to Socio-economic development is ranked eleventh in public officials and seventh in respondent from private entities. Socio-economic development denotes to the economic welfares related with projects under PPP arrangement, which comprises job opportunities and open accessibility to community facilities by local populace (Osei-Kyei & Chan, 2017). Categorically, some of the reasons in the adoption of PPP projects in the power sector is the of the creation of more local employment opportunities for citizenry (World Bank, 2009). Lack of job opportunities are very extreme in the country due to a plethora of factors. The recent unemployment rate in the country stood at 14.23% in 2017 (Ghana Statistical Service report, 2018). Again, the infrastructure shortfall in the country entails a yearly spending of US$1.5 billion (World Bank, 2015). The PPP model is consequently perceived by the government as a revenue to lessening the joblessness rate and addressing Ghana's infrastructure gap (Osei-Kyei et al., 2017).

Table 6: Mean analysis and significant test results for success criteria in promoting PPP in the Infrastructure sector of Ghana

Success Factors	Public		Private		Overall		Mann-Whitney U Test		
	Mean	Rank	Mean	Rank	Mean	Rank	U-Stat	Z	P-value
Improve government comprehensive solution competence	4.84	1	4.87	1	4.86	1	2253.000	-1.331	0.183
Lessens the government administrative cost	4.30	2	4.15	4	4.23	2	2171.000	-0.992	0.321
Delivery of vital publicly accepted services	4.12	3	4.18	3	4.14	3	2254.500	-0.618	0.536
Promote sustainable public service delivery and infrastructure development	4.03	6	4.24	2	4.12	4	1999.500	-1.767	0.77
Enable for shared risks	4.05	4	3.81	5	3.94	5	2012.000	-1.678	0.93
Provide consisted and quality delivery of Public success	3.87	7	3.79	6	3.83	6	2219.500	-0.749	0.454
Supports improve delivery of Public service delivery and infrastructure projects	4.03	5	3.55	8	3.81	7	1683.300	-3.170	**0.000***

Improve expansion of infrastructure	3.67	8	3.47	10	3.59	8	1937.000	-2.100	**0.000***
Offers support to Socio-economic development	3.39	11	3.65	7	3.50	9	1895.000	-2.331	**0.000***
Private investors capacity to generate financial resources	3.40	10	3.55	9	3.47	10	2217.000	-0.758	0.449
Supports technology transfer and Innovation in public service delivery	3.48	9	3.34	11	3.42	11	2187.500	-0.916	0.359
Accelerate inspired and innovative techniques in Public Service delivery	3.39	12	3.21	12	3.31	12	2123.000	-1.179	0.238

5.0 IMPLICATIONS, LIMITATIONS AND CONCLUSIONS

This paper has empirically investigated the success variables for the adoption and promotion of PPP projects in the infrastructure sector of Ghana from the perspective of the public officials and respondents from the private entities (Independent Infrastructure Producers). For the objective of this paper, two-step data collection procedure was employed; with this procedure a prior secondary analysis conducted to identify reasons for the adoption of PPP project from the perspective of developed and developing countries. After the secondary analysis, the second step was the fieldwork to administer questionnaires to PPP practitioners in the infrastructure sector as the primary research's instrument to collect primary data for data analysis. The basis behind the choice of the two-step approach is the fact that the reasons identified from the literature review assisted in the development of the questionnaire. success factors and challenges of PPP projects in the infrastructure sector are not generally known; but will be known through the literature review before opinions are solicited from respondents.

In terms of detailed analysis, the research adopted a three-step analytical process for effective analysis. The first step was to test for the reliability of the data collected from the field, the research used SPSS by means of Cronbach's alpha model to test for reliability of the responses of participants. Secondly, Kendall concordance analysis was also performed to assess for the reliability of the rating of responses from the public officials and the private investors. Thirdly, the comparative significance and rating of each reason for promoting PPP in the Infrastructure sector was confirmed applying the average ranking score analysis. Fourthly, non-parametric test was also performed by means of Mann-Whitney U test to recognize the significant disparities on the mean score ranking of reasons in the promotion of PPP between the public officials and private investors. This was critical because both government and private entities all have different reasons, so the research expected that some motives from the two stakeholders (Public officials and private entities).

Essentially, the success criteria for the adoption and promotion of PPP policies and projects in the infrastructure sector from the perspective of the public officials which had a mean critical value above 4.10 are: (i) Improve government comprehensive solution competence; (ii) lessens the government administrative cost; and (iii) Delivery of vital publicly accepted services. Improve government comprehensive solution competence is ranked first for the viewpoint of respondents from private entities as a major reason in the promotion of PPP projects in the infrastructure sector. This viewpoint is in line with affirmation by the Public–Private Infrastructure Advisory Facility (PPIAF) (2009) that private investors motive in joining projects arranged under PPP is to improve on government tasks in the delivery of services by building their competences.

General mean analysis for both public officials and respondents from private entities for reasons in the promotion and adoption of PPP projects in the of Infrastructure sector. Centered on the analytical cut-off

point of 4.10; four (4) variables were selected, namely: (i) Improve government comprehensive solution competence; (ii) lessens the government administrative cost; (iii) Delivery of vital publicly accepted services; and (iv) promote sustainable public service delivery and infrastructure development. Manifestly, PPP ventures in the infrastructure sector comprise gargantuan financial involvement in the successful implementation of projects. The benefits for projects arranged under PPP have propelled key reasons in the promotion of PPP projects in the infrastructure sector of Ghana. The conclusions are coherent with prior studies including Issifu (2015) and Osei-Kyei et al. (2018), where essence of promotion of PPP projects by both government and private entities is to improve competences, lessens government financial burden, improve delivery of services and sustainable infrastructural development.

Three of the twelve success criteria of adoption of PPP projects are significantly different among the public officials and respondents from the private entities. The three variables that were significant were Supports improve delivery of public services, expansion of infrastructure; and offers support to socio-economic development. Supports improve delivery of public services is ranked fifth by the public official respondents, whereas the respondents from the private entities ranked it seventh. Mostly, any projects arranged under PPP contracts seeks to improve the services of the public utility; this has become critical in Ghana, where government over the years have found it difficult to deliver public services without disruptions. For instance, over the last decade, the government has signed various agreements with the IPPs to improve distribution of Infrastructure supply to citizenry. In essence, the Ghanaian government mostly under a PPP contract for projects in the infrastructure sector to help improve services to consumers which is mostly common in most PPP projects.

In addition, expansion of infrastructure connected with PPP execution have been recognized as some of the motives why public officials and respondents from private entities in the infrastructure sector, enter into PPP arrangements (Issifu, 2015). Hence, it is estimated that through PPP, there will be expansion of infrastructure in the power sector of Ghana. Some of the motives in the adoption of PPP projects in the infrastructure sector is the of the creation of more local employment opportunities for citizenry (World Bank, 2009). Lack of job opportunities are very extreme in the country due to a plethora of factors. The recent unemployment rate in the country stood at 14.23% in 2017 (Ghana Statistical Service report, 2018). Again, the infrastructure shortfall in the country entails a yearly spending of US$1.5 billion (World Bank, 2015). The PPP model is consequently perceived by the government as a revenue to lessening the joblessness rate and addressing Ghana's infrastructure gap (Osei-Kyei et al., 2017).

The results of this research provide significantly to the understanding on the worldwide preeminent practices of public private partnership in funding and management of projects. Moreover, stakeholders will be informed as to the success criteria for the adoption and promotion of PPP projects by government and private entities. More importantly the success criteria identified will guide stakeholders in policy guidelines and successful implementation of PPP projects. The foremost constraint of this research lies in the circumstance that small samples are relied upon for data collection; hence, the outcomes cannot be eagerly generalized. Nevertheless, bearing in mind that the majority of sampled officials from government agencies and private entities have practical number of years of working experience in partaking in PPP projects in the infrastructure sector, the studies outcomes are nevertheless significant and respected for reliance for academic research

.

REFERENCES

1. Aaltonen, K., & Kujala, J. (2016). Towards an improved understanding of project stakeholder landscapes. International Journal of Project Management , 1537-1552.
2. Abdul-Aziz, A. (2007). Successful delivery of Public-private partnerships for infrastructure development. Journal of Construction Engineering and Management , 918-931.
3. Abdul-Aziz, A., & Kassim, P. (2011). Objectives , success and failure factors of housing public-private partnerships in Malaysia. Halnitat International, 150-157.
4. Abubakari, M., Buabeng, T., & Ahenkan, A. (2013). Implementing public private partnerships in Africa: the case of urban water service delivery in Ghana. Journal of Public Adminsitration and Governance , 41.
5. Agrawal, R. (2010). Successful Delivery of Public Private Partnership for Infrastructure Development. India: Jaypee Institute of Information technology.
6. Ahenkan, A. (2019). Mainstreaming public-private partnership in national development: how ready is Ghana? Business Strategy and Development, 230-227.
7. Alfen, H., Kalidindi, S., Ogunlana, S., Wang, S., Abednego, M., Jungbecker, A., . . . Zhao, G. (2009). Public-Private Partnership in infrastructure development: Case studies from Asia and Europe. Germany: Banhaus-Universitat Weimer.
8. Ameyaw, E., & Chan, A. (2015). Risk ranking and analysis in PPP water supply infrastructure projects. Journal: Facilities, 428-453 .
9. Ameyaw, E., & Chan, A. (2015). Risk Ranking and analysis in PPP water supply infrastructure projects. Journal Facilities, 428-453.
10. Ameyaw, E., & Chan, A. (2016). Critical success factors for PPP in water supply project. Facilities Journal.
11. Ameyaw, E., & Chan, A. (2016). Critical success factors for PPP in water supply project. Facilities Journal.
12. Andisile, B., & Bhasela, Y. (2022). Stakeholder

Engagement Strategies Assessment in Expanded Public works Programme. Journal of Governance and Regulation, 46-58.
13. Ansah, J. (2015). Ghana's public-private partnership: standards and waves of elitism. International Journal of African and Asian Studies , 30-63.
14. Ansah, J. (2015). Ghana's public-private partnership: standards and waves of elitism. International Journal of African and Asian studies, 30-63.
15. Ansah, J., & Takyiwaa, D. (2018). Civil society engagement in Ghana's public-private partnership regime a study of Imani and Ghana Integrity initiative (GII). Ghana Social Science Journal, 30-63.
16. Asare, B., & Frimpong, M. (2013). Public-private partnerships and urban sanitation: do expectations meet realities in Madina-Ghana. Jornal of African Studies and Development, 113.
17. Babatunde, S., Opawole, A., & Akinsiku, O. (2012). Critical success factors in public-private partnership (PPP) on infrastructure delivery in Nigeria. Journal of Facilities Management , 212-225.
18. Babatunde, S., Perara, S., Zhou, L., & Udeaja, C. (2015). Barriers to public private partnership projects in developing countries. Engineering, Construction and Architectural Management , 669-691.
19. Bennett, R. (1991). How is research carried out Handbook. London: Routledge.
20. Bryson, J. (2018). Strategic Planning for public and nonprofit organizations: A guide for strengthening and sustaining organizational achievement. New Jersey: John Wiley and Sons.
21. Carbonera, N., Costantino, N., Gunnigan, L., & Pellegrino, R. (2015). Risk management in motorway PPP projects: Empirical based guidelines. Transport Review, 162-182.
22. Chan, A., Lam, P., & Chan, D. C. (2010). Critical success factors for PPPs in Inrastructure developments: Chinese Perspective. Journal of Contruction Engineer Management .
23. Chan, A., Yeung, J., Calvin, C., Wang, S., & Ke, Y. (2011). Empirical study of risk assessment and allocation of public-private partnership projects in China. Journal of Management in Engineering, 136-148.
24. Cheung, E., Chan, P., & Kajewski, S. (2010). Suitability of procuring large public works by PPP in Hong Kong. Engineering, Construction and Achitectural Management, 292-308.
25. Chou, J., & Pramudawardhani, D. (2015). Cross-Country comparisons of key drivers, critical success factors and risk allocation for public-private partnerships PROJECTS. International Journal of Project Management, 1136-1150.
26. Chou, J., Tseng, H., Lin, C., & Yeh, C. (2012). Critical factors and Risk Allocation for PPP Policy: Comparison between HSR and General Infrastructure Projects. Transport Policy, 36-48.
27. Cooper, D., & Schindler, P. (2011). Business Research Methods. New York: McGraw Hill International .
28. Denscombe, M. (2017). The good research guide: For small-scale social research projects. London: McGraw-Hill Education.
29. Derakhshan, R., Turner, R., & Mancinia, M. (2019). 2019. International Journal of Project Management , 98-116.
30. Dixon, T., Pottinger, G., & Jordan, A. (2005). Lessons from the private finance initiative in the UK: benefits, problems and critical success factors. Journal of Property Investment & Finance, 412-423.
31. Dolla, T., & Laishram, B. (2020). Factors affecting public-private partnership preference in Indian municipal waste sector. International Journal of Construction Management, 567-584.
32. Dowokpor, W. (2013, April 4). Ghana home page. Retrieved from Ghanaweb: http://www.ghanaweb.com
33. Facility, P.-P. I. (2009). Toolkit for public private partnership in roads and highways: selecting PPP projects. Washington DC: World Bank Publications.
34. Field, A. (2013). Discovering Statistics using IBM SPSS Statistics. London: Sage.
35. Hair, J. (2006). Multivariate Data Analysis (6th edi.). New Yorke: Pearson Prentice Hall.
36. Halim, B., & Khalid, A. (2017). The Influence of Critical Success on Value for Money viability Analysis in Public-Private Partnership Projects. Project Management Journal, 93-106.
37. Heravi, A., Coffey, V., & Trigunarsyah, B. (2015). Evaluating the Level of Stakeholder involvement during the project planning processes of building projects. International journal of Project Management , 985-997.
38. Hwang, B., Zhao, X., & Gay, M. (2013). Public Private Partnership projects in Singapore: Factors, critical risks and preferred risk allocation from the perspective of contractors. International Journal of Project Management , 424-433.
39. Ismail, S. (2013). Positive and negative factors for the successful adoption of public private partnership (PPP): evidence from Malaysia. Malaysian Studies, 65-81.
40. Issifu, J. (2015). Public Private Partnership in the power sector of Ghana: Has it delivered as expected. Norway: University of Bergen.
41. Jamali, D. (2004). Success and failure mechanisms of public private partnership (PPP) in developing countries, insights from the Lebanese context. International journal of Public Sector Management , 414-430.
42. Jayasena, N., Chan, D., & Kumaraswamy, M. (2021). A systematic literature review and analysis towards developing PPP models for delivering smart infrastructure. Built Environment Project and Asset Management - Special Issue on"Public-Private Partnerships , 121-137.
43. Jayasena, N., Chan, D., Kumaraswamy, M., & Saka, A. (2023). Applicability of public- private partnerships in smart infrastructure development: the case of Hong Kong. International Journal of Construction Management, 1932-1944.
44. Jooste, S., & Scott, W. (2011). The Public-Private Partnership Enabling Field: Evidence from 3 cases.

Administration & Society , 149-182.
45. King, S., Chilton, B., & Roberts, G. (2010). Reflections on defining the public interest . Adminsitration and Society Journal, 954-978.
46. Kwak, Y., Chih, Y., & Ibbs, C. (2009). Towards a comprehensive understanding of public private partnerships for infrastructure development. California Management Review, 51-78.
47. Lam, P., & Yang, W. (2020). Factors influencing the consideration of Public-Private Partnerships (PPP) for smart city projects: evidence from Hong Kong. Cities.
48. Li, B., Akintoye, A., Edwards, P., & Hardcastle, C. (2005). Critical success factors for PPP/PFI projects in the UK construction industry. Construction Management and Economics, 459-471.
49. Li, B., Akintoye, A., Edwards, P., & Hardcastle, C. (2005). Perceptions of Positive and Negative factors influencing the attractiveness of PPP in the UK. Engineering, Construction and Achitectural Management, 125-148.
50. Liu, T., & and Wilkinson, S. (2011). Adopting innovative procurement techniques: obstacles and drivers for adopting Public Private Partnerships in New Zealand. Construction Innovation Management , 452-469.
51. Marshall, C., & Rossman, G. (2011). Designing qualitative Research. Thousands Oak: Sage.
52. Miles, M., & Huberman, A. (1994). Qualitative data analysis: An expanded sourcebook (2nd ed.). CA: Sage.
53. Ministry of Finance and Economic Planning, M. (2021). National Policy on Public-Private partnership. Government of Ghana.
54. Mir, F., & Pinnington, A. (2014). Exploring the value of project management: Linking project management performance and project success. International Journal of Project Management , 202-217.
55. Mishra, B., & Mushtaq, S. (2016). Public Private Partnership in India: Pertinence, Performance and Potential. International Journal for Innovative Research in Science and Technology.
56. Nyanyofio, J., Domfeh, A., Maloreh-Nyamekye, T., & Appiah-Agyekum, N. (2022). Governance and effectiveness of public-private partnership in Ghana's rural-water sector. International Journal of Public Sector Management .
57. OECD. (2016). Dedicated Public-Private Partnership Units survey of Institutional and Governance structures. OECD Publication.
58. Osei-Kyei, R., & Chan, A. (2015). Review of studies on the critical success factors for public private partnership (PPP) projects. International Journal of Project Management, 1335-1346.
59. Osei-Kyei, R., & Chan, A. (2017). Implementing Public Private Partnership policy for public construction project in Ghana: critical success factors and policy implications. International Journal of Construction Management , 11-123.
60. Osei-Kyei, R., & Chan, A. (2018). Comparative study of governments' reasons for adopting PPP policy in developing and developed countries. International Journal of Strategic Property Management, 403-414.
61. Osei-Kyei, R., Dansoh, A., & Ofori-Kuragu, J. (2014). Reasons for adopting Public-Private Partnership (PPP) for construction projects in Ghana. International Journal of Construction Management, 227-238.
62. Osei-Kyei, R., Dansoh, A., & Ofori-Kuragu, J. (2014). Reasons for adopting public-private partnership (PPP) projects. International journal of Project Management, 1335-1346.
63. Park, J., & Chung, E. (2021). Learning from past pandemic governance: early response and Public-Private Partnerships in testing of COVID-19 in South Korea. World Development, 105-198.
64. Qiao, L., Wang, S., Tiong, R., & Chan, T. (2001). Framework for critical success factors for tendering BOT projects in China. The Journal of Structured Finance, 53-61.
65. Reinhardt, W. (2011). The role of private investment in meeting US transportation infrastructure needs. Public Works Financing , 131.
66. Rybnicek, R., Plakolm, J., & Baumgartner, L. (2020). Risks in Public-Private Partnership: A Systematic Literature Review of Risk Factors, Their Impact and Risk Mitigation Strategies. Public Performance and Management Review, 1174-1208.
67. Seidu, A. (2018). Public Private Partnerships in Ghana: Interrogating the efficacy of a politically convenient practice. Accra: Friedrich Ebert Stiftung Ghana.
68. Selim, A., & ElGohary, A. (2020). Public–private partnerships (PPPs) in smart infrastructure projects: the role of stakeholders. HBRC Journal, 317-333.
69. Shen, L., Platten, A., & Deng, X. (2006). Role of public private partnerships to manage risks in public sector projects in Hong. International Journal of Project Management , 587-594.
70. Siemiatycki, M. (2012). The Global Experience with Infrastructure Public-Private Partnership. Planning & Environmental Law, 6-11.
71. Syuhaida, I., & Aminah, M. (2009). The Provision of Infrastructure via Private Finance Initiative. Theoretical and empirical researches in Urban Management. Urban Issues in Asia, 76-86.
72. Tam, C. (1999). Build-operate-transfer model for infrastructure developments in Asia: reasons for successes and failures. International Journal of Project Management , 377-382.
73. Tang, I., & Shen, Q. (2013). Factors affecting effectiveness and efficiency of analysing stakeholders needs at the briefing stage of public private partnership projects. International Journal of Project Management .
74. Wang, S., Dulami, M., & Aguria, M. (2004). Risk Management framework for construction projects in developing countries . Construction Management and Economics, 237-252.
75. Wibowo, A., & Alfen, H. (2014). Identifying macro-environmental critical success factors and key areas for improvement to promote public-private partnerships in infrastrucuture: Indonesia Perspective. Engineering Construction and

Architectural Management , 383-402.

76. Wong, J., Wong, Y., & Ng, T. (2012). Factors influencing the success of PPP at feasibility stage – A tripartite comparison study in Hong Kong. Habitat International, 423-432.
77. Yescombe, E. (2011). Public-Private Partnerships Principles of Policy and Finance. Elsevier.
78. Yin, R. (2014). Case study research design and methods (5th ed.). Thousand Oaks: Sage.
79. Yuan, J., Sikibniewski, M., Li, Q., & Zheng, I. (2009). Performance objectives selection model in public-private partnership projects based on the perspective of stakeholders. Journal of Management in Engineering, 89-104.
80. Zayyanu, M., Kim, K., Johar, F., & Soheil, S. (2016). An overview of critical success factors of Public Private Partnership in the delivery of urban Infrastructure and Services. Journal of the Malaysian Institute of Planners, 147-162.
81. Zhang, X. (2006). Public clients best value perspectives of public private partnerships in infrastructure development. Journal of Construction Engineering and Management.

.