DBA Africa Management Review
August 2014, Vol 4 No 2. Pp 89-102

Stakeholders' Perception of Critical Success Sub- Factors (CSSFs) for Implementation of Public –Private Partnership Projects

Olabode Emmanuel Ogunsanmi[1]

Aim of study is to investigate Critical Success Sub-factors (CSSFs) contributing to successful implementation of PPP projects. Objectives are to compare perception of stakeholders on importance of CSSFs contributing to successful implementation of PPP projects in Nigeria and also to test whether there is significant agreement between the stakeholders on their rankings of CSSFs. Structured questionnaires were used to collect information from professionals and concessionaires who were involved in PPP projects. Purposive sampling technique was used in selecting fifty (50) respondents and only thirty-six (36) responses were used for data analysis. Results suggest that CSSFs for successful implementation of PPP project are integrity, complexity of project, project management expertise, realistic cost/benefit assessment, government guarantee, private sector financial capability and adequate financial market that must be considered by all stakeholders. There is an agreement in the opinion of both the Public and Private sectors on the importance of CSSFs except for strong private consortium where opinions differ. Implications of this study for policy makers in government and stakeholders is for government to provide adequate guarantee for implementation of PPP project that would enable equitable participation of the Private sector and for practice concessionaires with good integrity, financial capability and project management expertise must be considered for future PPP projects. The study concludes that some CSSFs are important for successful implementation of PPP projects in Nigeria and good agreement was obtained between stakeholders perception on the most important CSSFs for successful implementation of PPP projects. The study recommends that governments must provide good guarantee for PPP project implementation. The proposed CSSFs are recommended to all stakeholders and practitioners for their use and adoption in future PPP projects and governments must consider for future PPP projects in Nigeria such concessionaires that will provide realist cost and benefit assessments of the projects. .

Keywords: Stakeholders, Perception, Critical Success Sub-Factors, Public-Private Partnership, Nigeria.

[1] Department of Building, University of Lagos, Lagos, Nigeria *bode_ogunsanmi2004@yahoo.co.uk*

INTRODUCTION

To implement Public –Private Partnership (PPP) projects efficiently and effectively it may be necessary for all the stakeholders to be fully aware of the various success factors that can aid its successful implementation. Several PPP projects are currently undertaken in Nigeria and other developing countries like India, Nepal, Latin America and as well as other African countries such as Egypt, South Africa, Kenya, Uganda, Mozambique to mention a few for their infrastructure developments. As discussed in some previous studies in Nigeria (Dada and Oladokun, 2008; 2012; Agboola, 2011; Babatunde, Opawole and Akinsiku, 2012; Olaniyan, 2013) there are several critical success factors (CSFs) that are investigated for successful implementation of PPP projects. Equally linked to these identified CSFs are also some critical success sub-factors that contribute to each category of CSF as well as to overall performance of PPP projects. These studies were investigated at different times in Nigeria and hence authors considered different types of CSFs and CSSFs that suffice the situation as of the time of the investigation. However, there are still some areas of communalities between the CSFs and CSSFs investigated for PPP implementation in Nigeria.

In view of the fact that some of the above research works conducted in Nigeria on CSFs and CSSFs were undertaken when the country had few PPP projects and now that several PPP projects are completed and in operation and many more are commissioned by both Federal and States governments with more commitment towards the use of PPP for bridging the nation's infrastructure deficit, there is a need to further investigate critical success sub-factors perceived by stakeholders as important for successful implementation of PPP projects. It is on this premise that this present study is undertaken to provide further insight into critical success sub-factors contributing to successful implementation of PPP projects in Nigeria. Aim of study therefore is to investigate critical success sub-factors contributing to successful implementation of PPP projects. Objectives are to compare perception of stakeholders (Public and Private sectors) on importance of CSSFs and also to test whether there is agreement between the stakeholders in their rankings of these CSSFs for successful implementation of PPP projects. This study is significant as it provides current literature on CSSFs for successful implementation of PPP projects and it also contributes to CSSFs literature that draws awareness of stakeholders to factors contributing to PPP performance. This will assist successful implementation of future PPP projects in Nigeria.

Critical Success Factors (CSFs) and Critical Success Sub-Factors (CSSFs) for Successful Implementation of PPP Projects

Critical success factor (CSF) is defined as key area of activity in which favourable result is absolutely necessary for a particular manager to reach his/her goals (Olaniyan, 2013). In the same vein, Rowlinson (1999) as cited in Olaniyan (2013) indicated that critical success factors are those fundamental issues inherent in a project which must be maintained for team working to take place in an efficient and effective manner. These definitions of CSFs are in line with the conceptualization of CSFs in the present

study as those factors necessary for successful implementation of PPP projects in Nigeria.

According to Dada and Oladokun (2008) the phenomenon of CSF emanated from Rockart (1982) and the Sloan school of Management where this concept was initially applied to Information system but is now used in construction management. Various studies have investigated different CSFs for PPP projects in different countries such as UK (Hard Castle et al. 2005); Australia (Jefferies et al. 2002); Hong Kong (Yuan et al. 2009); China (Qiao et al. 2001; Zhang 2005a); Asia (Tam et al. 1994); Singapore (Tiong 1996); Lebanon (Jamali 2004); Malaysia (Ismail 2013); Kuwait (Mohammed 2011) and Nigeria (Dada and Oladokun 2008; Agboola 2011; Babatunde et al. 2012; Olaniyan 2013). Dada and Oladokun (2008) considered in their study of critical success factors for PPP in Nigeria the study of Tiong (1996) that utilized six CSFs for private contractors in competitive tendering and negotiation in BOT contracts as; technical solution advantage, financial package differentiation and guarantees, entrepreneurship and leaderships, right project identification and strength of the construction. Also, Qiao et al. (2001) considered eight CSFs for BOT projects in China. These include: appropriate project identification; stable political and economic situation, attractive financial package; acceptable toll/traffic levels; reasonable risk allocation; selection of suitable sub-contractors; management control and technology transfer.

The study of Jefferies et al. (2002) also discussed in Dada and Oladokun (2008) utilized ten CSFs for BOOT procurement in Australia. These ten CSFs are: developed legal/fiscal economic framework; avoiding delays and cost overruns; comprehensive feasibility study, project management ability and proven enterprise; having a local partner, existing infrastructure; political stability and support; technical innovation; favourable inflation and exchange rates and financial capability and support. This present study draws on some of the CSFs investigated by Jefferies et al. (2002) which are more relevant than those investigated in the studies of Tiong (1996) and Qiao et al. (2001). Zhang (2005a) conducted its own study in China on CSFs for PPP in infrastructure projects and utilized five CSFs of: favourable investment environment; economy viability; reliable concessionaire with strong technical strength, sound financial package and appropriate risk allocation. Out of these CSFs the present study draws only on appropriate risk allocation for its investigation. Dada and Oladokun (2008) investigation on CSFs in Nigeria also aligns with that of Zhang (2005a).

Moreover, the study of Agboola (2011) on Appraisal of PPP as a procurement system in the Nigerian construction industry also draws on the study of Tiong (1996) as earlier discussed. Similarly, Agboola (2011) also draws on the study of Hardcastle et al. (2009) that investigated eighteen CSFs in the UK construction industry. Agboola (2011) is also relevant to the present study as twelve of these eighteen CSFs are explored for the present study. Mohammed (2011) investigation of the CSFs for PPP projects in Kuwait construction industry utilized five CSFs of: effective procurement; project implementability; available financial market; government guarantee and

favourable economic conditions. Two of these CSFs of available financial market and government guarantee are also considered in this study.

Furthermore, recent study of Babatunde et al. (2012) on CSFs in PPP on infrastructure delivery in Nigeria considered nine CSFs as: competitive procurement process; through and realistic assessment of costs and benefits; favourable framework; appropriate risk and risk sharing and government involvement by providing guarantee. Other CSFs also include political support, stable macro-economic conditions; sound economic policy and availability of suitable financial market. Two of these CSFs such as appropriate risk allocation and risk sharing as well as government involvement by providing guarantee are drawn on for this study. The study of Ismail (2013) on CSFs of PPP implementation in Malaysia also examined five CSFs for Malaysia construction industry. These CSFs are: good governance; commitment of the public and private sectors; favourable legal framework; sound economy policy and availability of finance market. Ismail (2013) study is also relevant to the present study as CSFs such as good governance and availability of finance market are adopted for this present study.

It was explained in Olaniyan (2013) that study of Tam et al. (1994) developed five P's framework for successful implementation of PPP joint venture projects in the power industry in South East Asia and China. The five CSFs considered are: identification of suitable projects; partners in terms of goals and political influence; possession of project management skill; pattern of considering the structure of investment; profitability and protection of relationship between project partners. These CSFs are not relevant to the present study as most of these CSFs are not aligning with other previous CSFs researched by other studies earlier considered. Olaniyan (2013) equally considers the study of Jefferies et al (2002) that used ten CSFs as previously discussed in Dada and Oladokun (2008) and six of these CSFs were borrowed for this investigation.

The study of Jamali (2004) also used six CSFs for effective PPP projects as: resource dependency; commitment symmetry; common good symmetry; intensive communication; alignment of cooperation working capability and converging working cultures. None of these CSFs are considered in the present study. The studies of Hardcastle et al. (2005) investigated eighteen CSFs in UK construction industry as indicated in both studies of Agboola (2011) and Olaniyan (2013). Olaniyan (2013) adopted twelve of the CSFs for its own investigation that developed totally twenty-nine of such CSFs. These CSFs investigated in Olaniyan (2013) were considered as very robust and also very relevant to Nigerian situation and hence this present study draws on them to investigate all the twenty-nine CSFs. Therefore, the CSFs investigated in this study are: project management expertise; transparent and sound regulatory framework; comprehensive feasibility study; commitment; private sector financial capability; integrity; government guarantee; long term planning and effective communication. Others include: realistic cost/benefits assessment;

transparent procurement process; good governance; well organized public agency; sound economic policy; political stability and supports.

Also, CSFs such as well organized private sector; stable macro-economic environment; appropriate risks allocation; integration; competitive procurement process; strong private consortium; adequate financial market and institutionalized competitive roles are considered for this study. Furthermore, complexity of project; favourable inflation, exchange and interest rates; government involvement, converging working cultures; technical innovation and local participation are also adopted for this study. All the fore-going discussed CSFs and their respective CSS are adopted for investigating CSS contributing to successful implementation of PPP in projects in Nigeria.

RESEARCH METHODS

Literature review was undertaken to identify the critical success factors and critical success sub-factors that are important for successful implementation of PPP in Nigeria. Research questionnaire was designed to collect data from professionals who have played key roles in implementation of PPP projects from both the public and private sectors. The study took place in Lagos state in Nigeria being the economic, financial and commercial nerve centre of Nigeria. Lagos state has also recently experienced the highest level of PPP involvement in infrastructure procurement than other states of the Federation (Lagos State Public-Private Partnership Office, 2010). Population of the study includes architects, builders, quantity surveyors, civil and mechanical engineers. The study is a survey research and purposive sampling technique was used in selecting the sample for the study from these respondents in PPP organizations that have been involved in PPP procurement of recent. In all, fifty (50) questionnaires were sent to the various respondents selected for the study. Thirty-six (36) responses were retrieved and used for the data analysis.

Respondents were asked to rate the importance of some CSS on their PPP projects using a Likert scale of 1 = Not important, 2 = slightly important, 3 = moderately important, 4 = important and 5 = very important. Importance index was computed as follows:

Importance index (IMD) = $\frac{5n_5 + 4n_4 + 3n_3 + 2n_2 + 1n_1}{5(n_5 + n_4 + n_3 + n_2 + n_1)}$

where n_5 is the number of respondents who answered ‘very important’; n_4 is the number of respondents who answered ‘important’; n_3 is the number of respondents who answered ‘moderately important’; n_2 is the number of respondents who answered ‘slightly important’ and n_1 is the number of respondents who answered ‘Not important’. Descriptive statistical tools such as percentages and importance index as well as inferential statistical tools such as independent sample ‘t’ test and spearman rank-order correlation were used in taking decisions on comparing perception of public and private sectors on importance of CSS for successful implementation of PPP projects in Nigeria.

RESULTS AND DISCUSSIONS

The results of the study are discussed under the following headings:

Characteristics of Respondents that participated in the study

Characteristics of respondents that took part in the study are presented in Table 1. The results presented in Table 1 shows the role of respondents in recent PPP projects that 52% of the respondents claim that they are contractors to PPP projects and the remaining 5% of the respondents both indicate that they are consultants and operators of PPP projects. From these results since most respondents claim that they are contractors on PPP projects they are in a better position to provide vital information about PPP projects in Nigeria. Also, further results in Table 1 about academic qualification of respondents indicate that 50% of the respondents possess M.Sc/MPM/MBA degrees, 38% of the respondents have B.Sc/BTech degrees, 6% of the respondents have HND certificates while the remaining 3% of the respondents both possess PGD and PhD degrees. Since most respondents have masters degree they are academically qualified to provide very vital and relevant information about stakeholders' perception of critical success sub-factors for implementation of PPP projects in Nigeria.

Table 1: Characteristics of respondents that participated in the study

Respondents characteristics	Frequency	Percentage (%)
Role in PPP Project		
Contractor	11	52
Consultant	5	24
Operator	5	24
Total	21	100
Respondent's Academic Qualification		
HND	2	6
BSc/B.Tech	13	38
PDG	1	3
MSC/MPM/MBA	17	50
PhD	1	3
Total	34	100

Comparisons of Perception of Public and Private Sectors on the importance of Critical Success Sub-factors for Implementation of PPP Projects

Perception of the Public and Private sectors on the importance of CSSFs for successful implementation of PPP projects were compared and also a rank agreement analysis was undertaken between the Public and Private sectors using Spearman rank correlation coefficient (r_s). The higher the Spearman rank correlation coefficient, the higher the agreement between the two groups (Dada and Oladokun, 2008). Also, rs of zero to -1 imply perfect disagreement while an r_s of 1 implies perfect agreement. Table 2 presents the results of the

comparisons of the perception of the Public and Private sectors on the ranking of importance of CSSFs and the agreement analysis.

Results in Table 2 indicate that for ranking of critical success sub-factors of effective procurement, the Public sector ranks both integrity and transparency in procurement (IMD=0.88) as first and most important critical success sub-factors of effective procurement while both competitive procurement process and good governance (IMD=0.84) are ranked as third most important CSSF. The Private sector also ranks integrity (IMD=0.88) as first and most important CSSF, transparency in procurement (IMD=0.87) as second while both competitive procurement process and good governance (IMD=0.85) are ranked as third most important CSSF. These results suggest that Public sector perceives both integrity and transparency in procurement as most important CSSF while the Private sector only considers

Table 2: Agreement Analysis and Ranking of Critical Success Sub-Factors

Critical Success Sub-Factors	Public Sector		Private sector		Agreement Analysis
	IMD	Rank	IMD	Rank	
A. Effective Procurement					
Transparency in procurement process	0.88	1	0.87	2	
Competitive, procurement process	0.84	3	0.85	3	
Good governance	0.84	3	0.85	3	r_s =0.94
Integrity	0.88	1	0.88	1	
B. Project Implementability					
Transparent and sound regulatory framework	0.95	2	0.93	3	
Comprehensive feasibility study	0.93	4	0.95	2	
Appropriate risk allocation	0.80	12	0.85	8	
Commitment	0.92	5	0.91	4	
Well organized private sector	0.83	9	0.89	5	
Well organized public agency	0.83	9	0.87	7	
Strong private consortium	0.87	8	0.73	12	r_s =0.64
Project management expertise	0.95	2	0.96	1	
Long term planning	0.89	6	0.89	5	
Effective communication	0.88	7	0.83	9	
Integration	0.81	11	0.81	10	
Complexity of project	0.99	1	0.81	10	
Converging working cultures	0.73	13	0.73	12	
Technical innovations	0.71	14	0.72	14	
C. Government Guarantee					
Government guarantee	0.83	2	0.93	1	
Realistic cost/benefit assessment	0.84	1	0.91	2	
Political stability and support	0.80	4	0.85	3	r_s =0.80
Institutionalized competitive rules	0.81	3	0.77	4	
Government involvement	0.71	5	0.64	5	

D. Favourable Economic Conditions					
Stable macro-economic conditions	0.83	2	0.81	3	
Sound economic policy	0.83	2	0.85	2	
Private sector financial capability	0.85	1	0.91	1	r_s =0.95
Favourable inflation, exchange and interest rates	0.75	4	0.73	4	
E. Available Financial Market					
Adequate financial market	0.77	1	0.81	1	r_s = 1.00
Local participation	0.73	2	0.76	2	

integrity as the most important CSSF for effective procurement. Further result from Table 2 on the agreement analysis for CSSF of effective procurement reveals rs of 0.94 which indicates an almost perfect agreement between the Private and Public sectors on the most important CSSF for effective procurement.

Furthermore, for ranking of critical success sub-factors of project implementability, the Public sector ranks complexity of project (IMD=0.99) as first and most important CSSF for project implementability, both transparent and sound regulatory framework and project management expertise (IMD=0.95) were ranked as second while technical innovation (IMD=0.71) was ranked as fourteenth most important CSSF. The Private sector ranks project management expertise (IMD=0.96) as first and most important CSSF, comprehensive feasibility study (IMD=0.95) as second while technical innovation (IMD=0.72) as fourteenth most important CSSF. These results also demonstrate that Public sector perceives complexity of project as most important CSSF for project implementability while the Private sector views project management expertise as most important CSSF. Similarly, both Public and Private sectors indicate technical innovation as the least important CSSF for project implementability. For any PPP project to be implemented with some measures of success it is important to consider both project management expertise and complexity of the project as such project may require special supervision. In addition, result from Table 2 on the agreement analysis for CSSF of project implementability reveals r_s of 0.64 which also indicates good agreement between the Private and Public sectors on the most important CSSF for project implementability.

Results for ranking of critical success sub-factors of government guarantee indicate that the Public sector ranks realistic cost/benefit assessment (IMD=0.84) as first and most important CSSF for government guarantee; government guarantee (IMD=0.83) as second while government involvement (IMD=0.71) as fifth most important CSSF. The Private sector ranks government guarantee (IMD=0.93) as the first and most important CSSF, realistic cost/benefit assessment (IMD=0.91) as second while government involvement (IMD=0.64) as fifth. Both results indicate that Public sector favours realistic cost/benefit assessment as most important CSSF while the Private sector perceives government guarantee as most important CSSF for government guarantee. For any PPP

project to be successful it is basic that the concessionaire must make available realistic cost and benefit assessment of the project while government must also guarantee the private sector for free participation in PPP and their investments are guaranteed. The result of the agreement analysis for CSSF of government guarantee reveals r_s of 0.80 which also shows good agreement between the Public and Private sectors on the most important CSSF for government guarantee. Further results from Table 2 also indicate that for ranking of critical success sub-factors for favourable economic conditions the Public sector ranks private sector financial capability (IMD=0.85) as first and most important CSSF for favourable economic conditions while favourable inflation, exchange and interest rates (IMD=0.75) were ranked as fourth and least important CSSF for favourable economic conditions. The Private sector ranks private sector financial capability (IMD=0.91) as first and most important CSSF for favourable economic conditions while favourable inflation, exchange and interest rates (IMD=0.64) as fourth. Results suggest that both Public and Private sectors consider private sector financial capability as most important CSSF and favourable inflation, exchange and interest rates as least important CSSF for favourable economic conditions. For any PPP project to be implementable it is important for the private sector to be financially buoyant as most concession projects are driven by the private finance. Also, for the agreement analysis for CSSF of favourable economic conditions rs of 0.95 is obtained which shows good agreement between the Public and Private sectors on the most important CSSF for favourable economic conditions.

Results in Table 2 for ranking the critical success sub-factors of available financial market, the Public sector ranks adequate financial market (IMD=0.77) as the first and most important CSSF for available financial market and local participation (IMD=0.73) as the least important CSSF. The Private sector also ranks adequate financial market (IMD=0.81) as the first and most important CSSF for available financial market and local participation (IMD=0.76) as the least important CSSF. Both results suggest that Public and Private sectors uniformly selected adequate financial market as the most important CSSF for available financial market. PPP projects require available financial market for the project to thrive and for the concessionaire to recoup the capital investment on the provided public infrastructure. In respect of the agreement analysis for CSSF of available financial market rs of 1.00 is obtained which shows perfect agreement between the Public and Private sectors on the most important CSSF for available financial market.

All the fore-going discussions on perception of Public and Private sectors on importance of critical success sub-factors for successful implementation of PPP projects indicate that for effective procurement, the Public and Private sectors uniformly agreed that integrity is the most important CSSF, for project implementability the Public sector believes that complexity of project is the most important CSSF while the Private sector views project management expertise as most important CSSF. For government guarantee the Public sector perceives realistic cost/benefit assessment as most important CSSF for government guarantee while the Private sector indicates government guarantee as the most

important CSSF. For favourable economic conditions the Public and the Private sectors both indicate private sector financial capability as the most important CSSF for favourable economic conditions. Similarly, for available financial market the Public and Private sectors are uniform in their perception that adequate financial market is the most important CSSF for available financial market. Also, good agreement exists between the Public and Private sectors perception on most important CSSF for all the five CSFs. These results suggest that most important critical success sub-factors for implementation of PPP projects are: integrity, complexity of project, project management expertise, realistic cost/benefit assessment, government guarantee, private sector financial capability and adequate financial market. The good agreement obtained between the Public and Private sectors on these CSSF are also in line with the results of Dada and Oladokun (2008) who obtained similar results for critical success sub-factors for PPP projects in Nigeria. The study of Dada and Oladokun (2008) compared the criticality of some CSSF between the Public and Private sectors in Nigeria and obtained good agreement on these CSSF.

In other to further exploit the comparisons of the perception of the Public and Private sectors on the Critical success sub-factors for successful implementation of PPP projects a research hypothesis was set up to help in inferential decision making about the most important CSS. The null hypothesis (H_0) states that there is no significant difference between the perception of the Public and Private sectors on the most important CSSF for implementation of PPP projects. The level of significance of this test was set at 5%. Results of the 'T' tests for comparing the perception of Public and Private sectors on the importance of critical success sub-factors are summarized in Table 3.

Table 3: T-test results for comparisons of perception of Public and Private sectors on importance of CSSF for implementation of PPP projects

Critical Success Sub-Factors	$T_{cal.}$	D.F	T_{tab}	P-Value	Sig.
A. Effective Procurement					
Transparency in procurement process	0.25	27.99	2.05	0.84	NS
Competitive, procurement process	-0.28	27.53	2.05	0.77	NS
Good governance	-0.24	24.84	2.08	0.80	NS
Integrity	0.00	27.32	2.05	1.00	NS
B. Project Implementability					
Transparent and sound regulatory framework	0.30	27.95	2.04	0.76	NS
Comprehensive feasibility study	-0.38	27.88	2.04	0.70	NS
Appropriate risk allocation	-1.07	26.51	2.05	0.29	NS
Commitment	0.35	27.99	2.04	0.72	NS
Well organized private sector	-1.15	21.08	2.08	0.26	NS
Well organized public agency	-0.87	27.96	2.08	0.39	NS
Strong private consortium	2.37	24.78	2.06	0.02	S*
Project management expertise	-0.41	27.72	2.04	0.67	NS
Long term planning	0.00	24.96	2.06	1.00	NS

Effective communication	-0.26	27.46	2.04	0.79	NS
Integration	0.00	28.00	2.04	1.00	NS
Complexity of project	-0.43	25.66	2.05	0.66	NS
Converging working cultures	0.00	28.00	2.04	1.00	NS
Technical innovations	-0.19	26.45	2.05	0.84	NS
C. Government Guarantee					
Government guarantee	-1.70	25.36	2.06	0.10	NS
Realistic cost/benefit assessment	-1.38	27.91	2.04	0.17	NS
Political stability and support	-0.80	26.96	2.05	0.42	NS
Institutionalized competitive rules	0.67	27.94	2.04	0.50	NS
Government involvement	0.78	25.84	2.05	0.44	NS
D. Favourable Economic Conditions					
Stable macro-economic conditions	0.27	26.69	2.05	0.78	NS
Sound economic policy	0.00	28.00	2.04	1.00	NS
Private sector financial capability	-0.85	19.88	2.08	0.40	NS
Favourable Inflation, exchange and interest rates	0.18	27.80	2.04	0.85	NS
E. Available Financial Market					
Adequate financial market	-0.60	27.45	2.05	0.54	NS
Local participation	-0.25	26.32	2.05	0.80	NS

From the results in Table 3 it is shown for comparisons of the perception of the Public and Private sectors for critical success sub-factor of effective procurement that for transparency in procurement process, competitive procurement process, good governance and integrity the calculated t values ($t_{cal.}$ =0.25, -0.28, -0.24, 0.00) are quite lower than the tabulated values ($t_{tab.}$ = 2.05, 2.06) hence the results are not significant. They all support the null hypothesis and it is accepted. This infers that there is no significant difference in the perception of the Public and Private sectors on the importance of transparency in procurement process, competitive procurement process, good governance and integrity as CSSF for effective procurement. Also, further results from Table 3 in respect of CSSF of project implementability that for transparent and sound regulatory framework, comprehensive feasibility study, appropriate risk allocation, commitment, well organized private and public sectors, project management expertise, long-term planning, effective communication, integration, complexity of project, converging working cultures and technical innovation the calculated t values ($t_{cal.}$ = 0.30. -0.38, -1.07, 0.35, -1.15, -0.87, -0.41, 0.00, -0.26, 0.00, -0.43, 0.00, -0.19) are lower than the tabulated values ($t_{tab.}$ =2.04, 2.05, 2.08, 2.06) hence the results are also not significant. This infers that there is no significant difference in the perception of the Public and Private sectors as to the importance of above listed CSSF for project implementability. Further results of project implementability CSSF indicate that for strong private consortium the calculated t value ($t_{cal.}$ = 2.37) is higher than the tabulated values ($t_{tab.}$ =2.06) hence the result is significant. This also infers

that there is a significant difference in the perception of the Public and Private sectors on strong private consortium as CSSF for project implementability. Although, from the results in Table 2 the Public sector perceives strong private consortium more as CSSF of project implementability than the Private sector and this can possibly account for this difference in opinion.

From the results in Table3 in terms of CSSF for government guarantee that for government guarantee, realistic cost /benefit assessment, political stability and support, institutionalized competitive rules and government involvement the calculated t values ($t_{cal.}$ = -1.70, -1.38, -0.80, 0.67, 0.78) are lower than the tabulated values (t_{tab} = 2.06, 2.04, 2.05) hence the results are also not significant. This infers that there is no significant difference in the perception of the Public and Private sectors as to the importance of above listed CSSF for government guarantee. Moreover, further results from Table 3 in terms of the CSSF for favourable economic conditions that for stable micro-economic conditions, sound economic policy, private sector financial capability and favourable inflation, exchange and interest rates the calculated t values ($t_{cal.}$ = 0.27, 0.00, -0.85, 0.18) are lower than the tabulated values (t_{tab} = 2.05, 2.04, 2.08) hence the results are also not significant. This infers that there is no significant difference in the perception of the Public and Private sectors as to the importance of above listed CSSF for favourable economic conditions.

From the results in Table 3 it is also shown for CSSF of available financial market in terms of adequate financial market and local participation the calculated t values ($t_{cal.}$ = -0.60, -0.25) are lower than the tabulated values (t_{tab} = 2.05) hence the results are also not significant. This infers that there is no significant difference in the perception of the Public and Private sectors as to the importance of adequate financial market and local participation as CSSF for available financial market.

All the fore-going discussions on the importance of the critical success sub-factors of effective procurement, project implementability, government guarantee, favourable economic conditions and available financial market suggest that both the Public and Private sectors are not different in their opinions on the importance of these CSSF for the five critical success factors. Hence, both the Public and Private sectors feel the same way that all these CSSF are all important for their respective success factors except for strong private consortium of project implementability where their opinions differ.

IMPLICATIONS OF THE STUDY FOR POLICY, THEORY AND PRACTICE

Implications of this study for policy makers in government and stakeholders is for government to provide adequate guarantee for PPP project implementation that would enable the Private sector to equitably participate in infrastructure procurement without restrictions. Findings of this study provide strong evidences that support critical success sub-factor theory that all CSSFs are nominally considered to be ‘critical’ in literature but by analysis it can be proposed those CSSFs that are considered important for success implementation of PPP. Findings of this study proposed some CSSFs that are important for successful implementation of PPP projects in Nigeria. For practice it is

important to consider concessionaires with good integrity, financial capability and project management expertise for future PPP projects in Nigeria.

CONCLUSIONS

Drawing on the findings emanating from this study it can be concluded that for successful implementation of PPP projects in Nigeria the important CSSFs are: integrity, complexity of project, project management expertise, realistic cost/benefit assessment, government guarantee, private sector financial capability and adequate financial market that must be considered by all stakeholders for future PPP projects. Good agreement was obtained between the Public and Private sectors on their opinions for the most important CSS for successful implementation of PPP projects except for strong private consortium where opinions differ. The study recommends that governments at all levels must provide good guarantee for PPP project implementation. The proposed CSSFs are recommended to all stakeholders and practitioners for their use and adoption in future PPP projects and governments must consider for future PPP projects in Nigeria such concessionaires that will provide realistic cost and benefit assessments of the projects.

REFERENCES

Agboola, A.E., (2011). An Appraisal of Public Private Partnership (PPP) as a Procurement System in the Nigerian Construction Industry. M.Sc Dissertation of Department of Building, University of Lagos, Lagos

Babatunde, O.S., Opawole, A. and Akinsiku, O. E. (2012). Critical Success Factors in Public-Private Partnership (PPP) on Infrastructure Delivery in Nigeria, *Journal of Facilities Management*, ***10*** (3): 14, 212-225

Dada, M.O., and Oladokun, M.G. (2008). Critical Success Factors for Public-Private Partnership Projects in Nigeria: A Perceptual Survey, *Proceedings of CIB W065/055 Commission on Transformation through Construction*, Dubai; UAE, 15-17 November, 1-10 [Online] Available at: www.academia.edu/---/CRITICAL-SUCCESS-FACTORS-FOR-PUBLIC-PRIVATE-PARTNERSHIP-PROJECT-IN-NIGERIA. [Accessed on 30 September 2013]

Dada, M.O. and Oladokun, M.G. (2012). Analysis of Critical Success Sub-Factors for Public-Private Partnership in Nigeria, *Alam-Cipta, **5*** (2): 13-26

Hardcastle, C., Edwards, P.J., Akintoye, A. and Li, B. (2005). Critical success factors for PPP/PFI projects in the UK construction industry: A factor analysis approach. *Construction Management and Economics, 23* (5), 459-471

Ismail, S. (2013). Critical Success Factors of Public-Private Partnership (PPP) Implementation in Malaysia', *Asia-Pacific Journal of Business Administration, **5*** (1): 14, 6-19

Lagos State Public-Private Partnership Office (2010). Projects in Construction, [Online]. Available at: lagosstateppp.gov.ng/projects/project_portfolio/project_in_construction.asp. [Accessed on 27 September 2013]

Mohammed, A. H. (2011). Investigating the Critical Success factors for PPP Projects in Kuwait. M.SC Thesis, Kungliga Tekniska Hogskolan, (KTH), Stockholm, Sweden, [Online]. Available at: www.diva.port.org/smash/get/diva2.491653/FULLTEXT01 [Accessed on 27 September 2013]

Olaniyan, O. (2013). Appraisal of Critical Success Factors (CSF) for Implementation of Public-Private Partnership in Lagos State. M.Sc Dissertation of Department of Building, University of Lagos, Lagos.

Zhang, X., (2005a). Critical success factors for Public-Private Partnership in Infrastructure developments. *Journal of Construction Engineering and Management, 13* (1), 3-14.