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Critical Success Factors for the Implementation of Build-Operate-Transfer (BOT) Projects for Infrastructure Development in Nigeria

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ABSTRACT
The application of concession agreement such as BOT for the development of infrastructure projects has gained considerable popularity all over the world. However, the implementation of BOT projects is surrounded by myriad of interplaying factors influencing its performance. Therefore, it is imperative for key parties involved in the execution of BOT to have an understanding of the factors for successful implementation. This study examined the perception of the three key stakeholders (government, concessionaires and end users) of BOT with regards the critical factors for its successful implementation. Data for analysis were obtained through a questionnaire survey from government agencies, concessionaires and end users involved with BOT. Ninety (90) structured questionnaires were randomly administered while 72 corresponding to a response rate of 80% were returned and analysed using descriptive statistics. Specifically, Mean Item Score (MIS) was used to assess the rating of the success factors considered under the categories; political, procurement, technical, construction, legal and project environment related factors. The results of the study revealed that the topmost factors in the aggregate ranking of all factors with their MIS are corruption and lack of respect for rule of law (4.3472), stable economic environment (4.3056), availability of resources to undertake the project (4.2967), government support for the project (4.263889), technology transfer advantage (4.2361), contractual failure (4.2083), market demands for project (4.2083), construction cost overrun (4.1806), stable political environment (4.1389) and selecting right contractors (4.1111). It is therefore necessary for stakeholders to examine and consider the key success factors for successful implementation of BOT projects for infrastructure development in Nigeria.

Keywords: Build Operate and Transfer, Infrastructure Development, Success Factors, Nigeria

1. INTRODUCTION

In most developing countries, large scale infrastructure projects such as roads, bridges, railways, power plants, schools, dams and water projects are nowadays constructed and operated by private firms for the public through public-private partnership arrangements (PPP). PPP is one of the commonly adopted procurement strategies globally for the development of infrastructure projects (Rajkumar *et al.,* 2013). Many different types of PPP that are based on concession agreements exist but the most commonly employed being Build-Operate and Transfer (BOT) and its variants such as Build Own Operate and Transfer (BOOT), Build Transfer Operate (BTO), Design Bid Build (DBB) etc. (Kumaraswamy and Morris, 2002, Liou and Huang, 2008, Rajkumar *et al.*, 2013).

The application of BOT arrangement for the achievement of large scale projects is attracting increasing interest with the growing thrust towards privatizing infrastructure projects in both developed and developing countries (Nasirzadeh, *et al.,* 2014). Investigation into the characteristics of BOT contracts revealed that they are cost effective, delivered within timelines and to desired qualities (Nasirzadeh *et al.,* 2014). This may be attributed to the generally better and efficient project management in private business than the public (Nasizadeh, *et al.*, 2014). However, in spite of its popularity, projects realized through the

BOT mechanism are observed to have considerable risk portfolio due to myriad of complex factors affecting its effective implementation couple with the lack of standard method for their implementation as each country adapts the process as appropriate for its own culture, economy, political climate, and legal system (Rajkumar *et al.*, 2013).

However, in Nigeria, the federal government has significant interest for concession of some major projects for private investor's development despite the failure of some concession agreements (Oyedele, 2013). This study explores success factors critical for effective implementation of BOT option of PPP for the realization of projects for infrastructure development in Nigeria

2. Concept of BOT

The use of concession agreement such as BOT for the development of infrastructure projects has been in practice for many decades. The first very important project realized under the BOT arrangement being the Suez Canal project that was constructed in 1954 in Egypt in which the concession company obtained a 99 year concession from the government for the construction and operation of the canal connecting the Mediterranean and the Red seas (Levy, 1996; Shen and Wu, 2005).

In BOT contracts public projects are financed, designed and constructed by the project company set up by the private investor. After the successful construction, within the concession period, the private corporation operates the project to repay loans, recover the investment and gain profit. The concession period is one of the key elements of a BOT type of contract which is very significant for its performance. A longer concession period is more beneficial to the private investor which in turn leads to loss of investment to the government (Nasirzadeh *et al.*, 2014). On the other hand if the concession period is too short, the investor would either reject the contract offer or would be forced to increase the operation fees in order to recover his investment and make certain level of profit. Consequently the risk involved caused by short concession period would be shifted to the end user or users of the facilities (Shen *et al.*, 2002).

Projects coming under the BOT financing mechanisms are announced by the government and invites private sector companies in different specialization of construction to submit their proposals for the implementation of the projects. After the tender formalities had been performed, the winner is then selected for the contract. Based on this method the government then grants the advantage of design-financing-construction-and operation of the project to the chosen private sector for a specific period of time in form of a contract (Vosoughi and Vosoughi, 2015). After the facility had been constructed, up to the end of the contract term, the project manager is responsible for the exploitation of the project and the repayment of the principal amount of received loan and interest on such loans from the proceeds of the project services. An acceptable profit will be paid to the investors of the project from what remains of the earnings. The project company could be responsible for all the stages or can entrust the project to their partners based on an internal contract arrangement. Based on the standard of the contract, at the end of the concession period, the project company transfers all the project assets (financial. Physical and legal) to the government and that brings the life of the contract to an end (UNIDO, 1996; Vosoughi and Vosoughi, 2015).

BOT concepts has become popular over the years for rapid scaling of operations, wider service offerings, lower infrastructure setup costs and reduced time of operations (Sharaffudin and Al-Mutairi, 2015). BOT arrangement is likely to improve the pathways whereby private funds can be attracted for investments in programmes of public works or service within a framework of suitable contractual arrangements. Some of the advantages of BOT as outlined by Vosoughi and Vosoughi (2015) include:

i. Projecting government's control on infrastructure and using private sector participation in these projects at the same time.
ii. Increasing the efficiency of state sector in the executive and managerial fields
iii. The reimbursement of investor's costs from consumer's payment to the project
iv. The possibility of accelerating the infrastructure project construction regardless of lack of government's fund.
v. The possibility of attracting foreign investment for infrastructure development
vi. Technology transfer, training the local staff and increasing the efficiency and development of the internal capital markets.

Despites these advantages, UNIDO (1996) outlined some considerations for the their successful implementation;

i. It is not a solution for all financial problems of infrastructure projects in developing countries
ii. Absence of defined criteria and uniform standards form the bottlenecks of these projects and results of negotiations are not predictable.
iii. New laws and regulations or some reforms in the existing legal structures are essential for facilitating the development and completion of these projects.

3. Critical Success Factors for BOT Contracts

BOT is a financial agreement which performs according to a unique form of financing method referred to as project finance with two main participants mainly the host government and a private sponsor (Sharaffudin and Al-mutairi, 2015). The host government is the regulator that is responsible for granting permit, authorization and project license or concession. The regulator usually has an effect on the tariffs, tolls and other vital aspects of the project, budget restrictions and complexity of public sector to meet present day requirements encourages BOT model to be adopted in many countries. The investigation in to the success factor for proper implementation of BOT contracts has been a subject of numerous studies (Qiao *et al.*, 2001; Askar and Gab-Allah, 2002; Subprason and Chen, 2005; Toor and Ogunlana, 2009; Khan et al 2008; Markom and Ali, 2012, Young and Mustaffa, 2012, Ismail, 2013, Yusof and Salami, 2013).

Qiao et al (2001) identified the attributes of foreign investors and public officers towards the implementation of critical success factors (CSF) in implementing BOT system in China. The study revealed that there is a positive agreement between foreign investors and government officials on the significance of CSF. They indicated that appropriate project identification and stable political and economic environments are the major determinants for CSFs of BOT contracts. Askar and Gab-Allah (2002) examined the potential for implementing BOT system in Egypt. The study also revealed that picking the right project, competitive financial proposal and special features of bids are essential for the success of BOT projects in Egypt. The study further identified the risk factors associated with BOT projects and concluded that the risk factors should be minimized for effective implementation. Subprasom and Chen (2005) found that the BOT network design problem involves three parties including the private sector, the government and the end user, in which each of these parties has distinctive objectives. The study showed that the regulation and policy imposed by government to ensure that BOT project satisfies certain requirements. Toor and Ogunlana (2009) observed that availability of resources, proper communication, mutual understanding of stakeholders on project objectives and selection of right contractors and design professionals are critical for the successful implementation of BOT.

Khan *et al.* (2007) examined the implementation of BOT projects in Pakistan and observed that political instability is the major political inhibition experienced in the decision making of the organizational management structures for projects in Pakistan. Markom and Ali (2012) identified several significant factors for the successful implementation of BOT projects. The factors identified included, firm's policy, sound regulatory framework, government support for projects, transparency of project formulation and documentation, reliable sponsors and impartial deals for the parties. Ismail (2013) in the study of CSFs of BOT contracts in Malaysia indicated that good governance, commitment of public and private sectors, favourable legal framework, sound economic policy and availability of financial market are the topmost factors for the implementation of PPP projects in Malaysia.

Babatunde *et al.* (2012) observed that a well-organized and committed public agency seems to be a key factor to the private investors. The study also showed that transparency in the procurement process and sound authority between public and private sectors are the most consequential success factors to the client. Emanuel (2014) opined that success factors for achieving the proper implementation of PPP are clear and strong regulatory framework, all-inclusive feasibility study, and apt risk allocation. The study indicated certain factors as indispensable including dedication and accountability of public and private sectors, firm's private society and certifiable cost/benefit assessment among others. Yusof and Salami (2013) in a survey to determine success factors for effective implementation of BOT power projects in Iran revealed that project identification, stable political situation, favourable legislation and well

organized and committed public agency are the most important factors. Alinaitwe and Ayesiga (2013) used questionnaire surveys to explore success factors for PPP projects in Uganda and discussed that five factors that are perceived to be of utmost importance to the public sector are well organized public agency, a competitive procurement process, project financial achievability, devotion of all of the project parties and firm's monitoring and evaluation system for the project implementation.

4. METHODOLOGY

4.1 The Instrument

The data for analysis were collected using a structured questionnaire consisting of two sections. The first section was designed to capture the background information of the participants while the second section captures the critical success factors for implementation of BOT. The questionnaire was scrutinized by four (4) experts who have considerable experience and knowledge on the subject matter to satisfy the desired level of validity. The instrument was further modified based on the suggestions of the experts. The modified questionnaire consist of 51 factors based on a five (5) point likert scale which allows the participant to rate such factors based on the 5 point scale ranging from very important to not important.

4.2 Procedure

The data for the research consist of primary and secondary data. The primary data were obtained through the structured questionnaire randomly distributed to three categories of respondents; government officials, concessionaires and the end users of BOT projects in Lagos, Port Harcourt, Kaduna and Abuja. The secondary data were obtained through the survey of relevant literature to identify and develop the success factors to be investigated. The data obtained were analysed using the mean item score to determine the ranking of each factor based on the perception of the respondents.

4.3 The survey Sample

The survey sample included key stakeholders (government, concessionaire and end users) of BOT projects in Port Harcourt, Lagos, Kaduna and Abuja where ample BOT projects are available. Ninety (90) questionnaires were randomly distributed to officials in government agencies, concessionaires and end users of BOT projects out of which 91% (82) were returned and 80% (72) were found to be fit for analysis. This number was considered adequate for the survey.

4.4 Method of Data Analysis

Descriptive statistics were used for the analysis of the data using statistical software Origin 5.0 for windows. Specifically mean response analysis were carried by computing Mean Item Scores (MIS).

5.0 RESULTS AND DISCUSSIONS

5.1 Profile of Respondents

The profile of the participants of the survey is presented in Table 1. The profile contained information in terms of the respondent's academic qualification, work experience, profession and organization in order to ascertain the reliability of the information provided.

The respondents' profile indicated that 37.5% of the respondents were from the government agencies, 33.3% of the respondents were concessionaires whereas 30.5% were end users of BOT projects. The profile further indicated that majority (76.38%) had more than 10 years of experience in the industry. Majority (83.33%) had either a University degree or Master/ PhD. Majority of the participants also cover a wide spectrum of high ranking personnel in which more than 50% belong to the management level such as Director, Deputy Director and principals. This indicates that the information received can be considered as reliable.

Table 1. Profile of Respondents

Characteristics		Frequency	Percent
1. Type of Participant			
i.	Concessionaire	27	37.50
ii.	Government	24	33.30
iii.	End User	21	29.20
2. Educational qualification			
i.	High School	0	0
ii.	Diploma	12	16.67
iii.	University Degree/HND	46	63.89
iv.	Master/ PhD	14	19.44
3. Work Experience			
i.	Less than 5 years	7	9.72
ii.	5 to 10 years	10	13.89
iii.	11 to 15 years	15	20.83
iv.	16 to 20 years	15	20.83
v.	Greater than 20 years	25	34.72

5.2 Success factors

The Mean Item Score (MIS) of the success factors based on the perception of the professionals in the three categories of respondents were considered under subheadings of political, procurement, financial, technical, construction, legal and project environment related factors.

Political Factors

The MIS of the political related factors are presented in Table 2. The results indicate that the factor 'government support for the project' was considered as the most critical factor by participants in government agencies and the end users with MIS of 4.4814 and 4.4760 respectively. This factor is also observed as an important success factor by Markom and Ali (2012). The concessionaires considered stable political environment as the most critical factor for effective implementation which was considered as the second most critical by both government and the end users. This is in agreement with the study of Khan *et al.* (2008) where political instability was considered as the major political inhibition in decision making to initiate projects. Other factors that are ranked high under the political factors included good governance which was ranked second by both government and concessionaires and right project identification which was ranked third by both government and end users. This is in consonance with the study of Tiong (1995) where right project identification was considered among the topmost political factors. The factor was also considered as a critical success factor in the study of Qiao *et al.,* (2010) and Askar and Gab-Allah (2002).

Table 2. Mean Item Score of Political Related Factors

S/No	Political Factors	Government		Concessionaire		End User	
		MIS	Rank	MIS	Rank	MIS	Rank
1	Right project identification	3.8148	3	3.4166	7	4.3333	3
2	Well organized public agency	3.7407	4	3.2083	8	4.2857	4
3	Commitment of key stakeholders	3.4444	7	3.7083	4	4.1904	5
4	Government support for the project	4.4814	1	3.8333	3	4.4760	1
5	Transparency of project formulation	3.4814	6	3.0416	9	4.3333	3
6	Reliable project sponsors	3.5555	5	3.5833	5	3.9523	6
7	Good governance	3.9259	2	3.8750	2	3.7619	8
8	Mutual understanding of stakeholders on project objectives	3.5555	5	3.500	6	3.8095	7
9	Stable political environment	3.9259	2	4.1666	1	4.3809	2

Procurement Related factors

The ranking of the procurement related factors is presented in Table 3. The results revealed that concessionaires and end users considered contractual failure as the highest factor with MIS of 4.375 and 4.0476 respectively. This indicates that failure in part or whole of the agreement has a grave influence on the achievement of infrastructure project under the BOT arrangement. Oyedele (2013) in his study observed the failure of numerous projects initiated under the BOT arrangement in Nigeria due to partial or total failure of contractual agreements. The factor was considered as the third factor by the experts in government agencies. Selecting the right design professionals for the project was ranked the highest by the government agencies with MIS 4.2592 of while selecting right contractors for the project is considered as the second most critical factor by both government and the concessionaires.

Table 3 Mean Item Score of Procurement Related Factors

S/No	Procurement Related Factors	Government		Concessionaire		End User	
		MIS	Rank	MIS	Rank	MIS	Rank
1	Contractual failure	4.1851	3	4.3750	1	4.0476	1
2	Change in scope of contract	3.1111	10	4.0416	5	3.7619	4
3	Reasonable risk allocation	3.4074	7	3.7916	7	3.476	8
4	Inadequate experience with BOT by public sector	3.3333	9	3.5000	10	3.6190	6
5	Appropriate concession period	3.8518	4	4.2083	3	3.6667	5
6	Competitive procurement process	3.7777	6	3.6250	8	3.8095	3
7	Special features of bid	3.3700	8	3.5000	10	3.9047	2
8	Favourable project management	3.8148	5	4.0833	4	3.8095	3
9	Selecting right contractors	4.2222	2	4.2500	2	3.8095	3
10	Selecting right design professionals	4.2592	1	3.9167	6	3.4285	9
11	Utilization of local firms in project execution	3.8148	5	3.5833	9	3.5714	7

Technical Related Factors

The mean scores of the technical factors affecting the implementation of BOT are presented in Table 4. The results of the survey revealed that technology transfer issues during the execution of the projects is rated as the most critical factor for achieving success by both government agencies and concessionaire with MIS of 4.074 and 4.166 respectively while the end users rated competence of design professionals as

the most critical factor with MIS of 4.1428. Technology transfer advantage has been clearly stated as one of the key factors for consideration when dealing BOT projects as identified by Tiong (1995). Other factors with high ranking is deficiency in project design which is ranked second by experts in government agencies with MIS of 4.185. Technical reasons generally show the feasibility and performance of the project which encourage investors to indicate interest and commitment in the project.

Table 4 Mean Item Score of Technical Related Factors

S/No	Technical Factors	Government		Concessionaire		End User	
		MIS	Rank	MIS	Rank	MIS	Rank
1	Deficiency in project design	4.1851	2	4.1667	1	3.9524	3
2	Competence of design professionals	4.0740	3	4.0833	2	4.1428	1
3	Technology transfer issues	4.4074	1	4.1667	1	4.0952	2
4	technical solution advantage	4.0000	4	3.7917	4	3.7619	5
5	Training of local staff for project execution	3.4074	5	3.9167	3	3.8095	4

Financial and Market Related Factors

The results of the financial and market related factors are presented in Table 5. The government agencies considered stable economic environment as the highest success factor with MIS of 4.4814 while the concessionaires ranked market demands for the project as the first factor with MIS of 4.2500, whereas the end users ranked availability of resources for undertaking the project as the most fundamental for proper implementation of BOT projects. Stable economic environment is a major factor identified by studies of Rajkumar *et al.* (2013) and by Tiong (1997) as critical for the successful implementation of PPP projects. It is therefore imperative to study the economic environment for conception and implementation of BOT contracts.

Table 5. Mean Item Score of Financial and Market Related Factors

S/No	Financial / Market Related	Government		Concessionaire		End User	
		MIS	Rank	MIS	Rank	MIS	Rank
1	Interest rate volatility	4.1482	3	4.125	2	3.6667	9
2	Inflation rate volatility	3.6667	7	3.9584	5	3.8095	8
3	Foreign exchange and convertibility	3.1851	11	3.7500	8	3.9047	7
4	Market demands for project	4.0741	4	4.2500	1	4.3333	2
5	Lack of credit worthiness	3.4444	9	3.7500	8	3.9047	7
6	Attractive financial package	3.4074	10	3.9167	6	3.9523	6
7	Project financial achievability	4.0741	4	3.8750	7	3.9523	6
8	Stable economic environment	4.4815	1	4.0833	4	4.3333	2
9	Competitive financial proposal	3.8889	5	3.9583	5	4.0952	4
10	Sound economic policy	3.7778	6	3.7500	8	4.1428	3
11	Availability of resources to undertake the project	4.2222	2	4.2500	1	4.4285	1
12	Difficulties in guarantees	3.5556	8	3.5833	9	40000	5

Construction Related Factors

The MIS scores of the construction related factors is presented in Table 6. The results indicated that the most critical factors according to the three categories of respondents with their MIS are construction time delay by the end users with MIS of 4.2857, and construction cost overrun by both government and concessionaire with MIS of 4.1852 and 4.1250 respectively. The time and cost factor identified generally

indicate performance of projects. This is true for BOT project. The second most important factors according to government, concessionaires and end users are force majeure events (4.0370), availability of appropriate materials (3.91667) and construction cost overrun.

Table 6. Mean Item Score of Construction Related Factors

S/No	Construction Factors	Government		Concessionaire		End User	
		MIS	Rank	MIS	Rank	MIS	Rank
1	Construction time delay	3.9259	4	3.9167	2	4.2857	1
2	Construction cost overrun	4.1851	1	4.1250	1	4.2380	2
3	Availability of appropriate Labour	3.4814	7	3.5000	4	3.9047	6
4	Availability of appropriate materials	3.6666	6	3.9167	2	3.9523	5
5	Force majeure events	4.0370	2	3.7916	3	4.0952	3
6	Quality control and supervision	4.0000	3	3.7916	3	4.0476	4
7	Effective monitoring and evaluation system	3.8518	5	3.9167	2	3.9523	5

Legal Related Factors

The results of the legal factors are presented in Table 7. The results revealed that all the three categories of respondents indicated that corruption and lack of respect for rule of law are the first factors with MIS of government (4.2592), concessionaires (4.3333) and end users (4.4762). The factor favourable legal framework for executing BOT contract was regarded by all categories to be the second ranked with MIS of government (3.7778), concessionaires (4.0833) and end user (4.0952). Corruption has been an impediment to the achievement of progress in almost all sectors of the economy in Nigeria. The opportunities for corruption to thrive are created whenever there is lack of respect for rule of law. Sound legal framework is also essential for realizing PPP projects because legal disparities between the parties would be very much challenging to perform under an agreement. Oyedele (2013) observed that good legal framework is an essential feature of PPP due to the different objectives of the parties involved.

Table 7 Mean Item Score of Legal Related Factors

S/No	Legal Factors	Government		Concessionaire		End User	
		MIS	Rank	MIS	Rank	MIS	Rank
1	Corruption and lack of respect for rule of law	4.2592	1	4.3333	1	4.4762	1
2	Changes in Legislation	3.6667	3	4.0000	3	4.0000	3
3	Favourable legal framework	3.7778	2	4.0833	2	4.0952	2
4	Favourable regulation	3.6667	3	4.0833	2	4.0952	2

Project Environment Factors

The results for the three project environment related factors presented in Table 8 revealed that public safety was considered as first ranked factor by government and end users whereas the concessionaires considered sound project environment and adequate social support as the first factors with MIS of 3.857. The end users rated public safety as the first factor with MIS of 4.000. Experts in government and end users rated adequate social support as the second critical factor whereas the concessionaires considered public safety as the second most important factor with MIS of 3.7083. Generally, ascertaining social feasibility of the project at the conception is a sound feature of PPP (Oyedele, 2013).

Table 8 Mean Item Score of Project Environment Related Factors

S/No.	Factor	Government		Concessionaire		End User	
		MIS	Rank	MIS	Rank	MIS	Rank
1	Sound environmental condition	3.6296	3	3.7917	1	3.8571	2
2	Public safety	3.8889	1	3.7083	2	4.0000	1
3	Adequate Social support	3.7037	2	3.7917	1	3.8571	2

Mean Scores of All Factors

The results of the aggregate of the perception of all the respondents is presented in Table 9. This was achieved by considering the mean score of all the respondents. The results indicated that from the overall rating, corruption and lack of respect for rule of law is the topmost success factor with MIS of 4.3472. Corruption has been a problem bedeviling all sectors of the economy in the country and the construction industry is not an exception. This is also evident in the study of Oyedele (2013) where failure in agreements for the development of some key infrastructures in the country were attributed partially to corruption. The second critical factor by the overall ranking is stable economic condition with MIS of 4.3055. Stable economic condition is vital for the performance of both traditional and modern contract systems. Rajkumar *et al*. (2013) pointed out the need for identifying and avoiding economic risk for conception and successful implementation of BOT contracts. This is also in consonance with the study of Dahiru (2012) where stable economic condition is demonstrated as an influential factor for effective implementation of BOT projects. The third critical factor as revealed by the study is availability of resources to undertake the project. The prime mover for any project is the availability of resources for undertaking the project. For major infrastructure projects concessionaires need financiers for development of such projects, where inability of getting a strong financier would often lead to the failure of agreements (Oyedele, 2015). The fourth topmost factor is government support for the project with MIS of 4.2916. The support of government has been identified by Markom and Ali (2012) and Ismail (2013) as a key success factor where the commitment of the government towards the project is necessary for the project to be realized. Other key success factors identified among the topmost are technology transfer advantage, contractual failure, market demand for the project, construction cost overrun and stable political environment. The least factors are Transparency of project formulation and documentation, Foreign exchange and convertibility, Special features of bid, Reasonable risk allocation, availability of appropriate labour with MIS of 3.583333, 3.583333, 3.569444, 3.555556 and 3.472222 respectively.

Table 9. Mean Item Score of all Factors by all Respondents

S/No.	Success Factors	MIS	Rank
1	Corruption and lack of respect for rule of law	4.347222	1
2	Stable economic environment	4.305556	2
3	Availability of resources to undertake the project	4.291667	3
4	Government support for the project	4.263889	4
5	Technology transfer issues	4.236111	5
6	Contractual failure	4.208333	6
7	Market demands for project	4.208333	7
8	Construction cost overrun	4.180556	8
9	Stable political environment	4.138889	9
10	Selecting right contractors	4.111111	10
11	Deficiency in project design	4.111111	11
12	Competence of design professionals	4.097222	12
13	Construction time delay	4.027778	13

14	Interest rate volatility	4.000000	14
15	Project financial achievability	3.972222	15
16	Competitive financial proposal	3.972222	16
17	Force majeure events	3.972222	17
18	Favourable regulation	3.972222	18
19	Quality control and supervision	3.944444	19
20	Favourable legal framework	3.930556	20
21	Appropriate concession period	3.916667	21
22	Favourable project management	3.902778	22
23	Selecting right design professionals	3.902778	23
24	Effective monitoring and evaluation system	3.902778	24
25	Sound economic policy	3.875000	25
26	Changes in Legislation	3.875000	26
27	Good governance	3.861111	27
28	technical solution advantage	3.861111	28
29	Public safety	3.861111	29
30	Right project identification	3.833333	30
31	Availability of appropriate materials	3.833333	31
32	Inflation rate volatility	3.805556	32
33	Adequate Social support	3.777778	33
34	Commitment of key stakeholders	3.750000	34
35	Sound environmental condition	3.750000	35
36	Competitive procurement process	3.736111	36
37	Attractive financial package	3.736111	37
38	Well organized public agency	3.722222	38
39	Training of local staff for project execution	3.694444	39
40	Difficulties in guarantees	3.694444	40
41	Reliable project sponsors	3.680556	41
42	Lack of credit worthiness	3.680556	42
43	Utilization of local firms in project execution	3.666667	43
44	Mutual understanding of stakeholders on project objectives	3.611111	44
45	Change in scope of contract	3.611111	45
46	Inadequate experience with BOT by public sector	3.611111	46
47	Transparency of project formulation	3.583333	47
48	Foreign exchange and convertibility	3.583333	48
49	Special features of bid	3.569444	49
50	Reasonable risk allocation	3.555556	50
51	Availability of appropriate labour	3.472222	51

CONCLUSION

The successful implementation of BOT projects for infrastructure development depends largely on the careful discharge of the interplaying success factors. The study outline fundamental factors essential for the successful realization of BOT contracts under the categories of procurement related factors, political related, construction, legal, environmental and technical factors. From these myriad of factors the findings indicated that the topmost factors being corruption and lack of respect for rule of law, government support for the project, availability of resources for undertaking the project and technology transfer advantages. The study further established the least critical factors as transparency of project formulation, foreign exchange convertibility, special features of the bid, risk allocation and unavailability of appropriate labour. Therefore, for the successful development of infrastructure through BOT contracts in Nigeria, project parties should examine carefully the critical factors in relation to the project in question.

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