



PREVALENCE OF CORRUPTION FORMS IN PUBLIC BUILDING PROJECTS

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ABSTRACT

Public building projects are overwhelmed by different forms of corruption. However, little or no empirical study assessed the prevalence of corruption forms in public building projects. This study, assessed the prevalence of corruption forms in public building projects and the stages mostly associated with corruption. The study adopted a quantitative research approach. 68 questionnaires were distributed to contracting and consulting organisations who have handled public construction projects using purposive sampling technique. Data obtained were analysed using descriptive statistics. Mann-Whitney U (MWU) test was also used to check the significance of the difference in mean scores ratings of the stakeholders' groups. The study found 'Favouritism/Patronage/Nepotism', 'Bribery', and 'Kickbacks to be the top corruption forms prevalent within the public building projects. Stakeholders' ratings showed that 'tendering and bid evaluation' and 'contract award' stages were mostly associated with corruption. The Mann-Whitney U (MWU) test result further showed no significant difference in the stakeholders' ratings of the prevalence of corruption forms and the stages of procurement mostly affected. The study concludes that corruption forms are prevalent in public building projects with 'tendering and bid evaluation' stage being the most vulnerable. It is recommended that public procurement officers should strive to ensure compliance with the basic principles of public procurement as enshrined in the Nigerian public procurement act to minimise occurrences of corrupt practices, thus, ensuring transparent, fair and accountable public building projects procurement.

KEYWORDS: Corruption Forms, Prevalence, Public Building Projects, Public Procurement, Procurement Stages.

INTRODUCTION

A vibrant and thriving construction sector could well drive a healthy and well-functioning economy, the sector contributes directly to the GDP by entering the national accounts as a component of fixed investments, and fixed investment in turn represents addition to the national capital stock (Alagidede & Odei-Mensah, 2016). It also constantly contributes to improvements in the built environments

of human societies (Transparency International, 2016).

However, corruption has been one of the major achilles heel of the construction industry globally, with considerable assertions indicating that corruption in construction has become a notable worldwide challenge confronting all countries (Le *et al.*, 2014). Facts from Transparency International (2013, 2016) have shown that the construction industry has become the most corrupt

circle and the procurement sector is also stigmatized as being the sector most helpless to the frequency of corrupt practices owing to the rapid expansion of the global construction market after entering the 21st century. This is mainly ascribed to the fragmented nature of the construction industry (involving clients, designers, contractors, consultants and suppliers), which inflicts difficulties in tracking payment information (Chan & Owusu, 2017). (Chan *et al.* 2017; Owusu *et.al.*, 2021) noted that series of research on corruption over the last two decades has revealed varying corruption forms in the studies available and because of the evolution of corruption over the years different forms of corrupt practices have emerged, and more money is being expended in these newly generated forms.

The stages in construction process are perceived to be very much susceptible to corruption from project inception to completion. this situation is facilitated by high-level political connections in awarding contracts, immoderate and careless sole sourcing for public contracts and contractors' lack of dedication in tackling corruption (Ogbu & Asuquo, 2018; Ameyaw *et al.*, 2017). The pervasiveness of different corruption forms in the industry cannot be under appraised as corruption has been a recurring issue abrading million in lost resources in almost every sector of the economy and the construction industry sector is not being left out (Agyekum *et al.*, 2020; Adekunle *et.al.*, 2019).

Several scholars have recorded practical strategic mechanisms to eliminate corrupt practices in construction projects using frameworks and toolkits, namely by: raising public awareness about corruption, conducting stringent contract monitoring, performing rigorous supervision and auditing and establishing a high-standard accountability mechanism, among

several others (Ebekoziem 2020; Tabish & Jha, 2011; de Jong *et al.*, 2009; Zou, 2006). According to Ebekoziem, (2020) and Dza, *et al.* (2018), public procurement due process controls public construction projects and fights corruption in project planning and procurement, promoting procurement integrity. Ameh and Odusami (2010) opined that the level of corruption and unethical practices in the Nigerian construction industry is on the decline following steps by the BMPIU or the 'Due Process Office 'to block loopholes arising from reckless processes involved with contract awards and execution at the federal level. Nevertheless, from the review of several studies, there are a range of views on the prevalence of corruption forms as well the stages mostly associated with the various identified corruption forms in the industry.

Review of several studies (Le *et al.*, 2014; Oyedele, 2018; Owusu *et al.*, 2021; Ameyaw, *et al.*, 2013; Ameyaw *et al.* 2017), show a range of views on the prevalence of corruption forms as well as the stages mostly associated with the various identified corruption forms in developed and developing countries. The prevalence of corruption forms could be country specific due to difference in policies applicable to each country, however, evidence of such empirical studies is limited in the Nigerian context. According to Aduwo *et. al* (2020) and Oyedele (2018), Nigerian public sector construction procurement practices are susceptible to corruption. This could hinder the government's aim of provision of public infrastructure through fair, transparent and accountable procurement process. Yet, little or no empirical study was carried out to determine the corruption forms that are prevalent in public building projects in Nigeria and the stages mostly associated with corruption. Thus, this research

aims to provide answers to the following questions: (1) What are the most common/prevalent corruption forms in public building projects in Nigeria? (2) Which stage of public building project is mostly prone to corruption? and (3) are there significant differences in stakeholders' ratings of the most common/prevalent corruption forms in public building projects and the stages of public building projects mostly prone to corruption?

LITERATURE REVIEW

Corruption Forms

Corruption forms within the construction industry exist in many manners, Chan and Owusu (2017) identified a total of 28 different corruption forms the construction industry, they include; bribery, fraud, collusion, bid rigging, embezzlement, kickback, conflict of interest, dishonesty, extortion, front/shell companies, nepotism, professional negligence, cartel, favoritism, patronage, guanxi, solicitation, facilitation payment, lobbying, influence peddling, ghosting, deception, money laundering, price fixing, intimidation and threats, blackmail, coercion and client abuse/clientelism. To have a better grasp of these corruption forms, they further categorized them into six main constructs based on (1) the relationship and the commonalities that exist among the variables (by definition) and (2) using previous studies that classified some of the variables. At the end of the classification, the main constructs identified were Bribery acts (bribery, kickbacks, facilitation payments, influence peddling, lobbying and solicitation), Fraudulent acts (fraud, collusion, front/shell companies, dishonesty, ghosting, money laundering and deception), Collusive acts (cartels, bid rigging and price fixing), Discriminatory acts (nepotism, favoritism, and patronage), Extortionary

acts (extortion, client abuse/clientelism, intimidations and threats, coercion and blackmail), Unclassified acts (embezzlement, conflict of interest and professional negligence).

Nature of Public Projects

Public projects are projects characterized by; large investment commitment, vast complexity (especially in organizational terms) and long-lasting impact on the economy, the environment and society (Brookes & Locatelli, 2015). Public projects are a particular class of megaprojects that share most of the aforementioned characteristics. Most megaprojects are often associated with poor performance, even in countries with low signals of corruption. According to Stansbury (2005), not all projects are the same: specific features characterize projects and make them more or less susceptible to corruption.

These characteristics are: (1) Size: this is the most important feature because it is easier to hide bribes and inflated claims in large projects than in small projects. (2) Uniqueness: this makes budget costs difficult to compare and therefore it is easier to inflate. (3) Government involvement: public administrators can use their arbitrary power especially where there are insufficient controls on how government officials behave. (4) Number of contractual links: each contractual link provides an opportunity for someone to pay a bribe in exchange for the contract award. (5) Project complexity: when projects are very complex, factors like mismanagement or poor design can hide bribes and inflate claims. (6) Lack of frequency of projects: winning these projects may be critical to the survival or profitability of contractors, which provides an incentive for contractors to use bribes. (7) Work is concealed: subsequent processes cover the basic components of the work. The quality of the components can be very costly or difficult to check. (8)

Entrenched national interests: the government selects local and national companies, justifying the choice to favour national interests. (9) These positions have often been cemented by bribery. (10) Lack of ‘due diligence’: frequent lack of due diligence on participants in construction projects allows corruption to continue. (11) The cost of integrity: in several cultures bribery and deceptive practices are often accepted as the norm: not paying these bribes means not doing the project. Public policy strongly affects the performance of public projects. Public projects implementation process are guided by a policy document to minimise fraud and corrupt practices. In fact, public projects remain under political scrutiny well after the official final decision is made (Giezen, 2012). Despite their fundamental economic and social role, public projects are often implemented after a weak (or not optimal) phase of project planning, which could results to unethical practices in the administration of such projects. (Locateli *et al.*, 2016).

Corruption and Public procurement stages

Corruption is reported to be prevalent throughout the construction process. It also occurs at all levels of stakeholder management (Owusu *et al.*, 2019; Ameyaw *et al.*, 2017; Krishnan, 2010). Different authors have suggested division of construction stages leading to the similar project life cycles. Liu and Zhu (2007) divide construction stages into conceptual, design, tender, preconstruction, and construction. Zou (2006) also divided the stages of a construction project into feasibility, design, construction, and operation. Project Management Institute (PMI) (2003) defined phases of construction project as Concept, Planning, Detailed Design, Construction, and post Construction. However, the various

definition of construction project phases by the various authors are synonymous. The number of phases may also increase depending on the managers’ viewpoint. Each phase may be subdivided in order to focus on the details of each phase separately and more cautiously.

Ameyaw *et al.*, (2013) and Ameyaw *et al.* (2017) categorised stages of public projects to include: tendering and bid evaluation stage, the contract award stage, the contract execution stage, and the contract closure ‘final account’ stage. For the purpose of this study, the categorisation by Ameyaw *et al.* (2013) and Ameyaw *et al.* (2017) were adopted. Each of the stages in the chosen categorization represents a critical point in the project where specific processes, decisions, and interactions occur, potentially creating opportunities for corrupt practices. The stages also align well with the objectives of this study as it offers a comprehensive, detailed, practical project management milestones and framework which can allow for comparative analysis across projects or within the same project at different times.

Nevertheless, from the review of several studies (Owusu *et al.*, 2021; Ameyaw, *et al.*, 2013; Ameyaw *et al.* 2017), there are a range of views on the prevalence of corruption forms as well as the stages mostly associated with the various identified corruption forms in developed and developing countries. However, evidence of such empirical studies is limited in the Nigerian context. The prevalence of corruption forms could be country specific due to difference in policies applicable to each country. It is in reference to these gaps in literature that this study intends to determine the prevalence of corruption forms in public projects in Nigeria.

Research methodology

The study used a quantitative research approach to gather primary data from

contracting and consulting firms participating in public building projects in Abuja, Nigeria. This method was appropriate for addressing the “what” and “how much” questions concerning the prevalence of corruption forms in public construction projects (Amenyaw *et al.* 2017; Shah & Alotaibi 2017).

Closed ended structured questionnaires were used to collect data from the respondents. There were three parts to the questionnaire: Section A included basic respondent data; Section B assessed various forms of dominant corruption using a five-point Likert scale (1 = Not prevalent on one end, to 5 = Highly prevalent on the other end); Section C solicited data on the stages of construction projects mostly associated with corruption also on a five-point Likert scale where 1 = Never on one end, to 5 = Always on the other end.

The population of the study includes the contracting and consulting organisations that have handled public building projects in FCT Abuja. Abuja was selected as the study area because it is one of the fastest-growing cities in the country and has a very high concentration of registered construction contracting and consulting firms. This can be attributed to the large quantity of construction works in the area (Ameh & Odusami, 2010b).

The sample size for the research was then obtained from sample size Table for non-finite population developed by Louangrath (2014). Accordingly, the minimum sample size for an unknown population for 95% confidence interval with 5% error level is approximately 34 counts. Considering the sensitive nature of the research and large number of variables contained in the data collection instrument, this study assumed a valid response rate of at least 50% of the total number of questionnaires distributed. Therefore 100% of the estimated sample size was added. Sample size = 34 + 34 = 68 counts

68 questionnaires were then equally distributed among contracting and consulting organisations. Purposive sampling technique was used in carrying out this research. This technique was adopted because to enable the researcher obtain accurate information from respondents with relevant experience in the execution of public building projects. Internal consistency among questionnaire questions was measured using Cronbach's alpha, therefore instrument reliability was validated. Descriptive statistics (mean score, standard deviation, percentages, and frequencies) were used to analyse the data.

Cronbach alpha (α) coefficient was used to determine the reliability of the data. According to Nunnally (1978), in order to justify the reliability of the scale adopted, α value should be no less than 0.7. The α values for both the contracting and consulting groups of the respondents were estimated to be 0.971 and 0.967, which render the results from each organization group credible, reliable and valid for further analysis and discussion. In addition, to check for departures from a normal distribution in small to medium datasets, the Shapiro–Wilk test was applied to evaluate data normality. Test for normality was conducted and the data was found not to be normally distributed. Therefore, non-parametric inferential statistical test (Mann–Whitney U test) was used to determine whether significant differences existed between the rankings/ratings of the two independent respondent groups. The Mann–Whitney U test was therefore adopted for measuring the significant difference between the two independent group responses on a similar question. In the application of Mann–Whitney U, the H_0 signifies that ‘there is no significant difference in the variable ranks among the two groups.’ As a result, H_0 is rejected if the Mann–Whitney U value extends beyond its critical value at a

significance level less than or equal to 0.05 ($p \leq 0.05$).

RESULTS PRESENTATION

Respondents Demography

This section presents the demography of the respondents to include; organization type, working experience and professional affiliation as presented in Table1

Table 1: Respondents' demography

Characteristics			Classification	Frequency	Percentage
Organization Type			Contracting	30	47.6
			Consulting	33	52.4
			Total	63	100.0
Working Experience of Respondents			0–5 years	9	14.3
			6–10 years	18	28.6
			11–15 years	19	30.2
			16–20 years	8	12.7
			Above 20 years	9	14.2
			Total	63	100.0
Professional Affiliation of Respondents			Architect	11	17.5
			Builder	10	15.9
			Civil Engineer	14	22.2
			Quantity Surveyor	15	23.8
			Services Engineer	7	11.1
			Others	6	9.5
			Total	63	100.0
Handled Public Building Projects?			Yes	63	100.0
			No	0	0.0
			Total	63	100.0

From Table 1, out of the total number of 63 respondents 30 (47.6%) work with contracting firms and 33 (52.4%) work with consulting firms. 9 (14.3%) of the respondents have between 0 and 5 years, 18 (28.6%) have between 6 and 10 years of experience, 19 (30.2%) have between 11 and 15 years of experience, while 8 (12.7%) of the respondents have between 16 and 20 years of experience and 9 (14.2%) have above 20 years of experience. The table also shows the respondents' professional affiliation: 11 (17.5%) of them are Architects, 10 (15.9%) are Builders, 14 (22.2%) are

Civil Engineers, 15 (23.8%) are Quantity Surveyors, 7 (11.1%) are Services Engineers and 6 (9.5%) are affiliated to other Professions.

Prevalence of Identified Corruption Forms within Public Building Projects

Respondents were presented with 16 corruption forms as obtained from literature and were asked to rate their prevalence within the public building projects. The mean statistic, standard deviations and the rank of the overall as well as the individual group response are presented in Table 2.

Table 2: Prevalence of corruption forms within public building projects

S/N	Corruption Forms	Overall			Contracting			Consulting		
		Mean	SD	Rank	Mean	SD	Rank	Mean	SD	Rank
1	Favouritism (Patronage, Nepotism)	3.67	0.880	1 st	3.83	0.913	1 st	3.82	1.044	1 st
2	Bribery	3.57	1.201	2 nd	3.60	0.932	2 nd	3.33	1.384	7 th
3	Kickbacks	3.52	1.014	3 rd	3.60	1.003	2 nd	3.45	1.034	4 th
4	Lobbying	3.51	1.091	4 th	3.50	0.974	6 th	3.52	1.202	3 rd
5	Price Fixing	3.40	1.158	5 th	3.33	0.994	8 th	3.45	1.301	5 th
6	Conflict of Interest	3.40	0.925	6 th	3.60	0.932	2 nd	3.21	0.893	10 th
7	Embezzlement	3.40	1.158	7 th	3.37	1.129	7 th	3.55	1.201	2 nd
8	Facilitation Payments	3.38	1.237	8 th	3.60	1.003	2 nd	3.18	1.402	11 th
9	Collusion/Bid Rigging	3.30	1.173	9 th	3.37	1.129	7 th	3.24	1.226	8 th
10	Professional Negligence	3.24	0.928	10 th	3.07	1.048	11 th	3.39	0.788	6 th
11	Influence Peddling	3.10	0.928	11 th	3.07	1.048	11 th	3.21	0.857	9 th
12	Extortion	3.03	1.332	12 th	3.07	1.258	12 th			
13	Front/Shell Companies	2.95	1.224	13 th	3.17	1.206	10 th	2.76	1.226	15 th
14	Cartels	2.89	1.033	14 th	2.60	0.894	15 th	3.15	1.093	12 th
15	Fraud	2.87	1.211	15 th	3.07	1.048	11 th	3.03	1.237	13 th
16	Client Abuse/Clientelism	2.52	1.229	16 th	2.50	1.106	16 th	2.55	1.348	16 th

The result from Table 2 shows that stakeholders from the two organizations strongly agree on the prevalence of corruption in the construction of public building projects, as the ratings from the two groups have very high mean scores, although they disagree as to which form is most prevalent in the construction of public building projects.

Considering all 16 corruption forms assessed, the top most prevalent forms having the highest mean scores were favouritism/patronage/nepotism (3.67), bribery (3.57), kickbacks (3.52), and lobbying (3.51). These top forms were the once that occur often within the public building projects. This mean that these four forms happen frequently within the public building projects.

In the view of stakeholders from the contracting organizations, the top most prevalent forms with the highest mean scores are Favouritism (Patronage,

Nepotism) (3.83), bribery (3.60), conflict of interest (3.60), facilitation payments (3.60), and kickbacks (3.60). It can be deduced from the mean score that these corruption forms happen often/frequently.

On the other hand, the stakeholders from the consulting organization posited that the top corruption forms with the highest mean scores are favouritism/patronage/nepotism (3.82) and embezzlement (3.55), they tend towards the often range on the Likert scale, this indicates that favouritism/patronage/nepotism happens many times.

Furthermore, comparing the means scores from the two stakeholders' group, (contracting organizations and consulting organization) The Mann–Whitney U test was carried out and it is presented in Table 3.

Table 3: Mann–Whitney U test on prevalence corruption forms within public building projects

S/N	Test Statistics ^a	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)	Decision
1.	Bribery	403.000	964.000	-1.318	0.187	Retain the null hypothesis
2.	Kickbacks	459.500	1,020.500	-0.514	0.607	Retain the null hypothesis
3.	Facilitation Payments	415.500	974.500	-1.162	0.245	Retain the null hypothesis
4.	Influence Peddling	550.500	1,111.500	0.809	0.418	Retain the null hypothesis
5.	Lobbying	487.000	1,048.000	-0.114	0.909	Retain the null hypothesis
6.	Fraud	565.500	1,126.500	1.002	0.316	Retain the null hypothesis
7.	Collusion/Bid Rigging	487.000	1,048.000	-0.115	0.909	Retain the null hypothesis
8.	Front/Shell Companies	392.000	953.000	-1.473	0.141	Retain the null hypothesis
9.	Cartels	648.500	1,209.500	2.197	0.028 ^b	Reject the null hypothesis
10.	Price Fixing	540.500	1,101.500	0.650	0.516	Retain the null hypothesis
11.	Extortion	428.000	1,043.000	-0.184	0.854	Retain the null hypothesis
12.	Client Abuse	489.500	1,050.500	-0.078	0.938	Retain the null hypothesis
13.	Favouritism (Patronage, Nepotism)	583.500	1,144.500	1.298	0.196	Retain the null hypothesis
14.	Professional Negligence	571.500	1,132.500	1.131	0.258	Retain the null hypothesis
15.	Conflict of Interest	389.000	950.000	-1.560	0.119	Retain the null hypothesis
16.	Embezzlement	585.500	1,146.500	1.288	0.198	Retain the null hypothesis

^aGrouping variable: contextual groups (i.e. contracting and consulting organizations)

^bResults indicating significant differences (data with significant results)

The results from Table 3 indicate that there are no significant disparities between the response of the contracting organizations and consulting organizations regarding the most prevalent corruption forms. The p-values for all the corruption forms are greater than 0.05, indicating no statistically significant differences among the ranks of the various corruption forms.

Stages of Construction Projects mostly Associated with Corruption

The respondents were asked to rank the stages of public building projects mostly

associated with corruption. Table 4 presents the mean statistic, standard deviations and rank of the overall and individual group responses.

Table 4: stages of public building projects mostly associated with corruption

S/N	Corruption Forms	Overall			Contracting			Consulting		
		Mean	SD	Rank	Mean	SD	Rank	Mean	SD	Rank
1	Tendering and bid evaluation stage	3.87	0.889	1 st	3.83	1.236	1 st	3.91	0.914	1 st
2	Contract award stage	3.60	0.708	2 nd	3.80	0.874	2 nd	3.61	0.788	2 nd
3	Contract execution stage	3.46	1.162	3 rd	3.63	0.964	3 rd	3.30	1.311	4 th
4	Pre-tender stage	3.38	1.224	4 th	3.60	0.621	4 th	3.45	1.227	3 rd
5	Contract closure (final account) stage	3.06	1.045	5 th	3.23	1.165	5 th	2.91	0.914	5 th

From Table 4, the two stakeholder groups unanimously agreed that the tendering and bid evaluation stage was the most problematic, with mean = 3.87 overall, mean = 3.83 for contracting, mean = 3.91 for consulting. This can only indicate that the tendering and bid

evaluation stage is the public building project stage that is often associated with various corruption form.

For the comparison of the mean score between the stakeholder's groups, the Mann-Whitney U test carried out is shown in Table 5.

Table 5: Mann-Whitney U test on the stages of public building projects mostly associated with corruption forms

Test Statistics ^a	Pre-tender stage	Tendering and bid evaluation stage	Contract award stage	Contract execution stage	Contract closure (final account) stage
Mann-Whitney U	537.000	528.000	488.000	422.000	435.000
Wilcoxon W	1,098.000	1,089.000	1,049.00	983.000	996.00
Z	0.594	0.480	-0.106	-1.048	-0.863
Asymp. Sig. (2-tailed)	0.553	0.632	0.916	0.295	0.388
Decision	Retain the null hypothesis	Retain the null hypothesis	Retain the null hypothesis	Retain the null hypothesis	Retain the null hypothesis

^aGrouping variable: contextual groups (i.e., contracting and consulting organizations)

^bResults indicating significant differences (data with significant results)

From Table 5, the result indicates that there are no significant differences in the ranking between the response of the contracting organizations and consulting organizations regarding the stages of public building project most associated with corruption forms. All the p-values

for each stage having greater than 0.05. This shows an agreement between the two groups on the order of the stages of construction most associated with corruption forms, with tendering and bid evaluation stage taking the lead, followed by the contract award stage,

contract execution stage and pre-tender stage and contract closure (final account) stage. These findings confirm that these stages of construction of public building projects are highly vulnerable to various corrupt acts.

DISCUSSION OF RESULTS

The results of this study practically confirm the well-established claim that particularly in developing countries with changing institutional structures, the building industry continues among the most corrupt-prone sectors worldwide. Transparency International (2013, 2016) and the World Economic Forum (2016) consistently report that between 10% and 30% of total construction expenditure worldwide is lost to corruption, inefficiency, and mismanagement. Thus, the identification by the current study of bribery, kickbacks, facilitation payments, nepotism, and conflicts of interest as major forms of corruption is consistent with the global evidence base. Consistent with the studies by Chan *et al.* (2017) in Hong Kong and Ameyaw *et al.* (2017) in Ghana, the results emphasize tendering and bid evaluation phases as the most corruption-prone phases in the project cycle. Often defined by gloomy decision-making and discretionary power, these phases (which guide contract awards and resource allocation) thereby enable bid rigging, collusive tendering, price inflation, and patronage-based contract awards. Rather than sporadic individual acts, such behaviors point to more underlying institutional and systematic flaws.

This entrenched systematic causes explain the persistence of corruption in Nigeria's public building projects.

Political interference and patronage networks usually called in local idiom. "Men know men" distort equitable rivalry and compromise organizational honesty. This finding confirms Transparency International's (2020) argument that corruption flourishes when political power overcomes

procurement independence and where independent and effective oversight systems are lacking. The issue is made worse by enforcement of anti-corruption regulations, split accountability systems, and limited transparency in contract management.

Moreover, economic constraints including delayed payments, shaky project funding, and insufficient salary systems help to normalize facilitation payments and informal exchanges. Further degrading ethical conformity is the lack of severe penalties and the seen impunity of perpetrators. Earlier observations by Bologna and Del Nord (2000), Tabish and Jha (2011), and Bowen *et al.* (2012), who contend that systemic Fragility, institutional collapse, and governmental inefficiency help to perpetuate construction bribery in developing countries.

Finally, this study supports the claim that local structural ineptitude especially political ones which amplifies the patterns of corruption in public construction projects in Nigeria that otherwise match worldwide trends. patronage, inadequate monitoring, and administrative inefficiency. Resolving these problems calls for greater institutional openness, more strict regulatory independence, and a culture of accountability and ethical responsibility throughout all levels of project governance.

CONCLUSION AND RECOMMENDATION

Conclusion

The findings of this research offer undeniable empirical support for the idea that several kinds of corruption pervade all phases of public construction projects, from pre-tendering to contract completion. Among these, favouritism/patronage/nepotism, bribery, and kickbacks were found to be the most often occurring; price fixing, bid rigging, professional negligence, and

influence peddling happened less often but stayed noteworthy. Statistical analysis showed no significant difference in the responses of the two stakeholders' groups (contractors and consultants) even though they showed somewhat different perceptions. The most corruption-prone phases of public building procurement which both groups consistently noted, were 'tendering and bid evaluation' and contract award stages.

Recommendations

This study highlights the pressing need strengthening institutional monitoring and assessment systems and recommends strict compliance to Nigerian public procurement act to combat the ingrained nature of corruption in Nigeria's public building procurement. Especially, the research suggests that controlling the identified corruption types is critical to attaining openness, accountability, and fairness in public procurement. Minimizing possibilities for bribery and favouritism may be achieved by enhancing the regulatory independence of procurement agencies, enforcing competitive bidding processes, and guaranteeing digital traceability of transactions. Independent audit departments in procurement organizations and ministries should be given the power to identify irregularities in tendering and bid analysis. Parallel integration of digital procurement systems can improve openness and lower human judgment, hence enabling illicit activities. The findings also point out the need for focused anti-corruption initiatives, such as ethics training for procurement officials, mandatory declaration of conflicts of interest, and more stringent application of penalties on wrongdoers. By splitting administrative and political roles in project award decisions, political influence in procurement procedures should be purposefully decreased.

Finally, this research offers important findings that can help policymakers and regulatory agencies plan adaptive, evidence-based changes to fight corruption in the public building industry of Nigeria. The Nigerian building sector can advance toward a more sustainable, equitable, and corruption-resistant procurement approach by institutionalizing transparency, improving oversight, and encouraging ethical accountability.

REFERENCES

- Adekunle, A., Adewale, A., K., Olaifa, O., A., and Ukoh, S., N., B. (2019). Statistical Study on Types, Causes, Effects and Remedies of Corrupt Practices in Construction Industries in Nigeria. *International Journal of Advances in Scientific Research and Engineering*. Vol 5(9).
- Aduwo, E., B., Ibem, E., O., Afolabi, A., O., Olawunmi, A., O., Tunji-Olayeni, P., F., Ayo- Vaughan, E., A., Uwakonye, U., O., and Oni, A., A. (2020). Exploring anti-corruption capabilities of e-procurement in construction project delivery in Nigeria. *Construction Economics and Building*. Vol. 20 (1), pp. 56-76.
- Agyekum, K. Adinyira, E. and Amudjie, J. (2020). 'Ethical misconducts within the invitation to tender and tender evaluation and award stages of construction contracts in Ghana'. *Journal of Engineering, Design and Technology*, DOI: 10.1108/JEDT-07-2020-0274
- Alagidede, P. and Odei-Mensah, J. (2016). 'Construction, institutions and economic growth in Saharan Africa', *Economic Research Southern Africa (ERSA) working paper* 622

- Ameh, O., J., and Odusami, K., T. (2010). Professionals' Ambivalence toward Ethics in the Nigerian Construction Industry, *Journal of Professional Issues in Engineering Education and Practice*, DOI: 10.1061/(ASCE)1052-3928(2010)136:1(9)
- Amenyaw, C., and Mensah, S., and Osei-Tutu, E. (2013). Curbing Corruption in the Public Procurement Process in Ghana, Public Policy and Administration Research, ISSN 2224-5731(Paper) ISSN 2225-0972(Online) Vol.3, No.5, 2013
- Amenyaw, C., Mensah, S., & Osei-Tutu, E. (2013). Curbing corruption in the public procurement process in Ghana. *Public Policy and Administration Research*, 3(5), 2223-5731
- Ameyaw, E. E., Pärn, E., Chan, P.C., Owusu-Manu, D., Edwards D. J., and Darko, A. (2017). "Corrupt Practices in the Construction Industry: Survey of Ghanaian Experience" *Journal of Management in Engineering* 33(6): 05017006
- Bologna, R., & Del Nord, R. (2000). Effects of the law reforming public works contracts on the Italian building process. *Building Research & Information*, 28(2), 109– 118.
- Bologna, R., and Del Nord, R. (2000). "Effects of the law reforming public works contracts on the Italian building process." *Build. Res. Inf.*, 28(2), 109–118.
- Bowen P., Edwards P. and Cattell K. (2012) Corruption in the South African construction industry: A mixed methods study In: Smith, S.D (Ed) *Procs 28th Annual ARCOM Conference*, 3-5 September 2012, Edinburgh, UK, Association of Researchers in Construction Management, 521-531.
- Brookes, N.J. and Locatelli, G. (2015). Power plants as megaprojects: using empirics to shape policy, planning, and construction management. *Util. Policy* 36, 57–66.
- Chan, A. P. C., Darko, A., Olanipekun, A. O., & Ameyaw, E. E. (2017). Critical barriers to green building technologies adoption in developing countries: The case of Ghana. *Journal of Cleaner Production*, 172, 1067–1079.
- Chan, A. P., & Owusu, E. K. (2017). Corruption forms in the construction industry: A literature review. *Journal of Construction Engineering and Management*, 143(8), 04017057. [https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0001353](https://doi.org/10.1061/(ASCE)CO.1943-7862.0001353)
- Chan, A. P., and Owusu, E. K., (2017). "Corruption Forms in the Construction Industry: Literature Review" *J. Constr. Eng. Manage.*, 10.1061/(ASCE)CO.1943-7862.0001353.
- de Jong, M., Henry, W. P., & Stansbury, N. (2009). Eliminating corruption in our engineering/construction industry. *Leadership and Management in Engineering*, 9(3), 105–111. [https://doi.org/10.1061/\(ASCE\)1532-6748\(2009\)9:3\(105\)](https://doi.org/10.1061/(ASCE)1532-6748(2009)9:3(105))
- Deng, X., Tian, Q., Ding, S., and Boase, B. (2003). "Transparency in the procurement of public works." *Public Money Management*. 23(3), 155–162.
- Ebekozien, A. (2019). Unethical Practices in Procurement Performance of Nigerian Public Building Projects: Mised

- Methods Approach. *Theoretical and Empirical Research in Urban Management*. Vol. 14(3), pp. 41-61
- Giezen, M. (2012). Keeping it simple? A case study into the advantages and disadvantages of reducing complexity in mega project planning. *Int. J.Proj. Manag.* 30 (7), 781–790.
- Giezen, M. (2012). Keeping it simple? A case study into the advantages and disadvantages of reducing complexity in megaproject planning. *International Journal of Project Management*, 30(7), 781–790
- Krishnan, C. (2010). Combating corruption in the construction and engineering sector: The role of transparency international. *Leadership and Management in Engineering*, 9(3), 112114.
- Le, Y., Shan, M., Chan, A. P., & Hu, Y. (2014). Overview of corruption research in construction. *Journal of Management in Engineering*, 30(4), 02514001.[https://doi.org/10.1061/\(ASCE\)ME.1943-5479.0000300](https://doi.org/10.1061/(ASCE)ME.1943-5479.0000300)
- Liu, A. M., and Zhu, C. (2007). Surveyors' perspectives on ethics in organizational culture. *Engineering, Construction and Architectural Management*, 11(6), 438 449.
- Locatelli, G. Mariani, G. Sainati, T. and Greco, M. (2016). Corruption in public projects and megaprojects: There is an elephant in the room! *International Journal of Project Management* xx (2016) xxx–xxx
- Louangrath, P., (2014). Sample Size Determination for Non-Finite Population. *Southeast-Asian Journal of Sciences*. Vol. 3, No. 2 (2014) pp. 141 – 152.
- Nunnally, J. C. (1978). Psychometric theory (2nd ed.). McGraw-Hill.
- Ogbu, C. P., & Asuquo, C. F. (2018). A comparison of prevalence of unethical tendering practices at national and subnational levels in Nigeria. *African Public Service Delivery and Performance Review*, 6(1).
- Owusu, E K., Chan, A. P. C., Shan, M., and Nani, G. (2021). Investigating the criticalities of Corruption Forms in Infrastructure Procurement in Developing Regions: In: Ahmed, S.M., Hampton, P., Azhar, S., D. Saul, A. (eds) Collaboration and Integration in Construction, Engineering, Management and Technology. *Advances in Science, Technology & Innovation*. Springer, Cham. https://doi.org/10.1007/978-3-030-48465-1_15
- Owusu, E K., Chan, A., Edwards, D., and Pärn, E. (2019). An Empirical Study on Construction Process Corruption Susceptibility: A Vignette of International Expertise. *Science and Engineering Ethics* <https://doi.org/10.1007/s11948-019-00083-6>
- Owusu, E. K., & Chan, A. P. (2018). Barriers affecting effective application of anticorruption measures in infrastructure projects: Disparities between developed and developing countries. *Journal of Management in Engineering*, 35(1), 04018056.
- Oyedele, O. A. (2019). A study of corruption practices in the Nigerian construction industry. *ResearchGate*. <https://www.researchgate.net/publication/331585003>

- Project Management Institute (PMI), (2013) *Project Management Body of Knowledge (PMBOK)*, 5th ed. USA: Project Management Institute, Inc.
- Shah, R., K., and Alotaibi, M. (2017). A study of unethical practices in the construction industry and potential preventive measures, *Journal of Advanced College of Engineering and Management*, Vol. 3, 2017 Online ISSN: 2392-4853
- Stansbury, N. (2005). Exposing the foundations of corruption in construction. In Transparency International (Ed.), *Global corruption report 2005* (pp. 36–55). Pluto Press.
- Tabish, S. Z. S., and Jha, K. N. (2011a). “Analyses and evaluation of irregularities in public procurement in India.” *Construction. Management. and Economics.*, 29(3), 261–274.
- Transparency International (2016). “Anti-corruption glossary, forms of corruption.” {<http://www.transparency.org/glossary>} (Feb. 21, 2018).
- Transparency International. (2013). “Preventing corruption on construction projects.” {http://archive.transparency.org/tools/contracting/construction_projects} (Jan. 16, 2013).
- World Economic Forum (WEF) (2016). This is why construction is so corrupt. Available at <https://www.weforum.org/agenda/2016/02/why-is-the-construction-industry-so-corrupt-and-what-can-we-do-about-it/>
- Zou, P. (2006). “Strategies for Minimizing Corruption in the Construction Industry in China” *Journal of Construction in Developing Countries*, 11(2)