

RESEARCH ARTICLE

Issues Facing Implementation of Edo State Public Procurement Law in Construction Projects: Threat to Achieving Sustainable Development Goal 11

Mohamed Ahmed Hafez², Andrew Ebekoziem^{1,2,3*}, Godsent Ige Umaigba¹, Wellington Didibhuku Thwala³, Zakaria Che Muda²

¹ Department of Quantity Surveying, Auchi Polytechnic, Auchi, Nigeria

² Department of Engineering, INTI International University, Nilai, Malaysia

³ Faculty of Engineering, Built Environment and Information Technology, Walter Sisulu University, South Africa

* Corresponding author: Andrew Ebekoziem, ebekoandy45@yahoo.com

ABSTRACT

Studies showed that unethical practices in public procurement may hinder construction projects and economic development, particularly in developing cities and states, such as Edo State, Nigeria. The Nigerian Government enacted the Public Procurement Act (2007) to address the issues. Many states domesticated the Act, including Edo State (Edo State Public Procurement Law (ESPPL) 2020). However, implementation in some states may be challenging and can thwart achieving Sustainable Development Goal 11 (Sustainable Cities and Communities – SDG 11). This study investigated ESPPL implementation issues in construction projects and their outcome to Goal 11. It also proffered ways to boost implementation and, by extension, improve achieving SDG 11 and related SDGs. The researchers engaged knowledgeable respondents within Edo State, Nigeria, via a questionnaire survey approach. This study analysed the collected data with descriptive statistics. The results showed that the issues facing ESPPL implementation can hinder the achievement of Goal 11 if not curbed. As part of the study's implication, the researchers proffered measures to mitigate the issues and, by extension, improved the achievement of Goal 11 and other SDGs related to construction project performance and excellence.

Keywords: Construction projects; Edo State; Issues; Public Procurement Act; Sustainable Development Goal (SDG) 11

1. Introduction

The public procurement process of developing countries' construction sectors needs to improve^[1] as a booster to emerging economies from these countries. The sector (construction) is one of the key industries and provides the infrastructure for economic growth^[2,3]. The sector is described as a distinctive sector providing for activities' pre-, construction, and post-construction phases. The construction industry is a great component of humanity because it develops economic growth and maintains society's well-being^[4]. The sector was estimated to be worth over \$10tn per annum^[5]. However, there have been issues facing construction public procurement projects, especially in developing countries^[1]. This study focuses on Edo

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State, Nigeria. This is because the state is one of the fastest-growing states in Nigeria. Nigeria's procurement law (Public Procurement Act (PPA) 2007) was signed into Law on the 4th day of June 2007, by the then President, Late Musa Yar' Adua^[1,6]. The Act's goal is to ensure transparency, fair competition, efficiency, accountability, value for money, and professionalism in the public sector procurement system. The Act provides that public procurement is conducted equitably, timely, transparently, and based on the agreed guidelines^[6]. It is one of the policies to enhance public service delivery and improve economic and social growth^[7]. The PPA is a fundamental legal framework that governs public entities' acquisition of goods, services, and construction projects to ensure transparency, fairness, and efficiency in public procurement processes^[8].

Before introducing the PPA, the Nigerian Government established the Budget Monitoring and Price Intelligence Unit (BMPIU), which created the PPA^[9]. The BMPIU ensured fiscal transparency and strict adherence to government guidelines regarding due process certification for budgeting and procuring facilities, services, and contracts at reasonable prices^[1]. The unit faced challenges; hence, it metamorphosed into PPA. Wrongdoings, absence of accountability, integrity, transparency, and related problems were identified as the hindrances that led to the reform of the PPA^[10,11,12]. Familoye et al.^[13] found that several procurement challenges stem from failures of public projects instead of private ones. Thus, transparency and accountability are critical, knowing that the impact on Sustainable Development Goals (SDGs) construction-related projects, especially Goal 11 (sustainable cities and communities), could be threatened if not curbed. Despite the implementation of PPA 2007, the extent of corruption in procurement remains significantly elevated^[1,14,15]. The problems that led to the enactment of the PPA 2007 may still be active in the procurement process, especially in states that have domesticated the Act into Law with a focus on Edo State. Nicholas et al. ^[15] opined that corruption boom in the PPA implementation in Nigeria. The researchers' preliminary findings show that despite a well-defined legal framework, challenges arise during the implementation of Law in many states, including Edo State, Nigeria. This action may hinder and undermine the achievement of Goal 11.

In Nigeria, several procurement transactions present significant issues for the overall public procurement process^[1,8,12,16,17]. However, none addressed the issues from the perspective of improving the achievement of Goal 11. These challenges persist despite the Public Procurement Act 2007, which was revised with evidence of widespread corruption in the public sector^[8]. Kanu et al.^[8] affirmed that a conflict of interest heightens the likelihood of corruption and is compounded by bribery cases around public procurement to influence the award of contracts. Also, bidders' falsifying documents to qualify for contract awards is another fraudulent practice hindering PPA or ESPPL implementation^[12]. Dickson and Achanya^[12] found contract price negotiations, kickbacks, bribery, and the inappropriate use of restricted tendering methods, among other practices, as issues hindering implementation. Ebekoziens^[11] and Dickson and Achanya's^[12] submissions corroborated Umaigba's^[18], who alleged that these unethical practices continued because some government officials in the procurement process reluctantly refused to implement the provisions of the Act or Law. Umaigba^[18] affirmed that some top civil servants perceive the Act or Law (state) as a threat to them. The study's concern is whether the refusal to implement is not a bigger threat to SDGs, especially Goal 11, knowing that 2030 is fast approaching. Academic literature regarding this matter is scarce, thus motivating the study. However, implementation in some states may be challenging and can thwart achieving Goal 11. This study investigates ESPPL implementation issues in construction projects and their outcome to Goal 11. It also proffered ways to boost implementation and, by extension, improve achieving SDG 11 and related SDGs to foster integrity in the process and competition through the following objectives:

- i. To investigate perceived hindrances facing Edo State Public Procurement Act 2020 implementation in construction projects.
- ii. To suggest ways to mitigate hindrances facing Edo State Procurement Act 2020 implementation and, by extension, improve the achievement of Goal 11.

2. Literature review

2.1. Overview of Public Procurement

Dickson and Achanya^[12] highlighted that public procurement constitutes a significant component of the government's economic operations. Over time, it has emerged as a topic of considerable public attention and debate because of the perception that it serves as a breeding ground for wasteful practices, fraudulent activities, and abuse. Its scope includes five key elements. This includes policy-making and management, procurement regulations, procurement authorization, and appropriations, the role of public procurement in operations, and feedback^[12]. In Ghana, Owusu et al.^[19] identified weaknesses in Ghana's procurement system. In Zimbabwe, the government's indigenisation policy has awarded public tenders to incompetent companies^[20].

Nigeria's public procurement reform emerged from the World Bank Country Procurement Assessment survey conducted in 1999-2000^[12]. The World Bank found that 60% of Nigerian currency spent by the government was lost to corrupt practices, majorly from deceitful practices in the awarding and execution of public contracts, including construction projects. This is because the system was characterised by the absence of legal and institutional frameworks, lack of defined thresholds, inadequate procurement capacity among government agencies, absence of periodic reviews and evaluations of procurement practices, absence of standardised bidding documents, and limited or no advertisement^[21]. In response to these irregularities, the Public Procurement Act of 2007 was enacted to curb the menace. The Act establishes two regulatory bodies, namely the National Council on Public Procurement (NCP) and the Bureau of Public Procurement (BPP), with the mandate to supervise and oversee public procurement^[12]. In Edo State, in line with the federal government, domesticated the PPA 2007 to ESPPL 2020^[22]. The Law highlights the penalties for offenders and defines what constitutes offences. The Law also states the agency issues the procurement implementation procedure under the board's direction to guide the procuring entity. The major procurement methods identified include the traditional method, design and build, and the direct labour procurement system^[22,23].

2.2. Issues facing the public procurement process

Scholars^[(1,11,12,18,24)] affirmed that Nigeria's public procurement process is facing issues. The issues include resistance from stakeholders in project locations to embrace the new procurement reform, shift from the "business as usual" mindset, political interference in the procurement process, delay in inaugurating the National Council on Public Procurement, lengthy court proceedings due to unnecessary injunctions and adjournments by defending counsel, and non-appreciation of public procurement Act/Law by the public. Others are lack of enlightenment of public procurement, the political influence of some ministries/departments/agencies (MDAs), late passage of annual budget, short record of conducting the procurement process to avoid the monies being mopped up, guarantees and bid bond from the MDAs nominated or preferred banks, difficulties in getting advanced payment, complaint of long delays in contractors getting agreement prepared and signed, poor screening of technical and financial bid, some MDAs demanding registration of contractors before bidding contrary to the guidelines, lack of integrity and good character, and abuse of procurement process including in-house estimate leaked to the contractors, tax

clearance forgery, contract splitting^[18]. The issues facing PPA/ESPPL may threaten achieving Goal 11 and SDGs related to construction projects if not curbed.

2.3. Sustainable Development Goal 11 (Goal 11)

SDG 11 is one of the 17 Goals that emerged from the UN SDGs Summit in New York^[25]. Past goals comprise the Millennium Development Goals (MDGs) 2000–2015^[26] and the Agenda 21 at the Earth Summit in Rio de Janeiro^[25]. The 17 SDGs have received support from the New Partnership for Africa's Development programme, and the New Urban Agenda and the African Union's Agenda 2063^[26]. The construction industry activities, including residential building provision, pipe-borne water, road construction, etc., may contribute to achieving SDGs. This study focuses on Goal 11 because it can make cities and human settlements inclusive, resilient, safe, and sustainable if done correctly. Hence, mitigating hindrances facing PPA/EDSPPL cannot be over-emphasised. Goal 11 links SDGs such as Goals 1, 2, 3, and 10^[27,28]. The issues facing PPA implementations may threaten Goal 11 targets, such as Target 11.1, “*by 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums,*” Target 11.3, “*by 2030, enhance inclusive and sustainable urbanisation and capacity for participatory, integrated and sustainable human settlement planning and management in all countries,*” and Target 11.c, “*support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilising local materials*”^[29].

3. Research method

The researchers adopted a quantitative method approach to actualise the study's objectives. One of the qualities of the quantitative approach is the unbiased analysis of statistical, numerical, and mathematical data^[30]. Aliu et al.^[31] affirmed that such data may be obtained through voting polls, oral histories, group discussions, survey studies, and well-structured questionnaires. This study's primary data were collected through a close-ended structured questionnaire using a five-point Likert scale (5 = “very significant” and 1 = “not significant”). The study's target population were relevant respondents drawn from Nigeria's state capital (Benin City, Edo State). This includes building contractors, quantity surveyors, engineers, builders, architects, building clients, planners, and procurement officers. In developing the survey questionnaire, this study's measurement items/dimensions were modified from extant literature [5, 7, 8, 9, 10, 11, 12, 13, 15, 18, 24]. The researchers adopted two clusters (snowball and purposive sampling techniques) to achieve this study's objectives. They belong to the category of non-probability sampling technique^[31]. The purposive sampling technique depends on the investigator's judgement when choosing the main study's population^[32]. It enhances cost and time efficiency. The referral approach was inevitable because of the study (snowball sampling). The researchers adopted the formula approach to arrive at a sample size of 138, which was adopted for this study.

The researchers conducted data cleaning and screening with the assistance of independent experts. Afterward, the cleaned study's data were analysed using descriptive statistical tools. This includes frequency, percentage, and Relative Important Index (RII). The researchers established the validity and reliability of the research instrument. The researchers also recorded a Cronbach's alpha value of 0.812. This indicates the high reliability of the administered questionnaire survey^[33]. The researchers achieve this study's validity by pilot testing the questionnaires before the main study. Ticehurst and Veal^[34] emphasised that a questionnaire should be piloted on a small scale to assist in cleaning any errors and limitations of the survey instrument before the main data collection.

4. Findings

Table 1 shows the frequency distributions of the respondents' profiles and background information. This includes respondents' organisation, professional qualifications, years of experience, highest academic qualifications, professional membership, and professional bodies. These data enhance the reliability and credibility of this study's results. As seen from **Table 1**, the lowest academic qualification was HND/B.Sc/B.Tech. with 48.8%. Regarding the professional qualifications, only 16.3% of the respondents were yet to be registered with their professional bodies. Also, **Table 1** reveals that only 9.3% of the respondents had less than six years of work experience. It implies that 90.7% of the respondents had more than six years of work experience.

Table 1. Organisation of respondents.

Category	Classification	%
Organisation	Contracting	37.2
	Consulting	41.9
	Construction practitioners in Ministries/Departments/Agencies (public sector)	18.6
	State Public procurement agency	2.3
	Total	100.0
Profession	Contractor	9.3
	Quantity Surveyor	34.9
	Engineer	18.6
	Builder	18.6
	Architect	9.3
	Building Client	4.7
	Town Planner	2.3
	Procurement Officer	2.3
	Total	100.0
	Years of experience	Below 6 years
6 – 10 years		51.2
11 – 15 years		11.6
16 – 20 years		16.3
Above 20 years		11.6
Total		100.0
Academic qualification	HND/B.Sc/B.Tech.	48.8
	PGD	4.7
	M.Sc/M.Tech/M.Phil.	44.2
	Ph.D	2.3
Total	100.0	
Professional membership	Technician	4.7
	Probationer	11.6
	Corporate Member	76.7
	Fellow	4.7
	Procurement Practitioner	2.3
Total	100.0	

Category	Classification	%
Area of expertise/Professional institute	Corporate Affairs Commission	7.0
	Nigerian Institute of Quantity Surveyors	34.9
	Nigerian Society of Engineers	18.6
	Nigerian Institute of Builders	18.6
	Nigerian Institute of Architects	14.0
	Nigerian Institute of Town Planners	2.3
	Professional Diploma in Public Procurement	2.3
	Procurement Practitioner	2.3
Total	100.0	

Source: Authors work.

4.1. Issues facing Edo State Public Procurement Law 2020 implementation

Table 2 shows the relative importance index of the identified issues facing ESPPL 2020 implementation in construction projects. Table 2 reveals that resistance from stakeholders in project locations and collusion between procuring entities and contractors were ranked as the most critical issues, with RII scores of 0.168 each. This indicates that these issues are of utmost concern among respondents. Manipulation of the procurement process to inflate contract costs was also identified as a significant concern, ranking third with an RII of 0.167. This suggests that ensuring a fair and transparent procurement process is essential. Political interference in the procurement process was another prominent issue, ranked fourth with an RII of 0.159. This highlights the need to maintain independence and integrity in the procurement system. The lack of integrity and good character in the procurement process was a substantial concern, ranking fifth with an RII of 0.159. This emphasises the importance of ethical behaviour in public procurement. Some procuring entities failing to adhere to the Law and standard bidding documents ranked relatively lower but still significantly, emphasizing the importance of uniform compliance. Projects being awarded to companies based on minimal deviation from in-house estimates were another issue of concern, ranking seventh with an RII of 0.153. This highlights the need for more objective evaluation criteria.

Table 2. Issues facing Edo State Public Procurement Law 2020 implementation in Construction Projects.

Code	Identified factors	Rank	Overall	Contractor	Quantity Surveyor	Engineer	Builder	Architect	Building Client	Town Planner	Procurement Officer
Q1	Resistance from stakeholders in project locations to embrace the new procurement reform and shift from the business-as-usual mindset	1	0.168	0.174	0.168	0.163	0.166	0.172	0.160	0.162	0.171
Q2	Collusion between procuring entities and contractors to make unresponsive bids responsive	1	0.168	0.163	0.168	0.171	0.162	0.174	0.169	0.172	0.165
Q3	Manipulation of the procurement process to inflate contract costs	3	0.167	0.165	0.167	0.162	0.172	0.169	0.161	0.166	0.165

Table 2. (Continued)

Code	Identified factors	Rank	Overall	Contractor	Quantity Surveyor	Engineer	Builder	Architect	Building Client	Town Planner	Procurement Officer
Q4	Political interference in the procurement process	4	0.159	0.161	0.157	0.159	0.162	0.165	0.155	0.158	0.154
Q5	Lack of integrity and good character	4	0.159	0.163	0.159	0.157	0.152	0.159	0.164	0.154	0.155
Q6	Projects being awarded to companies based on minimal deviation from in-house estimates went against the Law's provisions	6	0.153	0.155	0.158	0.149	0.151	0.150	0.156	0.148	0.149
Q7	In-house estimate leaked to the contractors	6	0.153	0.156	0.151	0.157	0.150	0.159	0.146	0.148	0.145
Q8	The inappropriate use of restricted tendering methods	8	0.152	0.154	0.150	0.147	0.149	0.145	0.153	0.151	0.145
Q9	Inadequate criteria for assessing pre-qualification applications and making decisions on supplier selection	9	0.145	0.143	0.147	0.142	0.139	0.141	0.140	0.143	0.144
Q10	Bid splitting to avoid approval thresholds and proper procurement methods	10	0.144	0.139	0.143	0.146	0.137	0.140	0.141	0.145	0.142
Q11	Late passage of the annual budget	10	0.144	0.141	0.143	0.147	0.140	0.145	0.142	0.139	0.140
Q12	Multiple bids for the same projects from companies owned by the same individual/source	12	0.143	0.140	0.145	0.142	0.139	0.137	0.134	0.145	0.144
Q13	The failure of certain procuring entities to invite credible individuals from civil society organisation and professional bodies as observers as required by the Law during procurement processes	13	0.142	0.145	0.137	0.139	0.142	0.145	0.143	0.140	0.141
Q14	Non-appreciation of Public Procurement Law by the public	13	0.142	0.143	0.139	0.141	0.143	0.137	0.145	0.137	0.142
Q15	Falsification of documents and procurement records by some bidders to qualify for contract awards	13	0.142	0.141	0.142	0.137	0.136	0.139	0.143	0.145	0.135

Table 2. (Continued)

Code	Identified factors	Rank	Overall	Contractor	Quantity Surveyor	Engineer	Builder	Architect	Building Client	Town Planner	Procurement Officer
Q16	Contracts are sometimes divided to keep their value below the approved threshold of the accounting officers	16	0.141	0.143	0.140	0.139	0.137	0.142	0.140	0.138	0.136
Q17	Occasional allocation of projects instead of subjecting them to open competitive bidding	17	0.140	0.137	0.139	0.143	0.140	0.141	0.138	0.136	0.139
Q18	The frosty working relationship between the ministry and the parastatals under them	18	0.138	0.139	0.136	0.136	0.134	0.140	0.141	0.138	0.139
Q19	Failure of some procuring entities to adhere to the act and the standard bidding documents in advertising and soliciting bids	19	0.127	0.129	0.127	0.132	0.135	0.130	0.128	0.131	0.126
Q20	Lengthy court proceedings due to unnecessary injunctions and adjournments by defending counsel, aiming to frustrate the trial of suspects	20	0.126	0.128	0.125	0.123	0.131	0.129	0.124	0.129	0.123

Source: Authors work.

4.2. Ways to mitigate hindrances facing Edo State Procurement Act 2020 implementation and, by extension, improve the achievement of Goal 11 and construction-related SDGs

Table 3 shows the relative importance index of the identified ways to improve Edo State Public Procurement Law 2020 implementation in construction projects and, by extension, improve the achievement of Goal 11. Table 3 reveals that transparency in public procurement emerged as the most agreed-upon improvement measure, indicating that stakeholders value transparency in the procurement process. This will mitigate corruption and enhance accountability in public procurement of construction projects and, by extension, improve the achievement of Goal 11. The identity of actors involved in public procurement is also highly valued. Knowing who is involved helps establish accountability and ensures that the right individuals or organisations are engaged in the process, and by extension, improves the achievement of Goal 11. Stakeholder participation was also ranked high, indicating a desire for a more inclusive procurement process. This can lead to better decision-making and a higher level of public trust. The dissemination of information is also seen as crucial. For others, refer to Table 3.

Table 3. Measures to improve Edo State Public Procurement Law 2020 implementation in construction projects.

Code	Identified Measures	Rank	Overall	Contractor	Quantity Surveyor	Engineer	Builder	Architect	Building Client	Town Planner	Procurement Officer
Q1	Transparency in public procurement to enhance Goal 11	1	0.183	0.185	0.176	0.182	0.181	0.194	0.186	0.179	0.187
Q2	Identity of actors	1	0.179	0.176	0.183	0.173	0.167	0.169	0.177	0.165	0.184
Q3	Stakeholder participation	3	0.177	0.175	0.181	0.179	0.177	0.165	0.187	0.173	0.171
Q4	Transparency and information dissemination to enhance Goal 11	4	0.170	0.168	0.167	0.171	0.173	0.165	0.169	0.175	0.174
Q5	Standardisation and simplification	4	0.168	0.173	0.175	0.169	0.162	0.166	0.162	0.161	0.167
Q6	Capacity building	6	0.166	0.167	0.172	0.169	0.164	0.168	0.174	0.171	0.174
Q7	Strengthened oversight and monitoring of construction projects	6	0.164	0.165	0.167	0.159	0.155	0.165	0.157	0.159	0.168
Q8	Encouraging innovation and sustainability	8	0.162	0.159	0.155	0.165	0.157	0.163	0.166	0.163	0.168
Q9	E-procurement to embrace Goal 11	9	0.161	0.165	0.157	0.159	0.156	0.163	0.155	0.162	0.165
Q10	Risk management	10	0.157	0.159	0.155	0.153	0.157	0.152	0.155	0.158	0.161
Q11	Collaboration and consultation to enhance Goal 11	10	0.157	0.153	0.158	0.155	0.161	0.159	0.156	0.157	0.156
Q12	Engaging stakeholders and the public	12	0.156	0.155	0.157	0.162	0.158	0.153	0.159	0.152	0.155
Q13	Post-contract evaluation	13	0.155	0.156	0.159	0.152	0.157	0.149	0.146	0.161	0.159
Q14	Establishing a whistle-blower mechanism	13	0.154	0.156	0.158	0.152	0.154	0.157	0.156	0.161	0.148
Q15	Access to public procurement contracts by potential companies of all sizes	13	0.150	0.155	0.156	0.152	0.159	0.143	0.146	0.149	0.150
Q16	Oversight and control of the procurement cycle	16	0.149	0.151	0.154	0.148	0.145	0.147	0.146	0.144	0.152

Table 3. (Continued)

Code	Identified Measures	Rank	Overall	Contractor	Quantity Surveyor	Engineer	Builder	Architect	Building Client	Town Planner	Procurement Officer
Q17	Introduction of fair competition measures	16	0.149	0.147	0.152	0.143	0.147	0.144	0.150	0.148	0.146
Q18	Enhanced legal framework	18	0.148	0.145	0.151	0.147	0.144	0.147	0.149	0.153	0.150

Source: Authors work.

5. Discussion of findings

This study’s findings show that resistance from stakeholders in project locations and collusion between procuring entities and contractors were ranked as the most critical issues facing ESPPL 2020 implementation in construction projects, as presented in **Table 2**. The findings agree with Adeniyi et al. [23], who identified political influence as a significant issue that could encourage corruption between contractors and in-house professionals who disclose in-house estimates. This is an unethical practice and should be discouraged. The frosty working relationship between the ministry and parastatals ranked much lower in importance, indicating that it might be less critical than other issues. Lengthy court proceedings due to unnecessary injunctions and adjournments ranked the lowest in importance, suggesting a less pressing issue. The study’s findings reveal that implementing the Edo State Public Procurement Law 2020 has been bedevilled with numerous challenges and aligns with Aliu et al. [11], Moneke [24], and Dickson and Achanya [12]. This study identified several hindrances facing the implementation of EDPPL 2020. Regarding corruption in the public procurement governance, the findings agree with Basheka [35], who found that despite Uganda’s various public procurement frameworks, corruption continues to poison any efforts to provide humanity with better services. The bond between corruption and public administration seemed to be a forced one, especially in developing countries’ construction contract procurement process. The state law through the judiciary, has the responsibility to separate or divorce them. Also, the findings align with those of Akaba et al. [36] and Umaigba [18], who found corrupt practices in all phases of the procurement process. This includes project planning and implementation phases.

Regarding plans to improve ESPPL 2020 compliance, procurement officers need upskilling and reskilling. Findings agree with Ogunsanya et al. [37] and corroborated by Kushairi [38] and Adeniyi et al. [23]. They recommended intensive training, especially for the procuring officers of the entity, to mitigate issues associated with incompetence or unprofessional lacuna. The complexity of the procurement process, if not well understood, could lead to ineffectiveness. Thus, training is pertinent through workshops and seminars to improve the achievement of SDG 11 and other construction-related SDGs before 2030. This task will mitigate Larbi et al. [39] assertion that many procurement officers are not professionals and desire adequate training. Also, it will enhance the procuring entities’ compliance with procurement law and regulations [40]. In summary, improving transparency, stakeholder participation, and capacity building should be top priorities in enhancing the implementation of the Edo State Public Procurement Law 2020 in construction projects and, by extension, improving the achievement of Goal 11. Findings agree with the OECD [41], which affirmed that adopting a comprehensive strategy for mitigating risks and preventing corruption in implementing the public procurement process is essential. Also, Akaba et al. [36] suggested that e-procurement driven by blockchain mechanisms mitigates corrupt practices in the system. Akaba et al. [36] and Aduwo et al. [42] corroborated Saastamoinen et al. [43], who opined that e-procurement would bring transparency, competitiveness,

innovation, eliminate corruption, and contribute to the procurement process. This may enhance effectiveness and improve transparency, but digitalisation is a challenge in Nigeria. Many factors are involved, such as basic infrastructure to support its efficacy. Is Nigeria ready to invest in digitalisation? This should be considered critically to improve the achievement of SDG 11. However, the OECD^[44] and the World Economic Forum^[45] argued that digital technology usage is the most effective way to check and mitigate the incidences of corrupt practices in public procurement, especially in developing countries. The Nigerian Government may have to invest more in e-procurement to enhance efficiency. Aduwo et al.^[42] and Afolabi et al.^[46] and Jacob^[47] emphasised that e-procurement can assist in checking the incidence of unethical practices, including corrupt acts in construction project delivery. This is germane to the achievement of Goal 11 because corruption has been established as one cancerous that requires an in-depth surgical operation to give life back to the outcomes of construction productivity. For e-procurement to succeed, supportive policies and legislative frameworks are required, including subsidised e-procurement technology acquisition.

6. Conclusion and recommendations

The study investigated ESPPL implementation issues in construction projects and their outcome to Goal 11. It also proffered ways to boost implementation and, by extension, improve achieving SDG 11 and related SDGs to foster integrity in the process and competition. The study identified 20 issues facing ESPPL implementation. This study has provided empirical evidence that issues facing ESPPL 2020 implementation are threats to the achievement of SDG 11 if not curbed. This includes resistance from stakeholders in project locations to embrace the new procurement reform and shift from the business-as-usual mindset, collusion between procuring entities and contractors to make unresponsive bids responsive, manipulation of the procurement process to inflate contract costs, political interference in the procurement process, and lack of integrity and good character. Others are projects being awarded to companies based on minimal deviation from in-house estimates, which went against the Law's provisions, in-house estimates leaked to the contractors, the inappropriate use of restricted tendering methods, and inadequate criteria for assessing pre-qualification applications and making decisions on supplier selection. Findings suggested inclusive measures to mitigate these hindrances and, by extension, improve the achievement of Goal 11 and other construction-related SDGs, as summarised in **Table 3**. Regarding the study's limitation, the researchers utilised a quantitative research design and covered Edo State, Nigeria. Besides consideration for wider coverage in the future, researchers should consider a mixed-method approach to enhance the validation of the findings.

The high point is to achieve Goal 11 through the following recommendations:

- i. First, the government's role is germane in organising an awareness campaign regarding ESPPL 2020, and the need to embrace and enforce the implementation through workshops and seminars to key stakeholders cannot be over-emphasised. This is critical because of the benefits to infrastructural development and, by extension, improve the achievement of Goal 11 and other construction-related SDGs. The actors should consider the public over self-benefits and adhere to the state's procurement laws. The inclusiveness of major actors should be embraced and encouraged in subsequent reviews.
- ii. The government should overhaul the institutional framework and improve technology-driven oversight mechanisms to ensure proper project execution, quality, and accountability. It would foster greater transparency in the procurement processes and mitigate unethical practices associated with construction project procurement. Also, it will enhance compliance with procurement law and regulations by the procuring entities because of the proper procurement planning process.

- iii. Third, the operators need training and capacity-building programmes, including reskilling and upskilling, to vet construction projects and ensure proper execution and full compliance with the ESPPL 2020. This would mitigate avoidable errors, improve construction project quality and safety, and, by extension, improve the achievement of SDG 11. Also, policymakers should reexamine the procurement evaluation criteria to reduce the influence of in-house estimates, contract splitting, political influence, and document forgery and ensure fairness in contract awarding.
- iv. Also, the government should develop a comprehensive legal framework to implement the whistleblower policy effectively. This is pertinent to check irregularities and a protection system to encourage volunteers to report unethical practices.

Author contributions

Conceptualisation, A.E and GIU; methodology, M.A.H., A.E., G.I.U., W.D.T., and Z.C.M.; software, M.A.H., A.E., G.I.U., and W.D.T.; validation, M.A.H., A.E., G.I.U., W.D.T., and Z.C.M.; formal analysis, A.E. and G.I.U.; investigation, A.E. and G.I.U.; resources, M.A.H., A.E., G.I.U., W.D.T., and Z.C.M.; data curation, M.A.H., A.E., G.I.U., W.D.T., and Z.C.M.; writing—original draft preparation, M.A.H., A.E., G.I.U., W.D.T., and Z.C.M.; writing—review and editing, M.A.H., A.E., G.I.U., W.D.T., and Z.C.M.; visualization, A.E. and G.I.U.; supervision, A.E and W.D.T; project administration, M.A.H., A.E., G.I.U., W.D.T., and Z.C.M.; funding acquisition, M.A.H., A.E., G.I.U., W.D.T., and Z.C.M.. All authors have read and agreed to the published version of the manuscript.

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Conflict of interest

The authors declare no conflict of interest.

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