

THE IMPACT OF PROCUREMENT SYSTEMS ON CONSTRUCTION COST AND DELIVERY IN NIGERIA

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ABSTRACT

This study examined procurement systems in the construction industry in Nigeria and their effects on charge management besides project conveyance, the followings were the purposes of the study, to classify types procurement arrangement usually castoff by construction companies smart Lagos, to observe tasks met after engaging numerous procurement schemes for building developments and to inspect the bearing of procurement schemes on construction price. Primary data were administered aimed at the research complete questionnaire and subordinate spring which were primers, journals, applicable literature, noble reviewed journals, management official magazines, newspaper, magazines, and internet basis. The descriptive review research design was castoff in this study. Stratified random sampling method was employed in reaching a sample scope of fifty-two (52) defendants pinched after the entire number of workforces in Construction Companies. The information composed were examined using statistic package for social science. Data collected was analyzed using descriptive statistics. Accessibility of materials, False or impractical financial statements, prequalification and continuous growth of the contraction industry, Level of firm professionalism, Creation of associations, Prequalification of consultants, Site risk, Project type, Superiority related, Client characteristics and cost associated are the tasks met after carrying out numerous procurement schemes for building project. In conclusion, contracting has the highest ranking in procurement system most standard procurement systems often used in several construction companies and while project management has lowest ranking . It is recommended that passable procurement methods with proper budget, opportune issuance of material, completion of design and project organization services must be the foremost attention of the construction firms command for construction jobs.

KEYWORDS: *Cost, Construction, Delivery and Procurement.*

1.0 INTRODUCTION

In numerous nations the construction manufacturing partakes, however, involved disapproval for inadequacies in consequences such as period and price overproductions, low productivity, poor excellence and inadequate client

fulfilment (Egan, 1998). Consultants, researchers and civilization at huge have, so, named for an alteration in arrogances, performances and proceedings in instruction to upsurge the odds for construction projects to be effective and consequence in better-quality end goods (Love et al, 1998). Usually, associations are, though, very

modest and confrontational in the construction manufacturing, which to a huge degree is owing to the usual procurement events possibly producing many difficulties in all phases of the procurement procedure (Eriksson, 2007). Civic procurement systems trendy Nigeria have completed the years been totally abused especially in the construction industry important to charge inflation, delays in project distribution, poor superiority of work, and project rejection.

Procurement Systems

The construction manufacturing is an uncluttered scheme, and is fairly delicate to modification; its classification is resolute by the working exterior atmosphere, which contains of subsystems such as economic, party-political, monetary, endorsed and technical (Rowlinson, 1999).

Types of Procurement Systems

Frank (1998) and numerous extra writers of literature on procurement consume made attempts at classifying procurement schemes in countless traditions. Hence, founded on existing recent literature, procurement schemes remain broadly considered into four kinds in this study:

Detached schemes, United organizations, Management concerned with systems and Collaborative schemes

Separated System

These classifications are likewise recognized as 'traditional' schemes. Cox and Townsend, (1998) mention that the major characteristic of these schemes are the inflexible valedictory of design and the construction procedure and absence of addition crosswise this border.

Integrated Procurement Systems

Combined Procurement Schemes mentions to a procedure by which one constricting group proposals to assume sole accountability of design and construction of a project. While, the contractor shoulders general obligation for project transfer, the client may also employ a self-governing consultant to display superiority and price. (Cox and Townsend, 1998).

Design and build system reduction below this group of project procurement scheme. Below this organization, the client composed through his/her mentors will make a tender or request article that comprise the project transitory and client's necessities and invitation a quantity of contractors to proposal. For the determination of succumbing tenders, the requested contractors will produce their own design, construction and charge suggestion. Actual frequently the effective contractor will arrive into a contract based on lump sum price and a secure period for project distribution (Ashworth, 2001).

Public Private Partnership (PPP): The public private partnership is an effort by administration to blow from the huge sequestered incomes by way of modification and leasing isolated pointers participate in the facility of important government accountability of if rudimentary social and infrastructural facilities. Dissimilar choices of Public Private Partnership (PPP) have sustained to appear in the new aeras and they are;

- DBFT (Design, Build, Finance and Transfer): In this scheme, the designer develops the construction using his own made money, subsequently construction and sure decided dated of possession transmissions the whole ability back to the government.

- BOT (Build, Operate and Transfer): in this scheme, the designer usages the project for a convinced retro of time before relocating the project to the government.
- BOO (Build, Operate and Own): In this arrangement, possession is not moved.
- DBFO (Design, Build, Finance and Operate): the government possesses the project in this scheme, but tenancies it to the group.
- BRT (Build, Rent, and Transfer): This organization permits for the grouping to get imbursement from the government before the real handover of the project.
- BOOST (Build, Own, Operate, Subsidize, and Transfer): In this procurement scheme, government delivers inducements to operators of the finished project in other to make it monetarily feasible for the private association. (McDennott, 1999).

Management Oriented Procurement Systems.

This procurement method was presented founded on the idea that a builder or contractor has more knowhow to achieve the design and construction of a project. As organization advisor, the selected contractor does not the situation, transmit out the design or construction of the project. Its foremost accountability is to achieve the design and construction by the design consultants and the many professional contractors, respectively. There are three types of procurement method subtypes that fall below the group of Management Concerned with Procurement Schemes, they are:

- 1) Organization constricting
- 2) Construction organization
- 3) Design and succeed

Cooperative Procurement Schemes

In this scheme, here is teamwork among two or more gatherings to achieve effective project purposes finished reasonable transactions, promise; and communal asset. Numerous procedures of combined undertakings finished joint investment of money and knowhow to assume the whole thing are also Careful as cooperative procurement schemes (DeValence and Huon ,1999).

Procurement methods used trendy Nigeria Construction Manufacturing

Contract procurement procedures have a ration of contests in the Nigerian construction commerce. These tasks are obvious in the numerous measure's castoff for assortment of contractors and thus, presentation of projects. Completed the years, the community procurement scheme in Nigeria has remained wholly ill-treated foremost to enormous damage of capitals. In an offer to disinfect the scheme, the Federal Government set up a Due Process Unit under the presidency to assume the improvement (BMPIU, 2005).

Challenges encounter when carrying out various procurement's method used for construction projects in Nigeria

Project preparation, announcement, prequalification, selecting, tender deed, resolve of captivating offer, reward of contract and project implementation. typically, advisors are affianced to handle project preparation, although invites for prequalification for main projects are done via major national dailies and the Federal tenders' Journal. prequalification is a main feature of picking contractors for community projects in Nigeria. debatably, it is meant at "sifting" available useless pointers from the contract procurement scheme.

Impact of traditional procurement system on cost management and delivery

Meanwhile the pre-contract phase of this scheme is lengthier, additional period is obtainable for the client and the project squad to inspect and appraisal the design earlier construction. (Hatush and Skitmore, 997).

3.0 MATERIALS AND METHODS

3.0.1 Data Presentation and Analysis

The presentation of statistics, analysis then interpretation of the data together. The clarification of statistics was completed by means of the questionnaire directed. The totals of 52 questionnaires were disseminated randomly between 10 different construction companies in Lagos state, and 50 questionnaires were salvaged. Analysis was conducted based on the total number collected. The data together from the respondents through the questionnaire were described in the using SPSS (Statistical Package for Social Sciences).

Table 1: The various procurement systems that are commonly used by company

S/N	Procurement systems	N	Range	Mean	Rank
1	Separated system	50	4.00	3.8000	3
2	Integrated system	50	3.00	4.1000	1
3	Management oriented system	50	4.00	3.6800	4
4	Collaborative system	50	3.00	4.0000	2

Source: Field Work, 2021.

Table 1 above shows the responses of various respondent on the various procurement systems commonly used with integrated system having a mean of 4.1000, management-oriented system 3.6800, collaborative system 4.0000 and separated

system 3.8000. This implies that integrated system, collaborative system, separated system and management-oriented system are accepted as procurement systems commonly used in their construction companies.

Table 2: The procurement system that can affect construction cost.

S/N	Procurement systems	N	Range	Mean	Rank
1	DBFT (design, build, finance and transfer)	50	3.00	3.9000	5
2	BOT (build, operate and transfer)	50	4.00	3.6000	8
3	BOO (build, operate and own)	50	3.00	4.2000	3
4	DFBO (design, build, finance and operate)	50	4.00	3.6000	8
5	BRT (build, rent and transfer)	50	4.00	3.5000	13
6	BOOST (build, own, operate, subside, and transfer)	50	3.00	3.3400	14
7	Labour only	50	4.00	3.6000	8

8	Construction management	50	4.00	3.7400	7
9	Contracting	50	2.00	4.4800	1
10	Traditional method	50	4.00	4.3200	2
11	Project management	50	4.00	3.3000	15
12	Direct labour	50	3.00	4.0000	4
13	Alliancing	50	4.00	3.6000	8
14	Partnering	50	4.00	3.6000	8
15	Joint ventures	50	4.00	3.8000	6

Source: Field Work, 2021.

Table 2 above shows the responses of various respondent on the procurement system that can affect construction cost with BOOST (build, own, operate, subsidized, and transfer) having mean of 3.3400, BRT (build, rent and transfer) 3.5000, Contracting 4.4800, DFBO (design, build, finance and operate) 3.6000, BOO (build operate and own) 4.2000, DBFT (design, build, finance and transfer) 3.9000, Project management 3.3000, Labour only

3.6000, Traditional method 4.3200, Joint ventures 3.8000 and Partnering 3.6000. This implies that Contracting, Traditional method, BOO (build operate and own), Direct labour, DBFT (design, build, finance and transfer), Joint ventures, Construction management, Labour only and BOT (build, operate and transfer) are the procurement system that affect construction cost.

Table 3: Tasks met when carrying out numerous procurement schemes for construction projects.

S/N	Procurement systems	N	Range	Mean	Rank
1	Presentation problem	50	4.00	3.0000	16
2	Vulnerability of paper-based prequalification	50	3.00	3.2000	14
3	Formation of cartels	50	2.00	4.1800	5
4	Fake or unrealistic financial statements	50	4.00	4.5200	2
5	Prequalification of consultants	50	4.00	3.9200	6
6	Prequalification and continuous growth of the construction industry	50	2.00	4.5000	3
7	Cumbersomeness of prequalification criteria	50	4.00	3.6000	12
8	Level of firm professionalism	50	3.00	4.2000	4
9	Project characteristics	50	4.00	3.2000	14
10	External environment	50	4.00	3.5000	13
11	Quality related	50	4.00	3.7551	9
12	Cost related	50	4.00	3.7000	10
13	Site risk	50	4.00	3.9000	7
14	Availability of materials	50	2.00	4.5800	1
15	Project type	50	4.00	3.8000	8
16	Client characteristics	50	4.00	3.7000	10

Source: Field Work, 2021.

Table 3 shows the responses of various respondent on the tasks met when carrying out numerous procurement schemes for construction projects with Presentation problem having mean of 3.0000, Formation of cartels 4.1800 , Fake or unrealistic financial statements 4.5200 , Prequalification of consultants 3.9200, Prequalification and continuous growth of the construction industry 4.5000, Cumbersomeness of prequalification criteria 3.6000, Level of firm Professionalism 4.2000, Project characteristics 3.2000, External environment 3.5000, Quality related 3.7551, Cost related 3.7000, Site risk 3.9000, Availability of materials 4.5800, Project type 3.8600, and Client characteristics 3.7000. This implies that Availability of materials, Fake or unrealistic financial statements, Prequalification and continuous development of the construction industry, Level of firm professionalism, Formation of cartels, Prequalification of consultants, Site risk, Project type, Quality related, Client characteristics and cost related are the tasks met when carrying out numerous procurement systems for construction projects.

4.0 SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

4.0.1 Conclusion

This study demonstrates the influence of numerous procurement systems on cost management and project delivery in the Nigerian Construction industry finished an applied case study. In conclusion, integrated system, collaborative system, separated system and management-oriented system are the most recognized procurement systems commonly used in various construction companies. Moreover, Contracting, Traditional

method, BOO (build operate and own), Direct labour, DBFT (design, build, finance and transfer), Joint ventures, Construction management, Labour only and BOT (build, operate and transfer) are the procurement system that affect construction cost. However, the various tasks met when carrying out many procurement schemes for construction projects are availability of materials, fake or unrealistic financial statements, prequalification and continuous development of the construction industry, level of firm professionalism, formation of cartels, prequalification of consultants, site risk, project type, quality related, client characteristics and cost related matters.

4.0.2 Recommendations

Project shareholders, particularly clients, must struggle to safeguard that the appropriate procurement approaches that would meaningfully decrease project cost are accepted to precaution efficient delivery and supreme consequence once such projects are accomplished. The use of procurement methods for offering must be flattered with inducement/discouragement procedures of contracts to crack the problem of postponements in projects implementation. Government at all levels should ensure the transparency and sustainability of public procurement with occupied operation of requirements of the Public Procurement Act to establishment farsightedness at all levels of government and establishment of a additional actual institutional agenda for aggressive and authorizing unethical performs. It is also recommended that adequate procurement methods with proper economical, opportune issuance of material, completion of design and project administration services would be the foremost emphasis of the construction firms bidding for construction jobs.

REFERENCES

- Ashworth A (2001) Contractual Procedures in the Construction Industry, UNITEC, New Zealand
- BMPIU, (2005). A Manual on Public Procurement Reform Programme in Nigeria, Due Process office Publication, Second Edition, State House Abuja, Nigeria.
- Cox, A. and Townsend, M., 1998, Strategic Procurement in Construction: Towards Better Practice in Management of Construction Supply Chain, Thomas Telford.
- De Valance, G. and Huon, N., 1999, procurement Strategies, In Best R. and De Valance, G. (Ed.), Building in value: pre-design Issues, Arnold, London 13-21.
- Egan, J. (1998) Rethinking Construction, Department of the Environment. Transport and the Regions, London.
- Eriksson P.E (2007) Efficient Governance of Construction Projects through Cooperate Procurement Procedures. Business Procedures and Management Lulea, University of Technology.
- Franks, J., 1998, Building Procurement Systems: A Client's Guide, 3rd ed., Harlow: Longman.
- Guidelines: Procurement under IBRD loans and IDA credits 1995, USA.
- Hatush, Z and Skitmore, M R (1997) Criteria for contractor selection. Construction management and Economics, 15(1), 19 – 38,
- Herbsman, Z, and Ellis R., (1992) multi-parameter bidding system – innovation in contract administration, Journal of Construction Engineering and Management, 118(1)167 – 172.
- Love, P.E.D., Skitmore, M. and Earl, G., 1998, Selecting a Suitable Procurement Method for a Building Project, Construction Management and Economics, 16,221-233.
- McDermott, P., 1999, Strategic and Emergent issues in Construction procurement, In Rowlinson, S. and McDermott, S. (Ed.) procurement system; A Guide to best practice in Construction, CIB Documentation, E&FNSpon., 3-26.
- Rowlinson, S., 1999a, Definition of Procurement Systems, In Rowlinson, S. and McDermott, S. E & FN Spon. 27-53.
- Rowlinson, S., 1999b, Selection Criteria, In Rowlinson, S. and McDermott, S. (Ed.), procurement system: A Guide to Best practice in Construction, E & FN Spon., Routledge, 27-53.