

The Imperatives of Effective Documentation in Contract Administration and Management in Nigeria

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Abstract

This research attempted to expose the imperatives of effective documentation in the realization of social and infrastructural development project objectives of Nigeria. It applied extensive literature search on the subject and experiential practice skill in documentation and procurement of public projects to locate documentation failings of various project participants and how they have negatively impacted project success in terms of dispute, quality, time and cost performance. It then established the imperatives of effective documentation and posits that it must span through four phases from pre-tender, procurement, contract administration and oversight/audit documentation, which must inevitably interface. It indicated the documentation requirement actions for contractor, Quantity surveyor and the architect. It additionally recommends for early involvement of project monitors and for stakeholders and professionals to exhibit collaborative and partnering spirit which will support the generation of accurate databases, baselines and project control metrics relevant in monitoring and audit of projects to add value to the national economy.

Index terms— effective documentation, pretender, procurement, contract administration, oversight/audit.

1 Introduction

Construction projects development depend on effective documentation for success because they require complex interactions of multiple stakeholders and participants. Effective documentation of projects requires synthesis and integration of contributions from all parties involved in ownership, use, design, estimation, construction, operation, management, oversight and maintenance, who must work together in structured, organized and collaborative manner in the project documentation chain (Ajator, 2012(Ajator, , 2012a;; ??jator etal,2011) to ensure success.

The conceptual questions in effective documentation for successful contract administration and management include among others:

? What level of quality is exercised in structuring project briefs/ requirements by the client, his agent and user? The objective of this research is thus to attempt to expose some of the key techniques and knowhow of these imperative documentation paradigms in contract management. II.

2 Literature Review

Most projects require the use of basic contract documents. These include ??IBRD,1999,Langdon, 2007); articles of agreement, conditions of contract with all necessary deletions/ amendments if standard form is used, drawing/or specifications of work to be done. Cost estimates/ priced bills of quantities including post-tender negotiation documentation, and contract programme/ progress charts. Other basic documentations required in projects include pre-tender documentations, early warning charts, quality performance charts, minutes of site meetings, project instructions, valuations/ certifications, cash flow and earned value management among others. Ajator (2012) recorded the importance index of some project documentation variables (see Table ??1) in which professionals ascribed high percentage ratings of 32,26,26 and 23 to BOQ preparation, project design, construction

7 F) DOCUMENTATION FOR PROJECT PREPARATION/FORMULATION

plan and change orders (variation) documentations respectively. When these variables are efficiently documented, they provide relevant databases for resolution of disputes at project delivery.

Other researches (Ajator, 2007(Ajator, , 2000a(Ajator, , 2000b;; Project Documentation Certification Taskforce,1997; ?alo, etal 2002; ?illy, etal 2000 ?illy, etal , 2002;; ?ove etal, 2000 ?ove etal, ,1996)) have identified declining quality of these documentations and disregard of due processes and inefficiencies which have resulted in increased project cost, time, risk, delay and disputes. Tilley, et al (2002), ?allo, etal (2002) and Ajator (2012) specifically identified issues associated with documentation failings and its manifestations, some of which are consequential on others and some involving more than one stakeholders. Accuracy of estimate must base on bottom-up approach/WBS and activity cost coding/cost accounts. Relevant executory personnel must be used to analyze cost at the lowest possible work units or finest detail with minimal provisional items and estimator bias. Ineffective estimate documentation result from inadequate cost data bases, poor understanding and experience of the terrain, the technologies, various currencies/conversion rates, the duties, Ports' charges, transport systems (both local and international) available and costs of finance and funding system. Apart from possible inaccuracy of analyzed benchmark cost and factoring errors, there is often problem of improper planning and non-inclusion of all work items for which cost/prices must be allocated ??Ajator,1989,1999, Aliyu, 2006).

3 Client-Related Causes of Documentation

In high "import-factor" infrastructure projects, other important cost consideration must include cost of shipping, stacking in the factory (demurrage charges, by manufacturers), marine insurance, clearing costs at ports, duties, insurance, warehousing, local transportation etc. These real costs where not documented can cause disputes and project failure.

4 c) Tender/Other Documentation Failings

Tendering procedures involving multiple notices to tenderers and question/answer steps erode document accuracy due to short time available for amendments. Bidders withhold important questions that may reveal their competitive edge especially in complicated warped award processes and short tender times.

5 d) Contractor-Related Documentation Issues

Contractors strive to redistribute risk to other stake holders, engage low cost and low skilled subcontractor, choose to withhold useful tender information (RFIS). Make spurious unsubstantiated claims' submissions to recover losses arising from initial low bids, inflate invoices, insurance and bond claims to cover perceived risks and difficulties in maintaining skill levels. The general causes impeding effective documentation involving all parties include; inadequate time for project planning, relevant parties not involved in project planning (eg project monitoring consultants) early enough, especially at concept and decision times; slow responses by most clients and their agents to questions/ queries from bidders at tender, and contractors at construction stage, worsen rather than improve documentation quality, and adversarial attitude embedded in the procurement culture.

6 e) Relevance of Effective Documentation in Procurement

The vehicle for achieving national development is efficient procurement. But this must obtain through monitoring which inturn depends on Effective Documentation.

Procurement is viewed by Ajator and Agusiobu (2007) and Eze (2009) as the acquisition of goods, works and/or services at the best possible total cost of ownership, in the right quantity and quality at the right time, in the right place for the direct benefit or use of Government, corporation/organization or individuals. The key to the achievement of effective procurement is monitoring and evaluation. To monitor, there must be well documented plan of activities, standards and cost baselines against which the actual is compared or benchmarked. Hence to monitor is to keep under observation and check for possible deviations from plans, standards and cost levels. So effective documentation which provides these plans, standards and baselines; becomes of paramount importance.

The importance of documentation can be seen from project procurement monitoring steps which include among others checking the:

7 f) Documentation for Project Preparation/Formulation

This must cover the key problems/needs of the project, expected benefits, alternatives/options, alignment of the projects with Federal Government of Nigeria (FGN) Sectoral projects' preferences, competitiveness of project costs, their feasibility, financial/economic analysis, environmental impact, and detailed project designs, future operation/ maintenance requirements, implementation plans and proper packaging ??Ajator,2012a).

Efficient documentation of these subjects provides clear guidelines, standards and cost targets to facilitate examining their adequacy to achieve national goal and objectives.

The content of these documents constitute approved guidelines/ standards for monitoring the activities and projects at execution stage. Failure of documentation at this stage renders abortive monitoring and evaluation at execution stage.

8 g) Documentation for Project Procurement

For Project procurement, documentation must encompass; preparation of tender documents/ requirements; contract drawings, contract conditions and bills etc. notification/advertising methods and medium. Pre-qualification exercise, setting appropriate bid time, special bid process (if any) in line with FGN's procurement guidelines which harps on open competitive and transparent bid process, bid evaluation/ tender report and award template. Appropriate tender board size and structure. Objective negotiation and approval of selection criteria. Mobilization, Surety or bonds requirements. And compliance assessment template. All in line with FGN extant procurement guidelines. These documentations will facilitate checking or monitoring transparency of procurement process as necessary building block for cost-effective project implementation.

9 h) Documentation at Project Implementation

Here the appropriated funds for the project(s) and planned tranche releases from contract conditions are documented. Periods of site visits by project consultants/supervisors, residency plans, prescriptive specifications and performance specifications and agencies' / statutory organizations' obligations to the contract as documented in the contract conditions are highlighted. Project Evaluation and Control documents widely dominate the documentation at project implementation stage (Ajator & Onyechi, 2011). They encompass documentation of interim valuations, paid and unpaid certificates, valuation of variations, claims, fluctuations, records of unanticipated site/ work conditions, day works, projects' instructions confirmed and unconfirmed, weather conditions, records of notices, wavers, omissions, accidents, minutes of site meetings, catastrophic event, riot, war etc.

They equally include project goal, plan, cost estimate, network schedule, budget, control and management objectives, implementation programmes (PPC), Cash flow documentations and earned value analysis and management.

Evaluation and Control documents seek to facilitate regular monitoring of project achievement by comparing actual performance and progress against planned performance and progress. So that when deviations from planned progress occur, corrective actions/ re-plan are implemented. The intent of this documentation (especially earned value management) is for early discovery of current/future departure from planned course, so that adjustments can be made in good time.

Essentials of Effective Evaluation/ Control System ??Austen & Neal, 1984 ?? Ajator, etal 2015).

10 Imperatives of Effective Documentation

Evident from the foregoing is that:

? Success of physical and social infrastructure development contract must obtain through control.

? But control cannot be achieved without project monitoring.

? And monitoring must be achieved through proper project documentation including components cost definitions, programming and budgeting. ? For efficient and effective project documentation to emerge, Project partnering spirit (openness) must be exhibited by all project participants/ stakeholders ??Ajator, etal 2008). ? Re-examine all pre-contract letters, and carefully recheck all signed documents concerned prior to the execution of contract. ? Examine all pre-contract photographs of the site and/or adjacent properties and make sure that shown on the contract drawings or agree and correct any errors before the work commences in the case of difference. ? Photograph site on the day of possession, if necessary to reveal fly-tipping, refuse dumping, flooding and any other items over which there may be subsequent argument. ? During progress, constantly compare work being executed with the itemized works in the bills to ascertain conformity in condition and/or character. ? Make certain that all depths to drainages and foundation works have been corroborated before concreting and that all extra digging for isolated soft sports and any excavation below contract datum has been agreed in writing and included in the correct nomenclature of the S.M.M. ? Keep records of materials used for filling soft sports. ? Maintain records of hours spent on pumping out water in foundations. ? Keep records of all "breaking out" of block work, masonry, timber, concrete, reinforced concrete and steel piling etc, making certain that the records were signed and agreed by both parties to the contract. ? Remeasure all provisional quantities and obtain all signed records necessary for evidence and agreement. ? Maintain records of original and revised drawings to prove facts concerning any later items of possible disputes. ? Make all notifications for claiming star rates and star items in accordance with clause 11(4), on time. ? Similarly for claims under clause(s) 1(2), 11 (6) This underlines the need for early appointment of monitoring consultants. The information to be elicited using these standard forms include project title, contractor, contract period, elapsed time, target time, target output, performance indices; index of work done, value of work done, payment to date, cash flow index, input of beneficiary, problems and suggested solutions, performance of project participants (project consultants, in-house professionals, manufacturers, suppliers and contractors).

These documentations by monitoring consultants to be effective, require formalizing of relationship with all project participants in order to ensure objective data collection.

11 e) Documentation of Action Plans, Milestones and Construction Programme

Monitoring consultants' documentation shall break down the project tasks into stages and milestones to facilitate monitoring (see Appendix A3 and Appendix B). These will enable the evaluation of progress and financial position periodically for effective audit report.

Adhering to documented dates of site visit enables the project monitors to accredit or refute the reports of project consultants regarding size of time and cost variances of projects. This facilitates effective documentation of breach of work ethics and its transmission to the client and possibly to statutory authorities.

Documentation for monitoring is synonymous with generation of standardized data collection format, to facilitate assessment of performance of each project/participant at pre-determined stages in relation to time performance, cost performance, cash flow levels, and quality performance as illustrated in appendix B, tables 1-13. This will ensure financial discipline, avoid/reduce delays, cost overruns and project abandonment, increase output of construction industry and add value to the national economy.

12 IV. Conclusion And Recommendation

The study concludes that for documentation to be effective in realizing project success, it must span administration documentation and monitoring/evaluation documentation.

It posits that success of physical and social infrastructure development contracts must obtain through control and that control cannot be achieved without project monitoring which in itself relies on effective documentations to add value to the economy. Project monitors shall work in collaboration with other project consultants, in-house project co-ordinators or desk officers, the contractor, the project co-ordinating taskforce members, other specialist consultants, funding and donor officials by assigning clearly defined duties and assessing their capabilities and outputs from time to time.

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Documentation Quality Variable (DQVS)	Weighed Rating		
	No.	Score	Imp
	of	%	In-
	Resp		dex
	W	S	WXS
1 Project Brief/ Requirements Documentation	32	70	22
2 Project Design	33	80	26
3 Cost Engineering/BOQ Preparation	36	89	32
4 Construction Plan Documentation	35	75	26
5 Implementation Sequence Documentation	33	60	20
6 Budgeting/Cashflow Documentation	31	65	20
7 Earned Value Management Documentation	25	61	15
8 Labour/Plant/Equipment Statements	33	60	20
9 Control/ Report System Documentation	25	56	14
10 Project Inspections/Site Meetings/ Minutes Documentation	26	58	15
11 Valuation/Certificates Documentation	30	62	19
12 Change Orders (variations)/ Other Instructions Documentation	29	78	23
13 Price Fluctuation Documentation	26	50	13
14 Day Works Claims Documentation	18	50	9
15 Accidents/Force Majure/Weather Change/Dispute Documenta- tion	16	45	7

[Note: Source:]

Figure 1: Table 2 . 1 :

¹The Imperatives of Effective Documentation in Contract Administration and Management in Nigeria

²References Références Referencias© 2017 Global Journals Inc. (US)

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Effective project documentation must therefore provide requirements that cover four main phases:

- ? Documentation for Project Preparation/Formulation (Pre-tender documentation)
- ? Documentation for Project Procurement (Tender documentation)
- ? Documentation at Project Implementation (Contract Admin documentation)
- ? Documentation for Contract Oversight/Audit (Monitoring/Evaluation documentation).

Figure 2: ?

	<p>indicate what can be done to avoid/alleviate the delay. Notify subcontractors etc.</p> <p>b) The Quantity Surveyor</p> <p>The Quantity Surveyor should ensure:</p> <p>? That only drawings on which the tender is based form part of the contract with endorsements certifying them as drawings on which the bills of quantities are based.</p> <p>? Similar check should be extended on all other contract documents e.g. articles of agreement is fully filled as well as the appendix and preliminaries.</p> <p>? Ensure that deletions/omission/ alternations to the standard condition are minimized and all amendments fully signed by both parties.</p> <p>? Avoid over or under measurement of billed works and at all times comply strictly with the rules of the S.M.M.</p> <p>? That bills of quantities reflect all agreed amendments to rates with any agreed percentage adjustment endorsed by the parties before a witness(es).</p> <p>? That prescribed copies of the contract documents are issued to the contractor.</p> <p>? During post award management, maintain comprehensive records that will facilitate smooth, speedy interim valuation, valuation of variations, claims, fluctuations and preparation of final accounts.</p> <p>c) The Architect</p> <p>? The Architect should maintain a log of what is going on, what is present on site and the apparent effect of any unusual occurrences and delays etc. ? Obtain better understanding of manufacturers' dimensions, current range of components, fixing details and the site problems of tolerances, handling and fixing. ? Become more aware of site practices, construction</p>
<p>, 12, 21, 23, 24, 26, 27, 28, 29, 32, 33, 34 and for arbitration 35 etc. ? Make weekly or daily returns of all labour, sub-contractors, specialist plants and materials involved for cost records or day works.</p> <p>? Keep records of all Architect certificates, instructions and variations and prompt for variation orders when the need arises.</p> <p>? Obtain authority for day works and similarly overtime works.</p> <p>? Confirm all Architect's oral instructions in writing</p> <p>? Attend site meetings, maintain and read records of</p>	<p>sequencing, continuity problems and the influence of the site environment on design and cost.</p> <p>? Effect closer consultation with site management and operatives involved in construction.</p> <p>? Provide explanatory notes, component details and promptly issue instructions as and when the need arises.</p>

5

S/N	DATE	ORDER NO.	DE- SCRIPTION	AMOUNT CLAIMED	AGREED COST	REMARKS
1						
2						
3						
4						
5						
6						
Cumulative to date						

Figure 4: Table 5 :

6

S/N	DATE	LABOUR OR MATERIALS	DESCRIPTION	AMOUNT CLAIMED	AGREED COST	REMARKS
1						
2						
3						
4						
5						
6						
Cumulative to date						

Figure 5: Table 6 :

7

S/N	DESCRIPTION OF INTEREST	REMARKS
1		
2		
3		

Figure 6: Table 7 :

8

S/N	NATURE OF PROBLEMS	SOLUTIONS DEvised	REMARKS
1			
2			
3			

Figure 7: Table 8 :

9

PERFORMANCEE INDICATOR

CONTRACTORS
SUPPLIERS
MANUFACTURERS
PC
CLIENT

Adherence to time
Quality of work
Compliance with
deliveries
Quality of staff
(Qualification)
Adequacy of staff (No)
Co-operation with
other participants

Figure 8: Table 9 :

Source: Authors' Proposal/ Report ??Ajator, etal 2007)

[Sept. ESUT, Auditorium complex] , *Sept. ESUT, Auditorium complex*

[Project Documentation Certification Taskforce ()] , *Project Documentation Certification Taskforce* 1997.
(Project Documentation Quality Report)

[Educators in Nigeria (April/September)] , *Educators in Nigeria* April/September. 7 (2) p. .

[Ajator ()] U Ajator . *Communiqué” of the 3-Day National Conference/Training Workshop on Building Construction and Built Environment/ Millennium Development Goals-The Journey so far*, 2007. p. .

[Ajator ()] *Application of Cost Accounting Techniques in Capital Project Delivery in Nigeria, Unpublished MSc Project*, U O Ajator . 1989. Department of Finance/Banking, ASUTECH Enugu Nigeria

[Onyechi (1991)] ‘Computing Building Cost Indices for Nigeria’. A I Onyechi . *The Quantity Surveyor*, (Lagos) 1991. July. 12 p. .

[Ajator et al. ()] ‘Controlling The Mythical Features of Construction Profit’. U O Ajator , C O Ok Oye , P C Agbonome . www.ijeam.com *International Journal of Engineering and Management Sciences Paradigms* 2015. 21 (10) p. .

[Tilley and Mcfallan (2000)] ‘Design and Documentation Quality Survey: Comparison of Designers’ and Contractors’ Perspectives’. P A Tilley , S I Mcfallan . *Melbourne: CSIRO-Building Construction and Engineering*, 2000. Dec,00/115. BEC.

[Ajator ()] *Development Projects Appraisal, Practical Feasibility Viability Studies (FVS) Guide*, U Ajator . 2012a.

[Ajator (2012)] ‘Documentation Quality Appraisal in Private and Public Projects in Nigeria’. U O Ajator . *Journal of Applied Sciences and Development (JASD). An International Academic Research Journal* 4121-8241. 2012. October. 3 p. .

[Ajator and Agusiobu ()] *Expression of Interest For Consultants and Technical Specialists’ Appointments; Proposal submitted to the Federal Government of Nigeria For Appointment into National Project Monitoring Consultancy Scheme*, U Ajator , O Agusiobu , OD . 2007.

[Ajator ()] ‘Green Construction and Nigeria Policy Thrust-A Statistical Review’. U O Ajator . *Environmental Review* 2000a. 3 (1) p. .

[Tilley et al. ()] *Improving Design and Documentation Quality*, P Tilley , S L Mcfallan , R G Sinclair . 2002.

[Joint Conference, Hongkong 6 th -8 th May] *Joint Conference, Hongkong 6 th -8 th May*, p. . (Proceeding of the CIBW)

[Love et al. ()] P E D Love , S Mohamed , S N Turker . *Construction Process Reengineering and the Australian Construction Industry, Australian Institute of Building (AIB) Papers*, 1996. p. 9.

[Austen and neale ()] *Managing Construction Projects: A Guide to Processes and Procedures; International Labour Organization Geneva*, A D Austen , R H &neale . 1984.

[Ajator and O On Yeador ()] ‘Partnering: A veritable toolFor Successful Implementation of the National Building code in Nigeria’. U Ajator , S O O & On Yeador . *Journal of the Association of Architectural* 2008. (The AARCHES-J.)

[Gallo et al. ()] *Project Documentation and its impact on Efficiency in the Building and Construction Industry, Available online as PDF file. 17. International Bank for Reconstruction & Development (IBRD) World Bank (1999) Guidelines for procurement under IBRD Loans and IDA Credits*, G Gallo , G Lucas , A Mclellan , T Parminter , P Tilley . 2002. 20433. Washington D.C.: World Bank Publication.

[Ajator ()] ‘Projects Impacts and Mitigation -A challenge For Nigeria Construction Practitioners in the Third Millennium’. U O Ajator . *Environmental Review* 2000b. (2) p. .

[Eze ()] ‘Public Procurement Act’. E M Eze . *on Public Procurement Act Advocacy, 17 th September at Hotel Presidential Enugu Nigeria*, 2009. (Paper presented to the MDAS, the South East Zone)

[Akande ()] *Public Procurement and Contract Management, Presented paper at the 2day National Seminar, Organized by the Nigerian Institute of Quantity Surveyors NIQS, Ondo State Chapter*, N Akande . 2010. (8 th December at Babafunke Ajasen Multi-Purpose Hall Akure)

[Love and Li ()] ‘Quantifying the Causes and Costs of Rework in Construction’. P E D Love , H Li . *Construction Management/ Economics* 2000. 18 p. .

[Aliyu ()] ‘Quantity Surveying in the 21 st Century: Agenda for the future’. E Aliyu . *Paper Presented at the NIQS Biennial Conference 20 th -25 th November. Channel View Hotel and Conference Centre*, (Calabar, Nigeria) 2006.

[Ajator ()] *Solar Energy: an Emerging Option for Private/public Generation of Electricity*, U O Ajator . 1999. Owerri Nigeria. 22. February Imo State University (paper presented in CEENACON 99 Conference)

12 IV. CONCLUSION AND RECOMMENDATION

- 231 [Submitted to the Petroleum Special Trust Fund (PTF)] *Submitted to the Petroleum Special Trust Fund (PTF)*,
232 Abuja, Nigeria.
- 233 [Langdon (ed.) ()] *The Aqua Group Guide to procurement, Tendering and Contract Administration*, D Langdon
234 . Mark Hacket, Lan Robinson & Gary Stathan (ed.) 2007. UK: Black Well Publishing.
- 235 [Ajator and Onyechi (2011)] 'The imperatives of Effective Monitoring and Evaluation of Capital Projects'. U O
236 Ajator , A Onyechi . *Tropical Built Environment Journal (TBEJ)* 2011. Sept, 2011. 1 (2) p. .
- 237 [Ua* Unacceptable] * Ua* Unacceptable , O . *SA-Satisfactory:3; VS-Very Satisfactory 4*, 2.