

Effect of Cost Control on Building Projects Delivery in Nigeria

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ABSTRACT

The paper determined the effects of Cost Control Techniques on building projects delivery for both government and private developers based on quality, time and cost. Interviews were conducted for selected Quantity Surveyors, Architects, Civil Engineers, Builders, and Contractors. Observations were also made on construction sites of government and private developers. The study was carried out in south-western Nigeria and data collected were analysed by percentages. Results from interview and observation showed that, Bill of Quantities and other cost control techniques was utilised on government building contracts while none of the cost control techniques was utilised by private developers. Results also show that: quality is high on 92.13% projects on government sites and 24.2% on private developer's sites. On government sites 2.25% and 6.74% of projects were respectively completed before and at the agreed time while on private developer's sites, there is no record of agreed time. It was discovered that, 11.24% projects got completed above reasonable time and 88.76% were completed after abandonment for a period of time. On government sites, 3.37% and 7.87% of building contracts were respectively completed at lower standards but at agreed cost, while there is no agreed cost record or cost limit on private developer site. Meanwhile, 12.36% of the projects were completed far above reasonable cost and 87.64% completed at reasonable cost. It is recommended that the Federal Government of Nigeria should make regulations to compel private developers to utilise cost control techniques, so as to raise quality of building projects, zero down delivery time and ultimate cost. All these will minimise building collapses and abandonment of building projects.

Keywords: Cost Control, Bill of Quantities, Quality, Time, Cost, Private Developers, Nigeria.

INTRODUCTION

The core objectives of the construction industry which are to deliver project within a short time, reasonable cost, good quality and safety of occupants have stressed the need for cost control that is effective. Alvey (1996) describes cost control as a method of controlling the cost of building within a determined value during the design stage. This involves the preparation of an approximate estimate to which the project is committed, and the refining of the cost as the design detail developers. Seeley (1979) describes cost control as a systematic application of cost control criteria to the design process so as to maintain in the first place a sensible and economic relation between cost, quality, utility and appearance and in the second place, such overall control of proposed expenditure as circumstances might dictate. He stressed further that cost control does not merely estimate the tender sum but probe deeper into the cost implication of each building element whereby each design decision maintain a sensible relationship through the design and construction stages. In another sense, Nunnally (2007) describes project cost control as involving the measurement and recording of project cost and progress and a comparison between actual and planned performance. The principle objective of project cost control is to maximize profit while completing the project on time at a satisfactory level of quality. He further stated that proper cost control procedure will result in the accumulation of historical cost data, which are invaluable in estimating and controlling future project. Ashworth (1999) saw project cost control as the application of economic principle to the construction project. It does not only examine the cost appropriate to a specific project but also the factors that influence the determinants of this cost. Ayodele (2005) further defined cost control as the process of establishing the cost of project development and monitoring such cost from inception to completion and making sure that the pre-determined cost is not unreasonably exceeded.

According to Connell (2008) the followings are the reasons for choosing the assessment of cost control on building project delivery:

- i) Building projects are subject to public accountability and transparency

- ii) Building projects are subject to limited budget. There must be a setting out of a cost target that will be spent on the proposed project.
- iii) In building projects, time frame is part of what is put into when embarking on a project.
- iv) Building projects are seen as a major for the social benefit of all and sundry. The society in general, expects so much in terms of honesty due process, workability and functionality on part of the authorities handling or supervising such projects.
- v) Building projects are seen as a social benefit due to the whole society from Government of the day hence avoidance of failure of such projects.

Background to the problem

According to Seeley (1979) Ashworth (1999) Ayodele (2005) cost control techniques include the followings: approximate estimate, cost plan, bill of quantities, interim valuation/ stage payment, valuation of variation, fluctuation, final account preparation and cost analysis.

The Bill of Quantities, according to NIQS (2008) shall fully describe and accurately represent the quantity and quality of work to be carried out. Each of the sheets on which the bill of quantities is made has four different columns.

- a) Description column- Contains the descriptions of the type and quality of materials to be expended on the works.
- b) Quantity column- contains the quantities of materials to be expended on the job will take i.e basis of the preparation of program of work.
- c) Rate Column- contain the unit rate i.e naira/ unit of materials to be utilised on the work. This forms the basis on which the cost of work is calculated.
- d) Amount Column- Contain the total cost of work for each of the elements.

Summarily show below:

- 1. Description column- Quality
- 2. Quantity Column- Time
- 3. Rate Column- Cost
- 4. Amount Column

The above four columns which represent Quantity, Time and Cost is not limited to Bill of Quantities only, other techniques of cost control e.g interim valuation/stage payment, valuation of variation, valuation of fluctuation etc. are adequately represented by/or taken care of, by the columns.

It has been observed that many building projects development in Nigeria do not bother about the use of cost control techniques. This is corroborated by Ogunsemi (2002) who discovered that the non-use of cost control has contributed to the incessant building collapse in Lagos state of Nigeria. To minimise the building collapses, this study is set to determine the effect of conformance to or utilization of Bills of Quantities by government and private developers on building projects in Nigeria on the parameters of quality, delivery time and cost.

Objectives

The Objectives of this study are to:

- 1. Compare the effects of the use of cost control techniques on quality of building project of government and private developers.
- 2. Compare the effects of the use of cost control techniques on cost of building projects of government and private developers.
- 3. Compare the effects of the use of cost control techniques on delivery period of building projects of governments and private developers.

Parameter	Government				Private			
	Lower than agreed	Agreed	Little above agreed	Far above agreed	Lower than agreed	Agreed	Above reasonable agreed	Far reasonable cost agreed
Cost	3	7	19	60	No record	No record	11	78
	3.37%	7.87%	21.34%	67.42%			12.36%	87.64%

METHODOLOGY

This study is partly carried out by means of observation made on government projects and privately owned projects on parameters of quality, delivery time and cost. Observation is complemented by interview/checklist administered to construction professionals Quantity Surveyors, Architects, Engineers, Builders, contractors or block layers, Carpenters etc, who are asked to respond to parameters of quality, delivery time and cost on government contracts and private developer's projects they have engaged in for the past ten years. The study is limited to the South west States of Nigeria because of limited time and fund.

Parameter	Government			Private		
	High	Medium	Low	High	Medium	Low
Quality	82	7	0	22	30	37
	92.13%	7.87%	0	24.72%	33.71%	41.58%

Through interview data on eighty nine projects were recorded each for government and private developers, and

Parameter	Government				Private			
	Lesser than agreed	Agreed	Little above	Far above	Lesser than agreed	Agreed	Little above	Far above
Delivery time	2	6	47	34	No record	No record	10	79
	2.25	6.75%	52.80%	38.2%			11.24%	88.76%

were analysed by percentages.

By Interview

Note:

The interview/check list was made for building projects that have been fully executed leaving out abandoned projects. To trace abandoned projects in case of private owner was not easy.

By Observation

Parameter	Government	Private
Quality	1) Utilize BQ	1) Does not utilize BQ
	2) High quality	2a) Low quality
		b) Ultimate: High Cost

Parameter	Government	Private
Delivery Time	1) Utilize BQ	1) Do not utilize BQ
	2) utilize programme of work	2) Do not utilize Programme of work
	3) Generally above agreed contract period	3) Generally far above reasonable time

Parameter	Government	Private
Cost	1) Utilize BQ	1) Do not utilize BQ
	2a) Immediate: High cost	2a) Immediate: Low Cost
	3) Ultimate: Low cost	2b) Ultimate: High Cost

Findings

Through interview (check list) it was discovered that: quality of building is high on 92.13% of projects studied on government sites and 24.72% on private developer's sites.

On the parameter of delivery time; on government sites; 2.25% completed before the agreed time; 6.74 at the agreed time, 52.80% at a little above agreed time while 38.20% at far above agreed time. On private developers

site; there is no record of any agreed time, 11.24 completed time; 88.76% completed after it was abandoned for a period a time.

Through Observation

On government projects it was observed that Bills of Quantities were utilized on all projects- this resulted into high quality job.

On government contracts, comparatively (compared to private sites) seems to be on high side; but since no construction professionals was involved, inferior materials and workmanship were common on the job. After few years, by the time deteriorated materials get replaced, then the ultimate cost will be on the high side.

On government contracts since Bill of Quantities were utilized, it formed the basis of the production of programme of work, but delivery time was generally above the agreed contract period. On private developer's sites, since no bill of quantities was used, programme of work too was absent. The completion period was generally far above reasonable time.

DISCUSSION

The study showed on government sites that: 92.13 of building contracts are of high quality, 7.8% of medium quality while none is of low quality. On private developers sites; 24.72% were of high quality leaving 33.71% and 41.58% as medium quality and low quality respectively. Private developer's sites have more of low quality building projects and is consonance with Chinwokwu (1999) who from a study in Lagos state arrived at the fact that building collapse is more rampant on the sites of private developer, i.e. building collapse between 1980 and 1999, occurred 76%, 12% and 12% respectively, on private, corporate and government buildings. Private developers should reduce rate of building collapse by the use of cost control techniques especially the bill of quantities.

CONCLUSION

Government projects adopt the use of Bill of Quantities and other cost control measure and have resulted in high quality job, generally high cost and elongated time are as a result of the emergence of variations, fluctuations, etc; nevertheless cost and time are still reasonable. Private developers do not utilize Bill of Quantities or any cost control measure. This has resulted in low quality job done, generally elongated time of project delivery and ultimately high cost.

RECOMMENDATION

The Federal Government of Nigeria should make laws to compel private developers to adopt the use of cost control techniques in building projects development. This will drastically reduce the rate of incessant building collapse in Nigeria; and will make them ultimately spend less on the projects, and procure their projects at a shorter time that has been operating.

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