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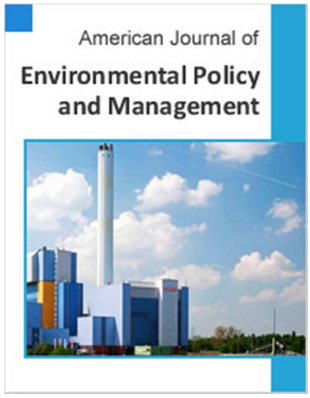

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Problems Faced by Nigerian Contractors in Controlling Cost of Building Project

Abdulrahman Haruna[1], Musa Adamu[2, *], Bashar Sami Mohammed[3], Adamu Bakoji[4], Musa Mohammed[1]

[1]Department of Building Technology, Abubakar Tafawa Balewa University, Bauchi, Nigeria
[2]Department of Civil Engineering, Bayero University, Kano, Nigeria
[3]Department of Civil and Environmental Engineering, Universiti Teknologi PETRONAS, Perak, Malaysia
[4]Nigerian Building and Road Research Institutes (NBRRI), Abuja, Nigeria

Email address

madamu.civ@buk.edu.my (M. Adamu)
[*]Corresponding author

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Abstract

Cost control is an important management function in the construction industry. It is practiced by Contractors in Nigeria due to the frequent escalation of project cost and time overrun. Hence a research is carried out to study the cost control method in Building project used by contractors category D and also to identify the problems faced by the Contractors in controlling cost on site. The study is carried out in Kano State North west Nigeria. Questionnaires were distributed and 52 returned answered. Data were analyze using Average index and frequency analysis. The results obtained shows that the frequent method used by the contractor in controlling cost are: Work program, Monitoring and inspection and evaluation of work. While the main problems faced by the Contractors in controlling cost are increase cost of material, wastage of material, theft and vandalization.

1. Introduction

Cost management is defined in the [1]. As the process involved in planning, estimating, budgeting and controlling costs so that the project can be completed within the approved budget. In construction, clients are interested in obtaining functional facilities which is completed in time, cost, quality and scope. A builder is said to be an excellent builder if he is able to construct within the estimated time, budget, standards and scope. Most project managers and contractors in Nigeria find difficulty in controlling cost on their construction sites due to a number of problems which include poor material, labor shortages, conflict, weather changes, insecurity and poor project coordination. This study was therefore carried out to identify the cost control techniques used in Nigeria and the problems faced by Nigerian contractors in controlling cost.

1.1. Cost Performance

Cost performance is another set of performance indicator that is often considered in construction project. It is among the major consideration throughout the project management life cycle and can be regarded as one of the most important parameters of a

project and the driving force of project success [2]. Gido & Clements [3], mentioned that cost performance is an effective technique in project management effort expended and it is widely accepted in the literature and industry. Earned Value Analysis (EVA) is used to evaluate cost performance of different types of projects. Cost control, cost estimating, and cost budgeting are three cost related processes that interact among each other and with other scopes of construction projects. Besides that, Gido & Clements [3], stated that there are four cost-related measures in cost performance analysis which are used to analyze cost performance of a project.

1.2. Facts in Project Cost Control

Cost control of a project involves the measuring and collecting the cost record of a project and the work progress [4]. It involves the comparison of actual progress with the planning. Cost control of a project will increase the maximum profit by the contractor within the designated period of time and satisfactory quality work. A systematic procedure of cost control will give a good result in collecting important cost data in estimation and controlling of the cost of the common projects in future. Kwakye [5], explain that the cost control can be define as a process where construction cost of a project is manage with the best method and systematic in order that the contractor would not suffer any loss when doing the activities of the project and the cost construction of a project would not be over-estimated by the developer. Mueller [6], states that the ability to influence the final cost of a project positivity with modifying negative performance trends.

1.3. Labor

Labor productivity achieved at the site for a given work provides a measure of the laborer's efficiency and effectiveness and the level of site organization. It shows the total time for which the laborer was employed at work, the time he was productive on work and the time he remained unproductive [7]. Craftsmen use about 40% of available time on productive activities, and about 33% of the time on non-value adding activities [8]. Productive times are wasted for various reasons such as idle waiting, unnecessary travelling, late starting, early quitting, unscheduled breaks, and delays in the receipt of tolls, delays to receive materials and work instructions.

1.4. Machinery

In construction, some tasks are labor intensive, some predominantly employ equipment, and some use a combination of both. While the actual work done and the associated labor is accounted by the supervisor concerned, the equipment and productivity control is undertaken to determine its employment time, the output achieved, and its productivity at site [9]. The main purpose of the control is to minimize wastage in utilization.

1.5. Materials

One of the big problems on most building sites is the large amount of materials wastage due to varying circumstances [10]. This problem requires a supervisor to constantly be on the lookout for the losses. According to Hendrickson [9], wastage of materials can take place during the procurement process, storage, and during utilization. Wastage during procurement can result from one or more of the following causes: buying materials of wrong specifications, buying more than the actual requirements to cater for unrealistic and unforeseen eventualities, untimely buying of short-life materials, improper and unnecessary handling of materials, and wastage in transportation. Wastage during storage can occur due to the following reasons: damages and breakages during handling, deterioration due to incorrect storage, incorrect maintenance and short-shelf life and losses due to fire, thefts/vandalism, and exposure to extreme climatic conditions.

1.6. Money

Chitkara [7], said the relationship between time and cost is a very important aspect in the control of costs on site as any variation in time has automatic implication on cost. It is important to report and record all the works involving materials, plant and labor on sites. This enables the contractor be able to know the costs and expenses of the resources used on site and compare with the initial cost budget. Various report techniques used include; daily or weekly and monthly recording, schedule control, site daily diary report and the project budget. Project management theory has been developed in the context of controlling the time, cost and scope of projects [11]. However, Projects costs are commonly categorized as either direct or indirect for contracting, accounting, taxation and other purpose [12].

2. Methodology

The research methodology adopted here is quantitative approach. Quantitative approach seeks to gain insight and to understand people or group. Therefore the briefs, understanding, opinions and views of people were investigated. The primary data which refers to field data obtained through the use of well-structured questionnaire developed from the initial identification of methods of cost control employed by contractors in Kano Nigeria and its impact on clients, consultant and contractors with also the problem faced by contractors in controlling cost on site. A well-structured questionnaire was employed in gathering information pertinent to the study. The questionnaire designed on Likert Scale of 1 to 5 rating scale, in which respondent were given choice reflecting varying degrees of intensity.

3. Results and Discussions

The result obtained shows that 56% of the respondents are contractors while 21% are site engineer that work with the contractor, 8% of the respondent are subcontractor and 15% of the respondent are project managers. The respondent's years of working experience also shows that 37% of the respondent have experience of less than 5 years, 44% have 5 – 10 years working experience, 15% have 10 – 15 years and 4% over 15 years of working experience. It can be concluded that majority of the respondent working experience ranges between 5 – 10 years. The procurement method used by the respondent is predominantly traditional method with about 78% while 22% of the respondent use design and build procurement system. Most of the respondent have average knowledge of cost system with about 52%, 37% of the respondent understand cost system, 8% of the respondent totally understand cost system with 2% that do not understand as shown in Table 1. From the total number of contractor's surveyed, 31% of the Contractors carried out cost control at the construction stage, while the majority of the contractors which represent 40% do not carry out cost control. Meanwhile, 29% o the respondent sometimes practice cost control at construction stage.

It can also be observed that work programme which has an average index of 3.9 is the most important technique employed by the contractors in controlling cost of project, which is then proceeded by evaluation of work with an average index of 3.76. Site meeting and report are the average method of cost control with an average index of 2.82 and 2.65 respectively.

The findings is in agreement with [13] which calls for urgent attention in improving the construction industry's ability and performance to achieve improved cost performance and to mitigate against further project failure.

Table 1. *Understanding Cost system in Construction.*

Cost system	Frequency	Percentage (%)
Totally understand	4	8%
Understand	19	37%
Average understand	27	52%
Do not understand	2	4%
Totally Do not understand	0	0%
Total	52	100

Table 2 below itemize the percentage of respondent engagement on cost control at construction stage with 31% of the respondent carrying out cost control and 40% of the respondent do not practice cost control at construction stage while 29% sometimes practice. The percentages are also represented graphically in Figure 1

Table 2. *Carrying out cost Control at Construction stage.*

Cost control	Frequency	Percentages (%)
Yes	16	31%
No	21	40%
Sometimes	15	29%
Total	52	100%

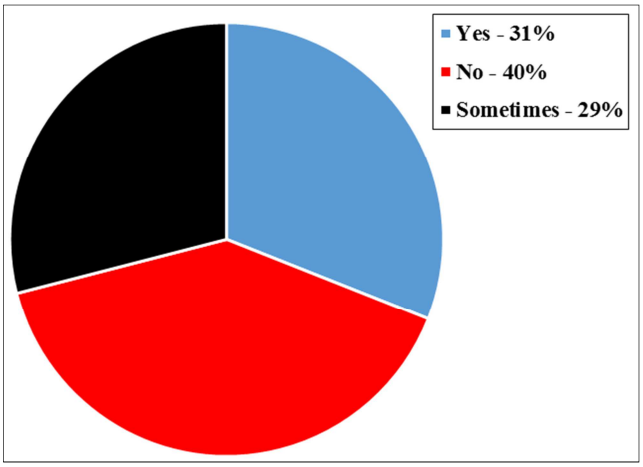

Figure 1. *Carrying out cost control.*

Table 3 shows the method employ by the contractor to control cost during the construction stage. The respondent chooses there method and agreement from scale of 1 to 5 from the list of six (6) method provided in the table. Work program, monitoring and inspection and evaluation of work are classified as important due to the average index value of: 3.90, 3.73 and 3.76 respectively as shown in Figure 2.

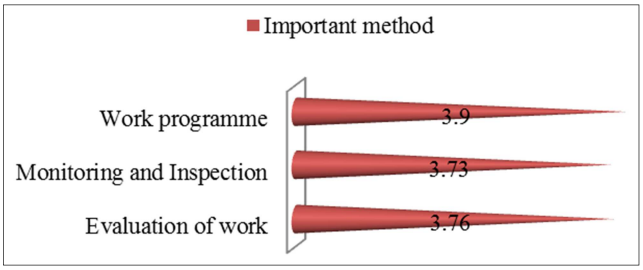

Figure 2. *Important method of cost control method.*

Table 3. *Methods of cost control employ by the contractor.*

Method of cost Control	SCALE					Average Index	Category of Rating
	1	2	3	4	5		
Work programme	1	6	12	11	22	3.90	Important
Monitoring and Inspection	1	5	15	17	14	3.73	Important
Record Keeping	5	5	11	27	4	3.38	Average
Report	14	9	15	9	5	2.65	Average
Evaluation of work	0	6	13	20	13	3.76	Important
Site Meeting	5	15	20	8	4	2.82	Average

The remaining three method of cost control method employed by the contractor were classified as average base on the average index result obtain. Table 4 indicates the problem faced by contractor in controlling cost according to severity. The average index value of the respective problem indicate weather critical, neutral or less critical as can be clearly shown in the figures below. Increased cost of material, wastage of material, theft and vandalization and delay by the client to release money are the critical problem with an average index of 4.13, 3.63, 4.12 and 3.92 respectively as shown in Figure 3.

Table 4. *Problems of cost control faced by contractor.*

Problems of cost Control	SCALE					Average Index	Category of Rating
	1	2	3	4	5		
Duration of Project	7	5	15	19	6	3.23	Neutral
Labor shortage and material	5	18	19	7	3	2.71	Neutral
Increased cost of material	1	5	6	14	26	4.13	Critical
Wastage of material	1	14	5	15	17	3.63	Critical
Delays in deliveries	2	21	20	4	5	2.78	Neutral
Theft and Vandalization	0	7	4	17	24	4.12	Critical
Insecurity	4	11	19	12	6	3.09	Neutral
Unclear and Incomplete drawing	15	16	10	6	5	2.42	Neutral
Bad Weather	26	13	4	6	3	1.98	Neutral
Interference by clients	2	8	14	22	6	3.42	Neutral
Over-lapping of activities	6	18	12	9	7	2.86	Neutral
Delay by client to release money	2	8	3	18	21	3.92	Critical

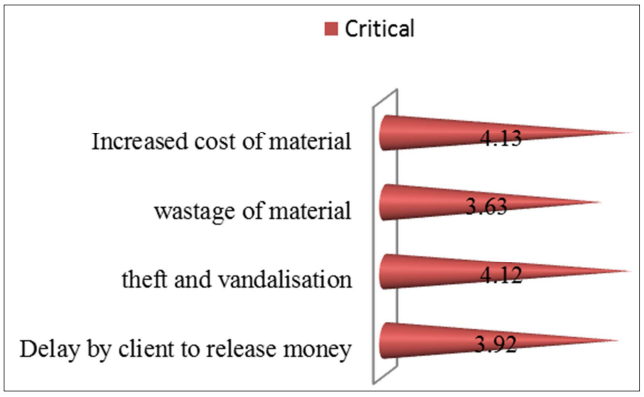

Figure 3. *Graph of Critical problems faced by Contractor.*

4. Conclusions

Contractor's in Nigeria faces a lot of challenges in controlling cost of Building projects. Many projects have been delayed and some abandoned due to cost issues In the Nigerian construction industry. Several factors played role in controlling cost of Building project in Nigeria, among which increased cost of material is the most critical factor with an average index of 4.13. Also, lack of appropriate storage facility and security of material on site which lead to theft and vandalisation affect the Contractors in controlling the cost of project. Contractor's often got delayed by Client to settle their payment after valuation of certain percentage of the work has been done which also contribute to the contractor problems in controlling cost of projects. Material wastage which can be as result of either poor site management or unskilled manpower at site which has an average index of 3.63 is an integral factor that contribute to the contractor failure in controlling cost of Building project.

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References

[1] Project management body of knowledge PMBOK.

[2] Azhar, N., Farooqui, R. U., & Ahmed, S. M. (2008, August). Cost overrun factors in construction industry of Pakistan. In *First International Conference on Construction in Developing Countries (ICCIDC–I), Advancing and Integrating Construction Education, Research & Practice* (pp. 499-508).

[3] Gido, J. & Clements, J. P. (2003). Successful project management. New York: South-Western.

[4] Nunnally, S. W. (1998), Construction Methods and Management, 4th ed., Prentice-Hall, Upper Saddle River, NJ, pp. 500-1.

[5] Kwakye, A. A. (1997). *Construction project administration in practice*. Longman [co-published with] the Chartered Institute of Building.

[6] Mueller, D. J. (1986). *Measuring social attitudes: A handbook for researchers and practitioners*. New York: Teachers College Press.

[7] Chitkara, K, K., 2005. *Construction Project Management: Planning, Scheduling, and Controlling.* Tata McGraw Hill Publishing Company Ltd.

[8] Alinaitwe, H. M., (2006). *Assessing the degree of industrialisation in construction* –A case of Uganda. Journal of Civil Engineering and Management, Vol Xii, No 3, 221–229 ISSN 1392–3730 print / ISSN 1822–3605.

[9] Hendrickson, C., 1998. *Project Management for Construction*. Carnegie Mellon University, PA 15213.

[10] Butler J. B., 1982. *Element of Administration for Building Student*, printed by the Anchors press Ltd, Great Britain.

[11] Otavio et al 2017. *Cost and time project management success factors for information system development project.* International Journal of Project Management 35 (2017) 1608–1626.

[12] Becter et al 2014. *Improving predictability of construction project outcomes through intentional management on in directs construction cost.* Journal of construction Engineering and management.

[13] Ghulam A. Niazi, Noel Painting, 2017. *Significant factors causing cost overrun in the construction Indusry In Afghanistan.* 7th International conference on Engineering, Project, and Production Management.