Adjustment of Prime cost and Provisional Sums on Building Project in Nigeria: Causes, Effects and Solutions.

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Abstract: This paper determined the causes and effects of adjustments of prime cost and provisional sums on building projects in Nigeria. The study was carried out by means of questionnaire and interview administered to Quantity Surveyors and Architects who have practiced in the south west of Nigeria for at least ten years. The fifty-six completed questionnaire retrieved resulted into data, that formed the basis of the study and were analyses by relative importance index. The result showed that adjustments to prime cost and provisional sums were caused by: items not detailed before tender documents were prepared, hurry in documentation, non-preparation of designs and bill of quantities. Also, the result showed that: cost overruns, and time overruns are the negative effects of the adjustments of prime cost and provisional sums. Positive effect is that the sub-contractor is fully paid for work done. For the negative effects to be drastically reduced, there must be proper pre-tender planning, the clients and consultants not being in a hurry in contract documentation. Well thought-out designs of all the items prepared, from which the bill of quantities is prepared for all the items, before going to tender. Adjustments of Prime Cost and Provisional Sum on Building Projects in Nigeria.

Key words: INTRODUCTION

The Nigeria Institute of Quantity Surveyors\(^\text{[7]}\) Nigeria Institute of Quantity Surveyors\(^\text{[8]}\) and JCT\(^\text{[4]}\) Ramans\(^\text{[10]}\); Seeley\(^\text{[11]}\); defined:

i. Prime cost sum as a sum provided for work or services to be executed by a nominated sub-contractor, a statutory authority or a public undertaking or for materials or goods to be obtained from a nominated supplier. Sum shall be deemed to be exclusive of any profit required by the general contractor and provision shall be made for the addition thereof.

ii. Provisional sum as a sum provide for work or for cost which cannot be entirely foreseen, defined or detained at the time the tendering documents are issued.

Background to the Study: The finding of Ayodele\(^\text{[2]}\) showed that the adjustment of prime cost and provisional sums are some of the causes of cost and time overruns in the construction industry. According to Giwa\(^\text{[11]}\), allowances made for prime cost in contract bills, cause overruns in contract sum because the actual costs are in most cases, higher. This according to Ogunsemi\(^\text{[9]}\) is because the Quantity Surveyor usually allowed for arbitrary figures. In fact the amount allowed for has often led to high figures in order to be on the safe side. Ogunsemi\(^\text{[9]}\) opined that the way and manner by which provisional sums are allowed for in the contract bill and later expended has a lot of impact on the final cost of construction project. The more the provisional sums are inserted into contract bills, the less the precise and realistic will be the initial contract sum with respect to the final cost. According to Ogunsemi\(^\text{[9]}\) an ideal bill of quantities is that which contain neither prime cost nor provisional sum. In a study carried out in Nigeria on building projects by Akewusola\(^\text{[1]}\); during the prosperity period of 1972-1978 the mean of cost overrun was 46. 76% out of this 7. 79% was contributed by adjustment of prime cost sum while 3. 23% from adjustment of provisional sums during the recession period of 1979-1983; mean of cost overrun was 65. 83%, out of this were 28. 37% and 11. 77% contributed by adjustments of prime cost and provisional sums respectively, during the depression period 1984 to date, mean of cost overrun was 23. 39% out of which 1. 97% and 0. 96% were contributed by prime cost and provisional sums respectively.

This study is intends to determine causes of such adjustment of prime cost and provisional sums and their effects, so that appropriate solutions can be proffered.

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Objectives: The objectives of this study are to:

i. Determine the causes of adjustment of prime cost and provisional sums,

ii. Document the effects of adjustments of prime cost and provisional sums.

Methodology:

This study which was carried out between January and October 2008 made use of questionnaire and interview administered to select Quantity Surveyors and Architects who have practiced in the South West of Nigeria for at least ten years. (Ondo, Ekiti, Osun, Oyo, Ogun and Lagos states). The data that was finally collected from the fifty-six respondents formed the basis of this study.

The following information were among others collected from the respondents on the jobs they have executed so far:

• causes of adjustments of prime cost and provisional sums.
• Effects of such adjustment of prime cost and provisional sums.

The respondents were requested to rank a multiple choice question in a scale of 1-4. The responses were evaluated using Relative Importance Index (RII) based on the work of Lim and Alum[5]. In theory the RII = (4n1 + 3n2 + 2n3 + nO/4N. Where : n1 = response for most unlikely.

n2 = response for unlikely.

n3 = response for likely

n4 = response for very likely

N = total number of respondents involved in the study.

Data Analysis:

Findings: From the table 1: effects of the adjustment of prime cost and provisional sums are: Sub-contractor fully paid for actually executed job, cost overrun and time overrun.

From table 2, the causes of adjustment of prime cost and provisional sums are: item not detailed before tender, non-preparation of drawings, non-preparation of bill of quantities, hurry contract documentation and inadequacy of arbitrary bill cost.

Discussion: The positive effect of adjustment of prime cost and provisional sums i.e. sub-contractor fully paid for executed work, is in consonance with practiced observation on construction site, and Ogunsemi[9]. One of the negative effects, i.e. Cost overrun, is in agreement with Akewusola[1] whose research work on building industry indicated that adjustment of prime cost and provisional sums between 1972-1978 contributed 23. 57% to cost overrun, and between 1979-1983 the adjustments contributed 58. 32% to cost overrun. The other negative effect, i.e. time overrun is in line with Ayodele[2] whose research work on building executed by Nigerian tertiary institutions, discovered that adjustment of prime cost and provisional sums resulted in time overruns.

Two of the causes of adjustment of prime cost and provisional sums, i.e. item(s) not detailed at inception and inclusion of arbitrary cost figures in bill of quantities are in consonance with Giwa[3] and Ogunsemi[9] who opined that arbitrary cost figures are included in bill of quantities for prime cost and provisional items because the detail of the job is not

<table>
<thead>
<tr>
<th>Causes of adjustment of PC and Provisional Sums</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>RII</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Item not detailed before tender</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>50</td>
<td>0.955</td>
</tr>
<tr>
<td>2 Hurry in documentation</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>50</td>
<td>0.938</td>
</tr>
<tr>
<td>3 Non-preparation of drawings</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>48</td>
<td>0.933</td>
</tr>
<tr>
<td>4 Non-preparation of bill of quantities</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>48</td>
<td>0.911</td>
</tr>
<tr>
<td>5 Bill cost not adequate</td>
<td>10</td>
<td>10</td>
<td>2</td>
<td>24</td>
<td>0.589</td>
</tr>
</tbody>
</table>

Table 2: Effects of Prime Cost and Provisional Sums.

<table>
<thead>
<tr>
<th>Effects of adjustment of PC and Provisional Sums</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>RII</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Sub-contractor fully paid</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>56</td>
<td>1.00</td>
</tr>
<tr>
<td>2 Cost overruns</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>50</td>
<td>0.951</td>
</tr>
<tr>
<td>3 Time overruns</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>45</td>
<td>0.893</td>
</tr>
<tr>
<td>4 Abandonment of the item</td>
<td>12</td>
<td>3</td>
<td>20</td>
<td>20</td>
<td>0.705</td>
</tr>
<tr>
<td>5 Low quality</td>
<td>14</td>
<td>12</td>
<td>0</td>
<td>20</td>
<td>0.527</td>
</tr>
</tbody>
</table>
known. Since the detail of such job is unknown, detail drawings and bill of quantities for the items cannot be prepared.

NIQS\(^6\) observed that many Nigerian clients are in a hurry about contract documentation; this is agreement with one of the causes of adjustment of prime cost and provisional sums from this research work.

Conclusions and Recommendations:

- The causes of adjustment of prime cost and provisional sums are: item(s) not detailed at inception, non-preparation of drawings and bill of quantities and the inclusion of arbitrary cost figures in bill of quantities.
- The effects of the adjustment of prime cost and provisional sums are: sub-contractor fully paid for work executed, cost overrun and time overrun. It is hereby recommended that to step down or reduce the negative effects of the adjustments i.e. cost and time overruns; clients and their consultants should not be in a hurry about contract documentation, but make sure (as much as possible) that detailed Architectural, Civil, Mechanical and Electrical drawings are made available to the Quantity Surveyor for detailed bill of quantities before tender.

REFERENCES