Assessment of Factors Affecting Contractor’s Profit in Construction Projects in South East Nigeria

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Abstract- A lot of contractors have suffered untold hardship sometimes resulting to untimely death due to construction losses, failures, and insolvency as collaterals are disposed in order to settle loans. This research work is aimed at assessing the factors affecting profitability of contractors in construction projects in the South Eastern part of Nigeria with a view to establishing indebt measures to improve the situation. Among the specific objectives to achieve this aim is identifying and assessing the significant factors affecting contractor’s profit. Through literature, a total of 66 factors were identified and grouped into 4 sub-groups. Respondents include clients, consultants and contractors, completed a closed-ended questionnaires and were required to rank the factors on a Likert scale of 1 to 5, negative impacts. The simple descriptive and frequency analysis were used to analyze the data obtained using SPSS. The total mean, standard deviation, standard error of each of these grouped factors were generated and each of the factors as adequately ranked. The study concludes that, government policies and instability in the economy are the key factors that affect contractors profit negatively since they always put pressures on cost of materials and labour as a result many contractors hardly recover all the cost incurred and recommends that construction organizations should analyze profitability at the onset before embarking on the project. It is only by ascertaining the expected profitability and risk involved that they would be able to achieve the target.

I. INTRODUCTION

Each year the construction industry usually experiences a proportionally greater number of bankruptcies than do other industries. (ItzerAnd Dikbas, 2009). Among the causes of this salient problem is the level of profit margin allowed during the estimating process as well as being able to articulate claims during the construction process. Excess of returns over outlay or expenditure, infers that the business is yielding fair profit. Profit is the return from the employment of capital after deducting the amount paid for raw materials and wages, real or estimated rent, interest, insurance etc.

Ajator, Okoye and Agbonome (2015) posit that profit is the primary goal of any construction business even though it may not be the only goal. Any firm that is making consistent loss will in no distance time liquidate. The survival of the industry depends largely on the ability of contracting firms to maintain and sustain economic profit, to finance growth and expansion. Unfortunately, many construction firms have gone into liquidation and huge capital has had its flight from the industry. Understandably, construction business by its nature is fraught with risk. In consequence, contractors all over the world seek commensurate profit as compensation for risks undertaken. Profit is one of the most important measurements and yardsticks in determining the health and success of a business. Webster Dictionary (1986) put it in simple terms: “Total sales Less Total Expenses Equal to Profit”.

Many contractors have suffered untold hardship sometimes resulting to high blood pressures, and untimely death due to their company’s inability to meet up with their financial commitments. It is either the company is persistently owed as a result, creditors dispossessed them of their collateral in order to recover the debt/capital (Oduche, 2018). It is pertinent to state that an experienced contractor should make provision for retained earnings in every payment made to have something to fall back to should situations like this arise. The main thrust of this research work is to find ways contractors can mitigate issues and shore up their profit margin in
order to save them from life threatening contractual problems. This study is set to evaluate the factors affecting profitability of contractors in construction projects in eastern Nigeria with a view to establishing trend, and measures to improve the situation.

This study is restricted to building and civil engineering projects as well as associated subcontractors and supervisors involved.

II. LITERATURE REVIEW

1.1 Overview of Profitability
If you do not make profit, you won’t stay in business. Every business must make a profit or it will go away. In the construction industry, bidding is generally the most popular form for contractors to secure the right to provide services in new job, (Farouk, 2006 and Love, 2008). Identifying the optimum mark-up for a job is an essential part of the contractor’s bid preparation. A slight difference in the mark-up percentage applied to the same job will affect the bidding outcomes, and profitability of the contract organisation, (Oforeh, 2008). Bidding should include the cost of goods or services, overhead expenses and reasonable margin allowed for profit. There should be a reasonable profit margin to build and maintain the business, keeping it viable during the down times. In other words, what insures a business’s longevity – if it does not make a profit, it might not be in business within a couple of years. If it cannot cover overhead expenses and make a reasonable profit, it might not even be in business long enough to complete the project. Any developer who selects a contractor based on their price has no one but himself to blame when things go sideways. Remember the old adage, “A fool and his money are soon parted”. Mark-up (profit) is not all that profit, it is the money needed to make sure the contractor can complete the work, pay his bills and if he is doing things right, make a profit on the job to cover the risks encountered.

1.2 The Concept Profit as Related To Construction Project
The word profit has many definitions and too easily adjusted upward and downward for accounting and taxation purpose. Although you may have done a great deal to increase performance, your success may not show up in accounting profits or profit increases at the end of a year COHEN (2009). Construction business by its nature is fraught with risk; hence contractors all over the world seek commensurate profit as compensation for risks undertaken, Ajator, Okoye, and Agbonome (2015). The oxford Advanced Learners Dictionary defines profit as money gained in business especially the difference between the amount earned and amount spent.

In micro project consideration, the sale of products (of a construction project) at a profit depends heavily on how well the managers are able to analyze and interpret supply and demand conditions to control production cost and hold cost down so that prices can be set at competitive level. For instance, to obtain the best machinery, material, and labour factor at economic costs to squeeze out the biggest possible profit under given supply conditions. (Ajator 2014).

In construction project, the term profit can be defined as the money the project makes after accounting for all cost and expenses, known as the percentage profit Contractor’s application of tender price will vary according to risk, workload, and economic climate. It can also relate to the turnover of the capital employed for each project, hence the more times a contractor can turnover its capital on a project, the more it afford to cut profit margins. Risk is defined in standard Learner’s Dictionary as possibility of meeting danger, suffering loss, injury etc.

In project execution, non-operating income is negligible, the gross operating profit at a given point in time can be determined by evaluating the difference between the total sales and the Total Costs of Sales at that point in time thus:

\[
\text{Gross Operating Profit} = \text{Sales Revenue} - \text{Costs of Sales.}
\]

Generally the gross profit can be forecast by plotting the cumulative effect of sales revenue and Production Costs in the project time – related ‘S’ Curve Chart: the project time duration is scaled along abscissa and the monetary value are scaled along the ordinate axis. The schedule of project work forms the basis for plotting ‘S’ curve representing the cumulative effect of sales revenue and the cumulative production costs.
The extent of profit (loss) at a given point of time can be estimated by measuring the vertical gap in monetary value between the cumulative sales and cumulative production cost curves; see Fig. 1.

The project break-even point = the point of time at which the cumulative sales curve intersects with cumulative production cost curve i.e., “No-profit-no-loss situation”.

The project break-even time = the time at which break-even occur, and after the break-even point, the project trend changes towards making profit.

Financial Trends

1.3 Forecasting Cash Flow

Due to unforeseen circumstances, the client as well as the contractor do face liquidity problem, thus, the progress of the project and in worst case lead to the stoppage of work. Capital budget should take care of such cash requirements inadequacy. The project funding pattern can be determined by making a cash flow forecast that predicts the monthly net effect of the cash inflow and outflow. Separate cash flow forecasts are made by the client and the contractor. The reason for the client’s cash-flow study is to forecast the extent of the funds required periodically for meeting payment commitments.

On the other hand, the contractor’s cash flow forecast is more detailed and complex as it has to cater for cash inflow as well as cash outflow.

While the contractor’s cash inflow or project revenue receipts can be easily derived from the sales budget, difficulties sometimes do arise in determining cash outflow. Some of the aspects which need capital additions regularly are:

1. Working capital requirement
2. Major equipment purchase costs
3. Material inventory costs
4. Manpower mobilization costs
5. Temporary works and utility installation construction costs.

Cash outflow as stated above can be split into:
One-time costs and time-related costs and then preparing a monthly schedule of expenditure after taking into consideration the anticipated deferred payments facilities and the paying back of refunds spread over a long period in the form of retained profit of long-life fixed assets and depreciation of plant and equipment.

The cumulative effect of the cash inflow and cash outflow, when represented graphically against the project time, follows the ‘S’ curve pattern with vertical difference between the two curves representing the cash resources status as indicated below in fig 2.

For a long duration project the cash outflow will also have to be modified to take care of inflationary trends. The mode of financing can be divided into two categories i.e, short-term and long-term financing, this must be factored in the cash flow forecast.

The project Balance Sheet is the statement of Assets and Liabilities of a project on a particular period usually, the end of the specified accounting period. Balance sheets are compiled for every accounting period. Besides, displaying the Assets and Liabilities, the balance sheets also provide a link between the successive accounting period. According to the statutory requirements as presented in Akinpelu (2008), every company has to produce a yearly
balance sheet to show the capital invested and how it has performed in the business.

Construction like every other business ventures rate profitability very high among their long-term objectives because it is an important indicator of business efficiency, and upon which the survival and growth of the business depend. Ajator, Okoye, Agbonomme (2015) stated that profit is a residual. It is the amount of money added to the total estimated cost of labour, material, plant, subcontractor and overheads of a project (i.e., the direct project cost plus indirect project cost i.e. overheads and salaries of those not directly working in the site). Profitability is said to be a function of three factors (Wright, 1970);

1) Sales volume (or work done), sometimes called turnover.
2) The capital investment necessary to support (1), and
3) The margin of profit earned.

Trochim, (2002). Identified several situations where contractors find it difficult to meet this normal profit. Low profits may be caused by low mark-up values in contract bidding in order to enhance the prospects of work acquisition. Akintoye, Akintola S, Skitmore and Martin R (1991) in their research work opined that larger construction firms were more consistent in profitability levels than small firms. But this was seriously contradicted by (Chung, Charles and Cheah, 2006) suggesting that there is no significant correlation between firm size and profitability. That large firms which are endowed with greater resources and prowess, are not guaranteed to be more profitable.

The economic profit of most building contracts in Nigeria are negative. Following the inter-sector integration effects of construction contracts, incomes of other productive sector associated with construction are counted as costs to the construction firms. Also wages, interests and rents etc are contractual cost usually agreed in advance between firms and their receivers, Ajator (2014) and Ajator (2017). But unfortunately profit may not be contracted in advance to the degree of accuracy due to attendance risks that are likely to be encountered. The greater the sensitivity or risks, the higher the profit to be demanded as trade-off or compensation for risks. Construction industry is a dynamic one; hence innovators in the industry who revolutionize or modernize existing methods or techniques of production through value engineering application enjoy economic profit. (Wahab, 2006). Overtime, imitators of the new techniques emerge to compete away the super profit. Also super-normal profits are earned as a consequence of market imperfection characterized by monopoly/oligopoly exploitation, as was perpetrated by expatriate companies in package deals, turnkey and Aid-tied projects in Nigeria. In this instance, Profit is therefore seen as precisely, irreplaceable, imaginary or fictitious.

2.1 Construction and the National Economy
In both developed and developing countries, the construction industry is a very important sector of the economy. In support of this statement, the National Construction Policy (1991) stipulated that: “Generally the Construction industry is a potent motivator of the national economy, providing the driving force necessary for either sustaining a buoyant economy or reviving a depressed one. Many developed countries have successfully revised their national economies by maintaining high levels of activities in the construction industry”.

Generally, it can be seen that the development process of any country depends to a very large extent on the efficiency and capability of a country’s construction industry. The effectiveness of a country’s construction industry can be measured by availability of skilled manpower resources, extent of local material resources and the degree of utilization of much local construction materials. The construction industry plays a critical role in a developing economy like Nigeria because of the transient trend in National growth. The rapid growth in Nigeria’s economy and population requires additional physical infrastructures to accommodate and service additional inputs to various components of the Gross National Product (GNP).

In the developed countries, construction capacity is a potent expert commodity, bringing in hard currency and national respect as gains and accruals. In the developing countries where the construction capabilities of the advanced countries manifest as multinational construction firms, the only gain
accruable are packaged products with little or no local value added, except in cases where such developing countries pursue aggressive policies of acquiring the technical and managerial skills required by the industry.

It is evident from the above that the construction industry has weighted influences on all sectors of the Nigerian economy. Physical facilities must be provided to accommodate the high rate of growth in the Nigeria economy.

3.1 Government Policy on the Construction Industry

There is a close relationship between the fortunes of Federal Government and the construction industry. Firstly, the construction industry produces about half the fixed capital formation, much of which is government financed. Secondly, over fifty percentage of construction output is in public sector; that is government departments, statutory authorities, nationalised industries, local authorities – which is controlled directly by the Federal government. In addition, the private sector is subject to indirect control, in as much as the government is responsible for overseeing the overall demand in the economy, and exercises more direct controls and other consideration such as safety, health and working condition.

It is clear from the above scenario that there exists a symbiotic relationship between the construction industry and the economy making. In view of this symbiosis, certain policies and actions of the government appears to have great influences in the industry. Unfortunately the industry has not been living up to expectations. This prompted Jagboro (2002)’s statement “that the problems of the Nigerian Construction industry has been compounded by every successive administrations” To buttress the claim, he asserted that mobilisation fees which was tactfully abolished by the Obasanjo’s administration in the military era, was politically reintroduced by the Shagari’s government, only for it to be violently court-marshalled by the Buhari’s government all within a period of five years. In all these, the contractors always receive the pinch.

3.1.1 Monetary Policy

Spencer (2003) defined the deliberate exercise of the monetary authority’s (Central Bank) power to induce expansions or contractions in the money supply, in order to help dampen the swings of business cycle and bring the nations output and employment to desired level. The Central Bank is saddled with the responsibility for the operation of money policy, which attempts to influence the economy by controlling of money in circulation in the country. She adopts a number of methods to control the quantity and quality of credit, for example by raising the bank rates, selling securities in the open market, raising the reserve ratio and adopting a number of selective credit control measures such as raising marginal requirements and regulating consumer credit. Another is to protect or support the country’s financial system from the kinds of prices and crash that caused occasional havoc. The major tools of monetary policy have changed over the years. The Central banks sought to influence the economy by influencing the terms and availability of credit. She sought to affect interest rate and to make credit more or less available at going rates of interest. Easy terms and availability of credit were thought to raise aggregate expenditure by making it easier and cheaper to borrow money to spend on such items / things as investment.

High interest rate and tight supplies of credit were thought to lower aggregate expenditure by making it harder and more expensive to borrow in order to spend.

Government thus changes the policy depending on weather she wants to stimulated the economy or depress it. Thus Agwudagwu (1990) observed that, “the monetary policy pursued since 1989 has been very tight indeed and has made access to bank credit difficult and costly”.

Oma-Williams (1991) while worried over high interest rates by banks, asserted: “Although there may be an injection of more supply of mortgage funds, short term and long term rates have inched upwards very steeply from 16 – 30% or even 32% in some cases”.

Len, Anumba and Ugwu (2001) on evaluating the resultant effect of the above policy stated that “although government was able to bring down the inflation rate, the tight monetary policy which brought it about resulted in high interest rate level which made borrowing very expensive and investment difficult.

Supporting this assertion, (Oyediran, 2007). Suggested that the most effective cost reduction strategies must include prevailing on banks to reduce the high interest rates being charged by them to a preferred sector like the construction industry. Fiddling and manipulations of these policies have a serious impact on contractor’s profit margin.

3.1.2 Fiscal Policy
Gillingham (2014) defined fiscal policy as “the deliberate exercise of the government’s power to tax and spend for the purpose of bringing the nation’s output and employment to desired level.

The use of monetary policy alone cannot effectively control the economy of any nation. Supporting this statement, Seeley (1983) observed that “Apart from monetary policy, a government can influence the level of economic activities by regulating the amount of its spending”.

Obviously this will have a tremendous impact on construction industry, with problem inherit is the risk of creating inflations and recruiting sufficient skilled manpower and managerial staff to prevent bottlenecks. Lowe (1979).

The other fiscal measures mitigating in the industry vis-à-vis the contractor’s profit margin are as follows:
1. A cut in personal consumptions, the rates of personal and commodity taxes should be raised and even new taxes should be levied. But the rate of reductions should not be so high as to discourage savings, investments and production rather, the tax system should provide larger incentives to those who save, invest and produce more.
2. Further to bringing more revenue into the tax-rate, government should penalise the tax evaders by imposing heavy sanction/finances. Another measure is to increase savings on the part of the people and hence personal consumption expenditure. But due to the rising cost of living, people are not in a position to save much voluntarily. This was advocated by Keynes (1994) “FOI compulsory savings or deferred payment is where the saver gets his money back after some years”.

For this reason, government should float public loan schemes carrying low interest rates, start saving scheme like National Provident Fund (NPF) and pension schemes etc. compulsory saving. All these measures geared towards increasing saving are likely to effectively drive living standard.

4.1 Effect of Monetary and Fiscal Measures on Cost of Construction Project.
Lowe (1979) stated that “A government attempting to curb aggregate demand and thus damp down inflation by means of credit squeeze will create severe problems for speculative house builders with bankruptcies, liquidations and redundancies. Similarly a boom will cause costs to rise and may well prompt firms to expand to more than their optimum size with dire consequences when next slump comes”.

The operation of these polices and their severe impact in the construction industry has lead to an assumption that the government used the industry as an economic regulator. (ie something to expand or depress in order to produce certain desired result on the economy as a whole). For instance, during the period 1974 to 1979, 1986 to 1990 and even to date, government fiscal measures as they affect the construction industry include the outright or partial ban on the importation of certain items, for example, paper bags and selected spare parts and raw materials for cement making machines, the placing of others on import licences, the requirement of a hundred percent (100%) cash deposit for import and of course high import and excise duties. These import duties and handling charges are reflected in price quoted by contractor and at times eat deep in contractor’s profit. Import licences are rationed and often inaccessible to contractors, thus further drastically reducing the supply of construction materials. For instance, in the case of sanitary wares and ceramic tiles, the production capacity / output of the Nigeria’s local industry is still less than twenty percent (20%) of the requirement of construction industry. If the cost of...
components that go into the building could be controlled, then building and other construction cost could be reduced, but inflationary trend have caught up with the industry.

Gujarati, (2003) reported that the high cost of building materials was another very important reason given for the lack of the interest in housing construction. The cost of all essential building materials have gone very high up by more than three hundred percent (300%), in some cases, an increase of up to eight hundred percent (800%) was recorded. The cost of construction materials, high interest rate on housing loans and continuous fall in the value of local currency naira, have jacked up rents considerably that this report further called for package of policy measures to relax the existing tight monetary and fiscal control, particularly the intensification of the current effort to stabilise exchange rate of the Naira.

III. METHODOLOGY

The researcher adopted survey research. It involves collecting data to test hypotheses or answer questions pertaining to the current status of the subject of the research study and the population of the study comprises 700 construction professionals in the South Eastern part of Nigeria which includes, Architects, Building Engineers, Quantity Surveyors and Contractors using Yamane Taro’s statistical formula, a total number of 250 questionnaire were distributed, using stratified sampling techniques, and the data were analysed using SPSS.

IV. RESULTS AND DISCUSSION OF FINDINGD

Responses of the respondents on their views on the factors affecting contractors profit. The questions are based on some Government Policies and National Economy are presented and explained in this section.

Table 4.14: Client Related factors on Profits of Contractors

<table>
<thead>
<tr>
<th>S/No</th>
<th>Issue Raised</th>
<th>Mean</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unclear, vague, and uncoordinated brief</td>
<td>4.6869</td>
<td>High</td>
</tr>
</tbody>
</table>

Table 4.15: Designer Related Factors on Profits of Contractors

<table>
<thead>
<tr>
<th>S/No</th>
<th>Issue Raised</th>
<th>Mean</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Inexperienced design personnel</td>
<td>4.2243</td>
<td>High</td>
</tr>
<tr>
<td>2</td>
<td>Inappropriate design, checking, conservative and buildability problems</td>
<td>4.0748</td>
<td>High</td>
</tr>
<tr>
<td>3</td>
<td>Legally and statutorily non – compliant and rush designs</td>
<td>4.6168</td>
<td>High</td>
</tr>
</tbody>
</table>

Source: Researcher’s Field Survey, 2018

From table 4.14, the factors of the issues raised can be seen; four issues had ANI while the other six had HNI. It can also be seen that client related factors is on the overall about 3.5498, which indicates high negative impact. This means that some issues related to clients do posse HNI on the profits made by the contractors.
From table 4.16, it will be seen that the designers related factors of the issues raised in the questionnaire is high; this is as seen from the total weighted mean of the responses. This implies that designers related issues posse high negative impacts on the profits that contractors make.

Table 4.16: Estimator Related Factors on Profits of Contractors

<table>
<thead>
<tr>
<th>S/No</th>
<th>Issue Raised</th>
<th>Mean</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Poor estimate due to inadequate designs and definitions</td>
<td>4.6000</td>
<td>High</td>
</tr>
<tr>
<td>2</td>
<td>Use of quack and inexperienced estimators</td>
<td>4.6000</td>
<td>High</td>
</tr>
<tr>
<td>3</td>
<td>Estimation not based on WBS/Activity cost definitions</td>
<td>3.2000</td>
<td>High</td>
</tr>
<tr>
<td>4</td>
<td>Adopting lots of provisional and prime cost items</td>
<td>3.8280</td>
<td>High</td>
</tr>
<tr>
<td>5</td>
<td>Inadequate cost data basis, i.e. currencies conversion rates duties/port changes, warehousing, etc</td>
<td>2.4381</td>
<td>Average</td>
</tr>
<tr>
<td>6</td>
<td>Poor understanding of site/terrain prior</td>
<td>2.5143</td>
<td>Average</td>
</tr>
<tr>
<td>7</td>
<td>Poor understanding of transport system both local and international</td>
<td>2.2190</td>
<td>Average</td>
</tr>
<tr>
<td>8</td>
<td>Inability to take account of cost of fund/financing in the estimate</td>
<td>3.7143</td>
<td>High</td>
</tr>
<tr>
<td>9</td>
<td>Inability to factor in and analyze bench mark cost and error</td>
<td>3.3143</td>
<td>High</td>
</tr>
<tr>
<td>10</td>
<td>Inability to include high in “import–factors” especially import related materials</td>
<td>3.5619</td>
<td>High</td>
</tr>
</tbody>
</table>

Cluster Mean: 3.3989 High

Source: Researcher’s Field Survey, 2018
It can be seen from table 4.16 that estimator related issues have high negative effects on contractors’ profit. This is because the overall weighted mean falls within the range of HNI.

From table 4.17 has information on the Contractor Related Impacts on Profits of Contractors. We can see from there the overall weighted mean is 3.28, which falls within the range of VHNI.

V. SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary
The instability in the country’s economy is one of the major hindrances in profitability of contractor. Take for instance, value of Naira to Dollar: today N470 and Tomorrow, N360 to $1. The value of Naira fluctuates, so the economy fluctuates as a result, contractors find it difficult to plan for any project.

The best way to reduce the incidence of bankruptcies by contractor is to grant low and attractive interest rates on loan. Other policies that can equally help alleviate the rate of bankruptcies are increasing mobilization advance to at least 50% and shore up foreign exchanges to reduce the cavernous state of Naira.

It was generally agreed that contractor’s loses starts right from the bidding process. The moment a contractor fails to bid properly, the impact will have chain effect on every aspect of the project thereby leading to contractors making spurious and unsubstantiated claims to cover loses. Poor bidding can cause shoddy work, poor planning and execution, use and application of sub-standard materials and labour.

5.2 Conclusion
1) The client related impacts on contractor’s profit, possess high negative impact.
2) Designers Related Impact on profit of contractor, this also implies that designers related issues posse another high negative impacts on contractor’s profit.
3) On estimations related impacts on contracts, equally have a high negative impact on contractors profit as demonstrated by overall weighted mean within the range.
4) Contractor’s Related Impact on profits during construction management has highly rated negative impacts on profit.

5.3 Recommendations
1) Contractors should map out enough time to define and share the scope of a project. Time spent in planning, programming, design before embarking on actual construction should not be misconstrued as time wasted since proper planning is a key factor in project profitability.
2) It is recommended that a good construction company should analyze profitability at the onset before embarking on the project. It is only by ascertaining the expected profitability that we will be able to manage it. It may be possible that for commercial reasons, projects with the little initial profit will sometimes need to be undertaken in the anticipation that the client will contract other services in the further. In any case, this fact and the level of profitability to be expected from the project must be ascertained.
3) Contractors must track profitability at all time. Tracking project profitability is not an issue that should be delayed or left until the end, or once of the project has finished. It should be undertaken constantly, regularly checking project status to date and taking any necessary steps when unforeseen deviation or circumstance occurred

REFERENCES


