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ASSESSMENT OF STRATEGIES FOR MAXIMIZING PROFITABILITY IN SMALL AND MEDIUM CONSTRUCTION FIRMS IN ABUJA

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ABSTRACT

This study investigated profit maximisation strategies by small and medium-sized construction firms in Abuja with a view to improving the construction organization's profit margins. The data for the study was gathered using a questionnaire. The questionnaire copies were administered to two hundred and twenty (224) questionnaire respondents, and one hundred and fifty-five (155) were retrieved, representing a response rate of 69%. A purposive sampling technique was adopted for the study. The analysis of the data was carried out with the use of percentage, mean item score, and T-test. The study identified sixteen (16) factors affecting the profit maximisation of construction firms, which are the supply costs, the degree of competition faced by a firm, time, and the strength of demand. The findings revealed that the majority of the hypothesised measures of profitability are perceived as statistically significant ($p < 0.05$ by the respondents using the one-sample t-test value of 3.5). The average barrier score ranges between 3.20 and 4.36. These measures of profitability ranged from "investment" (mean = 4.36; SD = 0.66; $t(155) = 16.16$; $p = 0.00 < 0.05$), which is the highest ranked, to "liquidity" (mean = 3.20; SD = 0.63; $t(155) = -5.78$; $p = 0.00$), which is the least ranked). The findings also revealed that time, supply cost, unexpected problems, project overhead, weather, and rate of return are the most important challenges faced by contractors that affect the realisation of profit maximisation. The study

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also revealed that of the seven strategies to maximise construction firms' profit margin, the minimization of waste is the most effective strategy. It was, however, concluded that minimising waste, setting profitable goals and improving productivity skills were the most effective strategies for maximising profitability in small and medium-sized construction firms in Abuja. The major recommendation from the study is that the government at all levels should put in place favourable policies that will allow small and medium-sized construction firms to thrive in the study area and in Nigeria at large.

Keywords: Strategies, Maximizing, Profitability, Small and Medium Construction Firms

INTRODUCTION

The construction industry is a major sector of economy as it contributes significantly to both the (GDP) and Gross Fixed Capital Formation (GFCF) of all nations. A construction project differs from other manufacturing businesses in that they are cast in situ and they are assembled by various teams of experts (Skibniewski, 2017). In many circumstances, construction projects may result in resource allocation and availability anomalies, which, when combined with stakeholder requirements, can lead to projects being delayed and over budget, negatively impacting small and medium-sized construction enterprises' profit maximization. Maximization of profit is a very crucial objective for a firm to remain in business and to withstand competition from firms operating in similar industries. It is a major pre-requisite for the long-term survival and success of a firm and a key pre-condition for the achievement of other financial goals of a business entity (Gitman and Zutter, 2012). Profitability is a core measure of the performance of a firm and it constitutes an essential aspect of its financial reporting. It reveals the firm's ability and capacity to generate earnings at a specific rate of sales, level of assets, and stock of capital in a specific period of time (Margaretha and Supartika, 2016). Business organisations are classified in various ways, but small and medium enterprises (SMEs) are independent businesses that have a small market share and are managed by their owners or part-owners. There is no universal definition of a small business, as each nation has its own definition. In the European Union, small and medium-sized firms (SMEs) are non-subsidary, autonomous organisations with characteristics such as employing less than a certain number of workers (Clair, 2019). However, there is a limit to the number of employees engaged by SMEs in various countries across the world.

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Some countries set the limit at 200 employees. The degree of performance of SMEs is directly related to the management of diverse economic resources and their effective usage within operational, investment, and financing activities (Teshager, 2016).

The construction industry employs 92 percent of SMEs, with major contractors accounting for just 8% of the market, is a rising market that confronts a variety of obstacles, such as poor profit margins and appropriate capital (Ndulane, 2015). In Nigeria, despite the support of regulatory bodies such as the Nigerian Institute of Architects (NIA), Nigeria Institute of Quantity Surveyors (NIQS), Council of Registered Builders of Nigeria (CORBON) and Council for the Regulation of Engineering in Nigeria (COREN), Nigeria's SMEs construction firms have been experiencing the same challenges when measured against the usual criteria of cost, productivity, quality, safety, and environmental responsibility Ofori (2002). Profitability, which is one of the most important pre-conditions for a long-term firm's existence and success, indicates the end result of any commercial activities, and may be diminished if market demand continues to fall. Most SMEs in Nigeria die within their first five years of existence, a smaller percentage goes into extinction between the sixth and tenth year while only about five to ten percent survive, thrive and grow to maturity (Aremu and Adeyemi, 2011).

The investigation of the determinants of the profitability of SMEs construction firms in Nigeria is apt and expedient for a number of reasons. The Nigerian economy has undergone series of reforms since the last one decade under successive democratic governments. However, research efforts towards ascertaining the core determinants of profitability of wide range of firms under these policy reforms have remained sparse. SMEs' development in Nigeria is not a one-man affair; all hands must be on deck; the government, individuals and organisations (each playing distinct role towards SMEs development). Accordingly, Etuk et al (2014) notes that for SMEs to thrive, favourable institutional frameworks are required. Unfortunately, their needs are often overlooked by policy-makers and legislators, who tend to target larger corporations. Previous studies on profitability in Nigeria focused on selected sectors of the economy (Oke and Afolabi, 2011; Enekwe, Okwo and Ordu, 2013; Angahar and Ivarave, 2016). A number of these studies only examined the effect of capital structure on firms' performance, while others investigated the impact of a single factor or variable on firm profitability (Onaolapo and Kajola, 2010; Oke and Afolabi, 2011). While a vast number of these studies focused on relatively large firms. To the researchers' understanding, none of these studies focused on

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the construction sector, especially in the study area. Therefore, this study assessed the strategies for maximising profitability for small and medium-sized construction firms in Abuja.

The following objectives were formulated:

- i. To assess factors that affect the profit maximization of the construction SME firms
- ii. To examine the measures of profitability of the SME construction firms;
- iii. To examine strategies to maximize construction firms' profit margin.

LITERATURE REVIEW

Factors that Affect the Profit Maximization of the Construction Firms

Akinradewo and Aigbavboa (2019) observed that some certain factors impacted directly or indirectly on contractor's profit in the construction industry; factors such as; reduction of waste on construction site, reduction in expenditures and cost, reduction on time spent on construction projects, efficiency of labours on-site, getting retention on time thereby attracting another job which will bring more profit to the organisation. However, Hosseini, Windimu, Klakegg, Andersen, and Laedre (2018) opined that managing relationship among the contracting parties is a key ingredient to the successful project delivery that will invariably impact on organization profits.

Abebe (2017) identified factors such as effective management of resources; availability of personnel with interpersonal skill as well as project management skills; proper records keeping whether paper-based or electronic should be captured in an entity's recordkeeping system(s) in accordance with the entity's general recordkeeping policies and procedures as factors that impact profit maximization in any organization. Elibazeth *et al.*, (2020) in their studies on profit maximization strategies employed by the small and medium size building contractors in Dar-es-salaam, Tanzania identified that there are numerous factors that affect a construction company's profit margin, i.e. from unexpected delays to unexpected disasters, these includes the following: -Time, Supplies Costs, Financing, and Unexpected problems.

Measures of Profitability of Construction Firm

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

ATBU, Bauchi Proceedings

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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. 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 affords 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. 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, Agbonome (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.

ATBU, Bauchi Proceedings

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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 (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. Other determinant of profitability of construction firm are as follows: firm size, leverage , liquidity ,capital intensity , managerial efficiency , inflation and interest rate.

Strategies to Maximize Construction Firms Profit Margin

Goodman (2020) states that profit maximization must be a top priority along with completing a construction projects on time. It is important not to only focus on daily tasks and responsibilities, but to make time for cultivating the financial tools and strategies specifically for profit maximization. Strategies reported by Langmade (2018); Goodman (2020); Zaid et al., (2014) includes:

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Improve Productivity

Put simply, productivity is the measurement of the effectiveness of effort. Productivity rates are measured as total output per unit of input. In construction, an example of output could be cubic yards of earth excavated or square footage of roofing installed, with the input typically measured in man-hours.

Maximizing productivity on a jobsite means working efficiently to control costs and stay on schedule. Projects that are completed under budget and ahead of schedule usually result in higher profit margins which is why construction firms are always looking to improve productivity.

Improving productivity requires careful planning and scheduling of work. General contractors and trade contractors must work together to make sure that work is completed in a logical sequence that focuses on maximizing the efficiency of everyone working on the project.

Because your field workers are an essential part of productivity, it's important that your workers know how to properly and safely complete assigned tasks. This means making sure each worker has received the proper training and is equipped with the tools and resources needed to effectively do their jobs. Keep in mind that your workers' efficiency, or lack thereof, is only one aspect of productivity. Other factors that can negatively impact productivity, and by extension profitability, include supply chain management, poor scheduling, accidents, and unnecessary rework (Langmade, 2018).

Know Your Costs

In order to be profitable and improve profitability, you need to understand the costs associated with completing each project. This includes not just your job costs but also your overhead costs. If you don't have a sense of what your projects cost to complete, there's no way of knowing how profitable you are on each job.

Job costs include everything directly needed to complete a project. These include labor, materials, supplies, equipment rental costs, bonding premiums, fuel, permits, etc. Basically, anything that pertains to costs on the actual jobsite is part of your job costs.

These can vary greatly by region and type of project, so it's important to stay up to date on your job costs especially if you do work in multiple states. Having to pay prevailing wages on a job or dealing with fluctuating material costs can skew your job costs in a way that greatly affects your profitability.

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Overhead costs are the expenses needed to operate your business. Overhead items include support staff payroll, tools, insurance, utilities, office rental or mortgage, equipment, debt payments, owners' salary, legal fees, IT, etc.

When calculating and reporting overhead costs, be sure to capture all costs and be as accurate as possible because your estimators will need these to submit better bids (Langmade, 2018).

Estimate for Profit

When you bid a project, you expect to win. When you win a bid and are awarded the contract, you expect to make a profit. For that to happen, your estimates need to be realistic and as accurate as possible. If your estimates are too low, no amount of project management or productivity gains will get you profitable.

This is why having an accurate account of your job costs and overhead is so important. It allows your estimators to add in the proper markups to hit your profit margin goals. A good bid is based on concrete data, not guesswork. Be sure to consider the risk factors on each project and build in a contingency line to your bid that can absorb additional costs when risk becomes reality.

Estimators also need to know the productivity levels of your field workers, so they can create realistic job costs. Keep track of actual versus estimated job costs on each project, especially labor costs and productivity rates, so your estimators can determine how accurate their estimates were and what adjustments might need to be made on your next bid.

Avoid racing to the bottom by always trying to be the lowest bidder. If you undercut your bids to win, you'll always struggle to be profitable. As you go through your bid/no bid decision making, profitability should be your top consideration along with a risk analysis and your firm's capability to perform the work. Bottom line: don't sacrifice profit just to win more work (Langmade, 2018).

Minimize Waste; It is not a secret that job sites create waste. Thus, one must be careful in knowing how much of the waste generated goes to the landfill and how it can be saved in order to increase profit margins. For example, the State of Nebraska has been trying to encourage It is important for construction firms to reduce waste not only to protect the environment, but as a way for companies to cut back on lost profits. Lumber and manufactured wood products alone can make up to 35% of construction waste. If the contractor procures those materials, the 35% will still come out of the contractor's budget. Clair (2019) highlights that for firms that set up strategic programmes to minimise construction waste, they realise job site savings that turn into a better bottom line and suggests.

ATBU, Bauchi Proceedings

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Set Profitability Goals

If you want to improve the overall profitability of your company, you need to set profit margin goals. Where does your company want to be in the next year? Five years? Ten years? Maybe you're looking to grow your business or expand into new markets and territories. Perhaps you're wanting to tackle larger projects or make the jump from public projects to the private sector. Knowing your long-term business plans will allow you to set achievable revenue and profitability goals to get you where you want to be. It will also help shape the types of projects you take on and guide your estimators on the markup percentage they should shoot for on each project to help you hit those goals (Goodman, 2020).

Manage for Profitability & Track Costs

Good project management is key to improving profitability. If you want to hit your profit goal on a project you have to keep your costs down and finish the project within the scheduled completion date. Be sure to keep track of costs on any change orders so that they can be billed properly and increase your profit margin. Don't do additional work on a project until a price has been agreed upon and it has been approved by the client (Margaretha & Supartika, 2016).

Avoid having workers milling about with nothing to do. Stay on top of materials management and stage the jobsite in a way that helps your workers be as productive as possible. Each worker should have proper safety training and be provided with necessary personal protective equipment to avoid accidents and prevent injuries. A safe construction site benefits both productivity and profitability.

A good project manager should be able to spot the red flags of an impending issue and make the necessary adjustments to keep the project on schedule and within budget. They should be constantly looking for ways to reduce waste and improve productivity (Yazdanfar, 2013).

Be sure to keep accurate accounts of all your job costs. You don't have to keep track of every screw and nail, but you'll need to be able to compare your actual job costs to what was budgeted so you can complete a thorough analysis once the job is finished (Yazdanfar, 2013).

Analyze Your Results

Once you've completed a project, there's still some work to do. Gather your team and conduct a postmortem analysis of how close your estimated profit was to your actual profit. Did your estimated job costs match up with what was

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The Academic Conference of Harvard Research and Publications International on 21st Century challenges and opportunities: Multidisciplinary Approach Vol. 21, No. 3 on 31st October, 2022- Abubakar Tafawa Balewa University, ATBU, Bauchi, Bauchi State, Nigeria, West-Africa

estimated? Was overhead accounted for properly in your bid? Did issues occur on the jobsite that resulted in productivity losses or caused you to go over budget? Take a hard look at your estimates versus your actual costs. Make note of costs that were over or under what you expected so you can do better next time. If you had productivity issues consider providing additional training to your workers and look for ways to reduce downtime when you start planning and scheduling your next project. In construction, profits don't just happen. The industry isn't built to operate that way. There are too many things that can go wrong and sink what would otherwise be a profitable project. It takes diligence and hard work to go from eking by on razor-thin margins to being profitable enough to grow your business and meet your business goals (Zaid et al., 2014).

Research Methodology

A quantitative research approach was used in this study. The population of this study constitutes construction practitioners (such as procurement officers, accountants, site managers, and directors of the construction organisations) in small and medium construction organisations registered with the corporate affairs commission in Abuja, the Federal Capital Territory. According to the Abuja Business Directory (2021), there are 255 small and medium-sized construction firms listed in the Abuja Business Directory within Abuja as their registered address. Out of the 255 construction firms 56 small and medium firms in were purposively selected in Abuja and one procurement officers, accountants, site managers, and directors of the construction organizations were selected from each of the sampled firm making a total of 224 respondents. Table 1 shows the breakdown of the positions of the sampled respondents.

Table 1: Sample size

Position of respondent	Number of respondents
Procurement officers	56
Accountant	56
Site managers	56
Director	56
Total	224

The response of the respondents, on the MIS analyses, were ranked and analysed based on the cut-off points presented in Table 2.

Table 2: Cut- off Points to Responses

Scale	Cut-off points MIS	Remarks/ Decision		
		Agree	Significance	Effectiveness
5	4.50 -5.00	Strongly agree	severe	Very Effective
4	3.50 -4.49	Agree	Significant	Effective
3	2.50 -3.49	Somewhat agree	Less Significant	Fairly Effective
2	1.50 -2.49	Disagree	Least Significant	Least Effective
1	1.00 -1.49	Strongly Disagree	Minor	Not Effective

Analysis of Result and Discussion of Findings

Factors Affecting the Profit Maximization of the Construction Firms

The factors that affect the profit maximisation of construction firms is presented thus: The Table 3 reveals the results of the sixteen (16) identified factors affecting the profit maximisation of the construction firms by this study. The respondents agreed that the most important factors affecting the profit maximisation of the construction firm are: supply costs was ranked first with MIS of 4.34; follow by competition a firm face with a mean score of 4.32 and ranked 2nd. Time and the strength of demand was ranked third with a MIS of 4.26 and 4.26 respectively. On the average, all the identified factors affecting the profit maximisation of construction firms are important (average MIS = 3.56). These study findings are also in line with this finding, Mikes (2020) which established that time, cost of supplies, and finance are important factors that affect a construction company's profit margin.

Table 3 Factors Affecting the Profit Maximization of the Construction Firms

Factors	MIS	Rank	Decision
Supplies Costs	4.34	1 st	Agree
The degree of competition a firm face.	4.32	2 nd	Agree
Time	4.26	3 rd	Agree
The strength of demand	4.26	3 rd	Agree
The state of the economy.	3.52	5 th	Agree
Unexpected problems	3.48	6 th	Somewhat Agree
Price discrimination.	3.46	7 th	Somewhat Agree

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Financing	3.40	8 th	Somewhat Agree
Advertising	3.38	9 th	Somewhat Agree
Exchange rate.	3.38	9 th	Somewhat Agree
Objectives of firms	3.35	11 th	Somewhat Agree
Relative costs.	3.30	12 th	Somewhat Agree
Substitutes,	3.20	13 th	Somewhat Agree
Dynamically efficient.	3.20	13 th	Somewhat Agree
Price discrimination.	3.18	15 th	Somewhat Agree
Management.	3.00	16 th	Somewhat Agree
Average MIS	3.56		Agree

Measures of Profitability of Construction Firm

Table 4 above shows the ranking of the Ten (10) measures of profitability of construction firm in small and medium construction firms in Abuja according to the mean scores in descending order. The table also shows that the majority of the hypothesized measures of profitability are perceived as statistically significant ($p < 0.05$) the respondents using the one-sample t-test value of 3.5. The mean score of the barrier ranges between 3.20 and 4.36 by. These measures of profitability ranged from "investment" (mean = 4.36; $SD = 0.66$; $t(155) = 16.16$; $p = 0.00 < 0.05$) which is the highest ranked to "Liquidity" (mean = 3.20; $SD = 0.63$; $t(155) = -5.78$; $p = 0.00$) which is the least ranked. To get the most significant measures of profitability of construction firm in small and medium construction firms in Abuja based on the mean score, a threshold of 3.50 was set. This same threshold approach was used in Inuu (2013) to assess the significant variables. As a result, six (6) measures of profitability were above 3.50 and considered significant. These measures of profitability include: "Investment" (mean = 4.36; $SD = 0.66$; $t(155) = 16.16$; $p = 0.00$), "Firm size" (mean = 3.79; $SD = 0.70$; $t(155) = 5.15$; $p = 0.00$), "Partial and multiple factor productivity" (mean = 3.78; $SD = 0.82$; $t(155) = 4.30$; $p = 0.00$), "Managerial efficiency" (mean = 3.74; $SD = 0.85$; $t(155) = 3.53$; $p = 0.01$), "Profit in previous period" (mean = 3.74; $SD = 0.61$; $t(155) = 3.96$; $p = 0.00$), "Liquidity" (mean = 3.20; $SD = 0.63$; $t(155) = -5.78$; $p = 0.00$), "Capital intensity" (mean = 3.60 $SD = 0.70$; $t(155) = 1.87$ $p = 0.06$), "Leverage" (mean = 3.57; $SD = 0.85$; $t(155) = 1.08$; $p = 0.28$), "inflation" (mean = 3.53; $SD = 0.80$; $t(155) = 0.54$; $p = 0.58$), "interest rate" (mean = 3.53; $SD = 0.73$; $t(155) = 0.56$; $p = 0.57$). The approach revealed a total of six (6) significant measures of profitability of construction firm in small and medium construction firms in Abuja.

ATBU, Bauchi Proceedings

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Table 4: Ranking of Measures of Profitability of Construction Firm.

Measures of profitability of construction firm	MIS	SD	t-value ($\mu = 3.5$)	df	Sig. (2-tailed)	Rank
Investment	4.36	0.66	16.16	155	0.00*	1
Firm size	3.79	0.70	5.15	155	0.00*	2
Partial and multiple factor productivity	3.78	0.82	4.30	155	0.00*	3
Managerial efficiency	3.74	0.85	3.53	155	0.01*	4
Profit in previous period	3.69	0.61	3.96	155	0.00*	5
Capital intensity	3.60	0.70	1.87	155	0.06	6
Leverage	3.57	0.85	1.08	155	0.28	7
Inflation	3.53	0.80	0.54	155	0.58	8
Interest rate	3.53	0.73	0.56	155	0.57	9
Liquidity	3.20	0.63	-5.78	155	0.00*	10

Note: SD = Standard Deviation; R = Rank; Sig. = Level of significance; MS = Mean score of the Measures of profitability of construction firm where 5 (SA) = Strongly Agree; 4 (A) = Agree; 3 (SWA) = Somewhat Agree; 2 (D) = Disagree; 1 (SD) = Strongly Disagree. Df = degrees of freedom, *Significant at 95 per cent level ($p < 0.05$)

Strategies to Maximize Construction Firms' Profit Margin

The section presents the result of the analysis of the identified strategies to maximise construction firms' profit margin. Table 5 presents seven (7) strategies to maximise construction firms' profit margin. Minimization of waste was ranked as the most effective strategy with a mean value of (MIS = 4.69). On average, all the identified strategies to maximise construction firms' profit margin are effective (average MIS = 4.22).

Table 5: Strategies to Maximize Construction Firms' Profit Margin

Strategies	MIS	Rank	Decision
Minimize Waste	4.69	1 st	Very Effective
Set profitable goals	4.43	2 nd	Effective
Improve productivity	4.38	3 rd	Effective
Estimate for profit	4.33	4 th	Effective

ATBU, Bauchi Proceedings

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Manage for profitability and track costs	4.33	4 th	Effective
Analyse your results	4.29	6 th	Effective
Know your costs	3.09	7 th	Fairly Effective
<i>Average MIS</i>	<i>4.22</i>		<i>Effective</i>

CONCLUSION AND RECOMMENDATIONS

Results of the analysis carried out led to the conclusions made in this chapter. Based on the results of this study, the most important factor affecting the profit maximisation of the construction firm is supply costs. The result of the analysis on the measures of profitability of construction firms revealed that construction firms, investment firm size, and partial and multiple factor productivity are the most effective measures of profitability for construction firms. The findings revealed that maximising construction firms' profit margins to minimise waste was ranked as the most effective strategy. Based on the result on the respondents' background information, it was concluded that the respondents are well equipped professionally and in terms of experience to give reasonable insight into the subject under consideration. Stress has both positive and negative impacts on the performance of professionals in construction. It was, however, concluded that minimising waste, setting profitable goals and improving productivity skills were the most effective strategies for maximising profitability in small and medium-sized construction firms in Abuja. As a result of the conclusions made in this study, the following were recommended: The study suggests that financial institutions should adopt measures to create more credit facilities for small businesses and tailor them to fit the requirements of small and medium construction enterprises. In addition, the financial institution should package a suitable credit facility to finance the operations of the business in order to address the problems and challenges faced by small and medium-sized construction enterprises.

REFERENCE

- Abebe, K. (2017). An Assessment of Project Management Competency: The Case Of Ethio Telecom. Addis Ababa University.
- Ajator, U.O., Okoye C, Agbonome, F.C (2015). Controlling the Mythical Features of Construction Profit. *International Journal of Engineering, Applied and Management Science Paradigms*, Vol. 21 Issue 01 Publishing Month February 2015

ATBU, Bauchi Proceedings

The Academic Conference of Harvard Research and Publications International on 21st Century challenges and opportunities: Multidisciplinary Approach Vol. 21, No. 3 on 31st October, 2022– Abubakar Tafawa Balewa University, ATBU, Bauchi, Bauchi State, Nigeria, West-Africa

- Akinradewo, O., & Aigbavboa, C. (2019). Impact of construction project planning on contractor's profit. In *IOP Conference Series: Earth and Environmental Science* (Vol. 385, No. 1, p. 012009). IOP Publishing.
- Alalade S. A. & Oguntodu, (2015). Firms' Capital Structure and Profitability Performance: A Study of Selected Food Product Companies in Nigeria. *IIARD International Journal of Banking and Finance* 1 (8).
- Angahar, P.A. and Ivarave, J.I., (2016). Effect of Capital Structure on Corporate Profit. Evidence from Cement Manufacturing Firms in Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 6 (2), 159–168.
- Aremu, M.A. and Adeyemi, S.L. (2011). Small and medium scale enterprises as a survival strategy for employment generation in Nigeria, *Journal of Sustainable Development*, 4(1). 200–206
- Clair, A. (2019). *Strategies to increase your construction business revenue*. Available at: <https://articles.bplans.com/strategies-to-increase-construction-business-revenue/>.
- Cohen, A.W, (2009). "How to make it big as a Consultant:" Amacom Publisher 4th Edition P 105.
- Elizabeth H. Kyssima, Dennis N.G.A.K. Tesha, Didas S. Lello, & Flaviana S. Mtitu. (2020). Profit Maximization Strategies Employed by the Small and Medium Size Building Contractors in Dar-Es-Salaam, Tanzania. *International Journal of Engineering and Management Research*, 10(1), 92–110. <https://doi.org/10.31033/ijemr.10.1.17>
- Enekwe, C. I., Okwo, I. M. and Ordu, M. M., (2013). Financial Ratio Analysis As a Determinant of Profitability in Nigerian Pharmaceutical industry. *International Journal of Business and Management*, 8(8), 107-117.
- Etuk, R.U., Etuk, G.R., & Michael, B. (2014). Small and medium scale enterprises (SMES) and Nigeria's economic development. *Mediterranean Journal of Social Sciences*, 5(7), 656-662.
- Gitman, L. J. & Zutter, C. J. (2012), *Principles of Managerial Finance*, 13th Ned., USA: Addison Wesle,
- Goodman, B. (2020). How to maximize profits on your projects. Available at: <http://tmvllc.us/how-to-maximize-profits-on-your-projects>.
- Hosseini, A., Windimu, P., Klakegg, O. J., Andersen, B., & Laedre, O. (2018). Project partnering in the construction industry: Theory vs. practice. *Engineering Project Organization Journal*, 8(1), 2-24.
- Inun J. (2013). Management efficiency and profitability. Jumono, A. Hakim & Fidaus, (2015). Market Concentration, Market Share, and Profitability: Study at Indonesian Commercial Banking in the Period of 2001-2012. *Asian Social Science*. Published by Canadian Center of Science and Education. 11, 27
- Langmade. L. (2018). 7 easy ways to increase construction productivity. Available at: <https://blog.plangrid.com/2018/11/7-easy-ways-to-increase-construction-productivity/>.
- Margaretha, F. and Supartika, N., (2016). Factors Affecting Profitability of Small-Medium Enterprises (SMEs) Firms Listed in Indonesia Stock Exchange. *Journal of Economics, Business and Management*, 4 (2), 132-137.
- Miksen, C. (2020). Factors that affect the percentage of profit margins in construction. Available at: <http://smallbusiness.chron.com/factors-affect-percentage-profit-margins-construction-35114.html>
- Ndulane. F. (2015). An assessment of challenges contributing to poor performance of small and medium contractors in Tanzania; A case study of Lindi region. *Unpublished MSc. in Accounts and Finance Dissertation, Mzumbe University, Morogoro, Tanzania*, pp. 65.

ATBU, Bauchi Proceedings

The Academic Conference of Harvard Research and Publications International on 21st Century challenges and opportunities: Multidisciplinary Approach Vol. 21, No. 3 on 31st October, 2022– Abubakar Tafawa Balewa University, ATBU, Bauchi, Bauchi State, Nigeria, West-Africa

- Ofori G. (2002). Challenges Facing Construction Industries in Southern Africa. Proceedings of Conference on Developing the Constructions Industries of Southern Africa, Pretoria South Africa
- Oke, O. S. and Afolabi, B., (2011). Capital Structure and Industrial Performance in Nigeria. *International Business and Management*, 2 (1), 100-106.
- Onaolapo, A. A. and Kajola, S.O. (2010). Capital Structure and Firm Performance: Evidence from Nigeria. *European Journal of Economics, Finance and Administrative Sciences*.
- Skibniewski, H.A.A.M. (2017). *Profit maximization and strategic management for construction projects*. Available at: pmsymposium.umd.edu/pm2017/wpcontent/uploads/sites/3/2017/01/Profit.
- St. Clair, A. (2019). Strategies to increase your construction business revenue. Available at: <https://articles.bplans.com/strategies-to-increaseconstruction-business-revenue/>
- Teshager, K.A. (2016). Factors affecting profitability; the case of ethiopian selected private construction companies. Unpublished MSc. in Accounts and Finance Thesis, School of Graduate Studies, St. Mary's University, Addis Ababa, Ethiopia, 61 Pages.
- Yazdanfar, D. 2013. "Profitability Determinants among Micro-Firms: Evidence from Swedish Data." *International Journal of Managerial Finance* 9 (2): 151–160.
- Zaid, M.A.A., Wang, M., Adib, M., Sahyouni, A., Abuhijleh, S.T.F., (2014). Boardroom nationality and gender diversity: implications for corporate sustainability performance. *J. Clean. Prod.* 251, 119652.