

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

**BY**

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## **ABSTRACT**

Maximization of profit is a very vital objective for a firm to remain in business and to withstand competition from firms operating in similar industry. It is a major pre-requisite for long-term survival and success of a firm while it is a key pre-condition for the achievement of other financial goals of a business entity. The purpose of this research is to assess profit maximisation strategies used by small and medium-sized construction firms in Abuja in order to improve profit margins and avoid firm collapse. For the purpose of this research, a well-structured questionnaire was used to gather information from 224 professionals working in construction firms. The questionnaire was administered to two hundred and twenty-four (224) respondents, and one hundred and fifty-five (155) were retrieved, representing a response rate of 69%. The analysis of the data was carried out with the use of percentages and the mean item score. The study revealed supply costs (MIS = 4.34) as the most important factor affecting the profit maximisation of the construction firm. The result of the analysis of the measures of profitability of construction firms revealed investment (MIS = 4.36) as the most effective measure of profitability for these firms. Time (MIS = 4.52) was revealed as the most important challenge faced by contractors that affected the realisation of profit maximization. However, it was determined that minimising waste, setting profitable goals, and improving productivity skills were the most effective strategies for increasing profitability in Abuja's small and medium-sized construction firms. The major recommendation from the study is that the construction companies should put in place an effective waste management strategy so as to maximise profitability. The management of the construction company should set profit margin goals at the beginning of every year in order to improve the overall profitability of the company.

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## **CHAPTER ONE**

### **1.0 INTRODUCTION**

#### **1.1 Background to the Study**

The construction industry is a major sector in all economies. It contributes significantly to both Gross Domestic Product (GDP) and Gross Fixed Capital Formation (GFCF) of all nations. The Nigerian construction market in particular, has been described as vibrant and among the largest in Africa (Gitman and Zutter, 2012).

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). Anomalies in resource allocation and availability are common throughout construction projects, and when paired with stakeholder demands, they may cause projects to run late and over budget, which has an influence on the profitability of small and medium-sized construction businesses. Maximization of profit is a very vital objective for a firm to remain in business and to withstand competition from firms operating in similar industry. It is a major pre-requisite for long-term survival and success of a firm while it is 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 rate of sales, level of assets and stock of capital in a specific period of time (Margaretha and Supartika, 2016).

Consequently, firms' profitability and modalities improvement have generated serious debates in the literature and have remained topical in the field of economics, finance, accounting and management. Profitable firms create value, hire people, tend to be more innovative, more socially responsible and are beneficial to the entire economy through

payment of taxes. The high rate of performance of firms does indeed contribute effectively to income generation and the overall development of an economy (Olutunla and Obamuyi, 2008; Lazar, 2016).

Business organization is 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 are non-subsidary, autonomous organisations with characteristics such as employing less than a certain number of workers (Clair, 2019). However, there is limitation to the numbers of employee engaged by SMEs in various countries across world. 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).

According to Chuan *et al.* (2014), SME firms play a critical role in the creation of employment, new ideas, and the stimulation of entrepreneurial activity also contributes significantly to national well-being. The profitability of small and medium-sized businesses is critical to their growth and regional development. Constant improvement in strategies employed, technical and management skills, mentoring, as well as access to finance and various incentives, are among many factors that make SMEs construction firms successful, alongside maximizing profit (Chuan *et al.*, 2014).

While the literature is replete with studies on determinants of firm profitability (or performance) in Nigeria, findings from these studies have remained mixed and inconclusive.

Previous studies on profitability in Nigeria focused on other sectors of the economy (Olutunla and Obamuyi, 2008; Onimisi, 2011; Akintoye, 2008; Oke and Afolabi, 2011;

Enekwe *et al.*, 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. None of these studies focused on construction sector, most especially small and medium firms in the study area. Therefore, this study assessed the strategies for maximizing profitability for small and medium-sized construction firms in Abuja.

## **1.2 Statement of Research Problem**

SMEs employ 92 percent of the workforce of the construction industry, with large contractors accounting for just 8% of the market (Ndulane, 2015). Due to rising market small and medium firms confront with a variety of obstacles, such as poor profit margins and appropriate capital (Ndulane, 2015). 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, the government, individuals and organisations have distinct role, to play towards SMEs development. Accordingly, Etuk *et al.* (2014) for SMEs to thrive, favourable institutional frameworks are required. Moreover, SMEs are usually left out when it comes to tax incentives or business subsidies, therefore suffer more than big companies from the large burden and cost of bureaucracy (World Bank, 2006). In addition, only few SMEs possess the necessary financial and human resources to deal with these. Many of these firms lack unfettered access to loanable funds while the costs of borrowing are quite unimaginable (Babalola and Anifowose,

2018). The business environment has remained very unfriendly, with many businesses, regardless of their years of existence, witnessing downward trend in their profit earnings (Babalola and Anifowose, 2018). In recent years, a sizeable number of the Nigeria firms have relocated to neighboring African countries, including Ghana. Teshager (2016), asserted that Profitability is the ratio what measure the performance of the company, and it shows a company's ability to generate earnings for a certain period at a rate of sales, assets and certain of capital stock. Understanding factors affecting profitability is the key point that helps managers in developing an effective profitability strategy for their companies (Hedley, 2015). An insignificant variant on building construction projects, can accumulate to thousands of Naira at the end of the year. Thus, maximizing profit must be a top priority, right along with getting building projects completed on time and schedule. According to Hou *et al.*, (2011) many construction companies have suffered from inadequate cash resources for a long time. Lack of cash brings extra expenses to construction companies and decreases profitability. Assessment of small and medium construction enterprises' profit-maximizing strategies in Abuja is necessary so as to overcome the challenges they face as stated above.

### **1.3 Research Questions**

In order to achieve this study objectives, the following questions required answered:

- i. What are the factors affecting profitability of SMEs construction firms?
- ii. What are the measures of profitability of construction firm?
- iii. What are the challenges facing SMES construction firms that affect the realization of profit maximization?
- iv. What are the effective strategies that can be implemented to maximize construction firms' profit margin?

## **1.4 Aim and Objectives of the Study**

### **1.4.1 Aim**

The aim of this study is to evaluate and identify effective strategies that can enhance profitability in the context of small and medium construction firms in Abuja with a view to improve their performance and prevent eventual collapse.

### **1.4.2 Objectives**

The objectives set through which the above stated aim was achieved are as follows:

- i. To identify key factors affecting profitability of SMEs construction firms in Abuja
- ii. To examine the measures of profitability of the SME construction firms;
- iii. To investigate the challenges facing SMEs construction firms affecting the realisation of profit maximization
- iv. To propose effective strategies for enhancing the profitability maximisation in the small and medium construction firms.

## **1.5 Justification for the Study**

Previous studies have focused on the effect of capital structure on firm performance while others examined the effect of a single factor such as: size, leverage, firm growth, on profitability (Akanni *et al.*, 2015; Macharia, 2016; Babalola and Anifowose, 2018; Lung'aho and Omagwa, 2018). Similarly, studies that examined strategies for maximizing profitability in small and medium construction firms are few with larger percentage of them concentrating on other sectors or industry of the economy.

A wide range of these studies are country-specific (Seelanatha, 2011; Al-Jafari and Al-Samman, 2015; Pratheepan, 2014). Therefore, this study focused on strategies for maximizing profitability in small and medium construction firms in Abuja as a case study is necessary.

The study would be of benefit to the Government as it would contribute to the overall performance of the construction small and medium enterprises in the construction industry. This study would also benefit the individual contractors as they will be able to address the potential challenges from an informed position and avoid such challenges or devise strategies on how to overcome them. The study would facilitate future research on the construction industry by providing resource.

### **1.6 Scope of the Study**

The study investigated the strategies for maximizing profitability by Small and Medium construction firms in Abuja. This study was quantitatively conducted. Abuja was selected as study area because it has the significant number of professionals in the built environment in the area; and it is the fastest growing city in the country, it has many ongoing construction projects and many construction firms. This study focuses on the factors affecting profitability of the SMEs construction firms, measures of profitability of the SME construction firms. For the purpose of this study, small and medium-sized construction firms that engage in building construction works and registered with the Abuja business directory were considered.

## **CHAPTER TWO**

### **2.0 LITERATURE REVIEW**

#### **2.1 The Concept of Profitability**

Profitability means the ability to make a profit from all the business activities of an organisation, company, firm and or enterprise. It shows how efficiently the management can make a profit by using all the resources available on the market. According to Deng and Smyth (2013), profitability is the ability of a given investment to earn a return from its use. However, the terms profitability and efficiency are not synonymous. Profitability is an index of efficiency and is regarded as a measure of efficiency and a management guide to greater efficiency. Though profitability is an important yardstick for measuring efficiency, the extent of profitability cannot be taken as a final proof of efficiency. Sometimes, satisfactory profits can mark inefficiency, and conversely, a proper degree of efficiency can be accompanied by an absence of profit.

The net profit figure simply reveals a satisfactory balance between the values received and given. The change in operational efficiency is merely one of the factors on which the profitability of an enterprise largely depends. Moreover, there are many other factors besides efficiency that affect profitability (Tulsian, 2014). That market provides the appropriate reference point against which to measure profitability. Put another way, a profitable investment project is one which provides a return sufficient to attract capital from the capital market. " Profitability is distinguished from "profit". Profit refers to the absolute quantum of profits. Whereas, profitability refers to the ability to earn a profit.

Profitability is a relative measure; it indicates the most profitable alternative. Profit, on the other hand, is an absolute measure; it indicates the overall amount of profit earned by a transaction. Very high profit does not always indicate sound organisational efficiency, and low profitability is not always a sign of organisational sickness (Tulsian, 2014).

Teshager (2016); Babalola and Anifowose (2018), affirm that profitability, which has become one of the most popular indicators utilised to measure performance in building construction, may be defined as the ability of a given investment to earn a return or make a profit from its use after a certain operating period, i.e. the final measure of economic success achieved by a company in relation to the capital invested in it. This economic success is determined by the magnitude of the net profit account.

According to Macharia (2016), profitability is the firm's ability to consistently generate net income, and it is usually affected by various factors such as capital structure, inflation rates, firm size, as well as competition. Besides, profitability is usually measured using ratios that assist in summarizing large volumes of financial data into meaningful figures for interpretation, whereby, various stakeholders compute firms' profitability ratios in establishing firms' ability to generate profits, which is an indicator of a firm's performance (Macharia, 2016).

Likewise, Teshager (2016); Babalola and Anifowose (2018) assert that profitability is often expressed as a profit percentage of work done or turnover (POT) or return on capital investment (ROI). It is also said to be a function of three factors: sales volume (or work done), sometimes called turnover, the capital investment necessary to support it, and the margin of profit earned. Furthermore, profit is the residual of sales revenue after deducting all costs, including debt interest payments; it thus constitutes the return to equity holders, which is the aggregate profit of profitable enterprises minus the losses of loss-making enterprises.

## **2.2 Conceptualizing Small and Medium Scale Enterprises**

Small and medium businesses (SME) were first brought to the development scene in the late 1940s, with the main goal of improving commerce and industrialisation in today's industrialised countries (OECD, 2004). SME definitions are often created in each nation

depending on the function of SME in the economy, policies and programmes established by specific organisations or institutions tasked with developing SME, and so on. In industrialised economies such as Japan, Germany, and the United States of America (USA), a small business may be a medium or large-scaled enterprise in a developing country such as Nigeria. Furthermore, depending on their policy emphasis, the definition of SME changes throughout time from one agency or emerging institution to the next (Etuk *et al.*, 2014).

Small and Medium Enterprises (SMEs) are several types of businesses that may be found in various commercial activities throughout the nation (Ikpor *et al.*, 2017). Local agricultural implement craftsmen, tea shop owners, tailor shop owners, iron fabricators, roadside mechanics, small transport firms, internet cafés, small engineering or software firms, and a medium-sized automobile components manufacturing are among them. Some SMEs produce for both local and international markets. They may be found in rural, urban, regional, national, or international settings, with owners ranging from the destitute to the wealthy. Small and medium-sized businesses are not classified in any globally agreed way (SMEs). The definition varies from country to country. This is owing to the fact that the nations' socioeconomic conditions vary (Etuk *et al.*, 2014).

SMEs are defined as firms with a total capital expenditure of between 1.5 million and 200 million naira under the Nigerian Small and Medium Industries Equity Investment Scheme (SMIEIS) of 1998. This figure includes operating capital but excludes land costs. According to Nigeria's National Council on Industry, a SME is defined as a company with at least 10 workers and a maximum of 300. (Udechukwu, 2003). Ikpor *et al.* (2017) also point out that the European Union defines a small business as one with less than 250 workers and a total revenue of less than €50 million. It further stated that the enterprise's stake in another company or companies should not exceed 25%. According to the World

Bank (2006), a medium firm is one that employs no more than 300 people and generates no more than \$15 million in annual revenue. According to the World Bank, a small business is defined as one with less than fifty people and an annual revenue of less than \$3 million. As a result, it defined small businesses as those having a workforce of no more than ten people and an annual revenue of less than \$100,000.

According to Etuk *et al.* (2014), SMEs are classified as businesses with a maximum annual turnover of \$500,000, as established by the federal government budget of 1990. Firms having a capital outlay of not more than two million naira or a total of five million naira, including the cost of the landed property, were also specified. As a result, the word SMEs is a relative phrase that is primarily decided by the type of a business's commercial activity and its geographic location (Umar, 1997). The SME sector encompasses a broad variety of company types from many economic areas. Small and micro enterprises that operate at the subsistence level to provide employment and income primarily for their owners and a small number of external employees fall into one of two categories: growth-oriented and small and micro enterprises that operate at the subsistence level to provide employment and income primarily for their owners and a small number of external employees. The great majority of SMEs in developing nations are subsistence firms.

The growth-oriented kind, on the other hand, includes organisations that are creative and/or network-intensive and often operate in expanding markets, as well as businesses that are efficiency-oriented and/or network-intensive and typically grow via acquisitions (Ikpor *et al.*, 2017). As a result of the scientific definitions of small and medium-sized firms, it may be concluded that SMEs are businesses that are smaller in size than public limited liability corporations. Even though a business organization's capital and asset base can be defined by the country in which it operates, one thing is certain about SMEs: they are primarily small to medium business enterprises that do not trade on a stock exchange

(this does not imply that all companies that do not trade on a stock exchange are SMEs), and their importance in the economic development of a country (particularly developing economies like Nigeria) cannot be overstated. An effective plan involves a strong, solid, concentrated, and focused concentration on the growth and development of Small and Medium Scale Enterprises (SMEs) in recognition of the critical role of industrialization in economic growth and development (Ikpor *et al.*, 2017).

As a result, SMEs are a means to an end in terms of economic development (Ako, 2001). As a result, the goal of creating, maintaining, and supporting SMEs is to improve their participation in economic development by boosting production of products and services and enhancing people's lives. Nonetheless, the evident theory and notion that has shown to be successful in most industrialised nations has had little influence on the Nigerian economy.

This might be due to Nigeria's macroeconomic policymakers assigning inefficient, minor, inconsequential, and irrelevant duties to this sub-sector (Ikpor *et al.*, 2017). According to Gunu (2004), a fundamental concern confronting the Nigerian economy today is the growth, development, and sustainability of SMEs, which is critical for the nation's socioeconomic growth and development.

### **2.3 Factors that Affect the Profitability of Small and Medium Construction Firms**

Akinradewo and Aigbavboa (2019) observed that certain factors impacted directly or indirectly on contractor's profit in the construction industry; 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 *et al.* (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. Elizabeth *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.

i. The degree of competition a firm face

If a firm has monopoly power, then it has little competition. Therefore, demand will be more inelastic. This enables the firm to increase profits by increasing the price. For example, very profitable firms, such as Google and Microsoft have developed a degree of monopoly power, with limited competition (Thwala *et al.*, 2012).

ii. The strength of demand

For example, demand will be high if the product is fashionable, e.g. mobile phone companies were profitable during the period of rising demand and growth in the market. Products which have falling demand which will lead to low profit for the company. Some companies, like Apple, have successfully carved out strong brand loyalty making customers demand many of the new Apple products. However, in recent years, profits for mobile phone companies have fallen because the high

profit encouraged oversupply, negating the increase in demand (Ajagbe and Ismail, 2014).

iii. The state of the economy

If there is economic growth, then there will be increased demand for most products especially luxury products with a high-income elasticity of demand. For example, manufacturers of luxury sports cars will benefit from economic growth but will suffer in times of recession (Bilau *et al.*, 2015).

iv. Advertising

A successful advertising campaign can increase demand and make the product more inelastic demand. However, the increased revenue will need to cover the costs of the advertising. Sometimes the best methods are word of mouth. For example, it was not necessary for YouTube to do much advertising (Abdullah *et al.*, 2012)

v. Substitutes

If there are many substitutes or substitutes are expensive then demand for the product will be higher. Similarly, complementary goods will be important for the profits of a company.

vi. Relative costs

An increase in costs will decrease profits; this could include labour costs, raw material costs and cost of rent. For example, a devaluation of the exchange rate would increase the cost of imports, and therefore companies who imported raw materials would face an increase in costs. Alternatively, if the firm is able to increase productivity by improving technology then profits should increase. If a firm imports raw materials the exchange rate will be important. A depreciation making imports more expensive. However, a depreciation of the exchange rate is

good for exporters who will become more competitive (Parkitna and Sadowska, 2011).

vii. Economies of scale

A firm with high fixed costs will need to produce a lot to benefit from economies of scale and produce on the minimum efficient scale, otherwise average costs will be too high. For example, in the steel industry, we have seen a lot of rationalisation where medium-sized firms have lost their competitiveness and had to merge with others (Adjel *et al.*, 2018).

viii. Dynamically efficient

If a firm is not dynamically efficient then overtime costs will increase. For example, state monopolies often had little incentive to cut costs, e.g. get rid of surplus labour. Therefore, before privatisation, they made little profit, however with the workings and incentives of the market they became more efficient (Abbas *et al.*, 2016).

ix. Price discrimination

If the firm can price discriminate it will be more efficient. This involves charging different prices for the same good so that the firm can charge higher prices to those with inelastic demand. This is important for airline firms (Akinradewo and Aigbayboa, 2019).

x. Management

Successful management is important for the long-term growth and profitability of firms. For example, poor management can lead to a decline in worker morale, which harms customer service and worker turnover. Also, firms may suffer from taking wrong expansion plans. For example, many banks took out risky subprime mortgages, but this led to large losses. Tesco suffered from expanding into

unrelated business, like garden centre. This led to over-stretching the company and losing sight of their core business (Hosseini *et al.*, 2018).

xi. Objectives of firms

Not all firms are profit maximising. Some firms may seek to increase market share, in which case profits will be sacrificed to gain market share. For example, this is the strategy of Walmart and to an extent Amazon (Miksen, 2020).

xii. Exchange rate

If a firm relies on exports, a depreciation in the exchange rate will increase profitability. A fall in the exchange rate makes exports cheaper to foreign buyers. Therefore, the firm can sell more or choose to have a bigger profit margin. If the firm imports raw materials, a depreciation will increase costs of production.

#### **2.4 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 construction firms may have done a great deal to increase performance, 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 *et al.*, 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, or injury. 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:

Gross Operating Profit = Sales Revenue – 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 *et al.* (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. Ajator (2014), 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 *et al.* (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 are contractual cost usually agreed in advance between firms and their receivers (Ajator, 2014; 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:

## **i Firm size**

Size of a firm is the amount and variety of production capacity and capability a firm possesses

or the amount and variety of services a firm can provide simultaneously to its clients. The size of a firm is very important in today's world due to the phenomenon of economies of scale. Larger firms can produce items on much lower costs in comparison to smaller firms. Firms of the modern era look to increase their size in order to get a competitive edge on their competitors by lowering production costs and increasing their market share. The willingness of firms to expand in terms of size depends upon a number of external and internal factors such as the political and judicial situation of the country in which the firm is operating but in stable countries it largely depends upon the availability of internal and external sources of financing and the current market standing of the firm and the effect of applying those new resources upon the share price and market standing of the firm (Jamali and Asadi, 2012).

According to Inun (2013) large sized firms are in a position to generate both internal and external sources of financing. Hence, they have the option to decrease the debt which would result in a better market standing, firm value and share prices. On the other hand, employing debt might provide leverage and increase profitability. Profitability is the amount of money a firm can generate with whatever resources the firm possesses. Firms in a market economy vary widely in size, profitability, and duration. What are the factors determining these observed variables, and how they operate, has been active topic of research in industrial organization and more generally in economic theory (Lyndon and Etale, 2016).

## **ii Leverage**

Financial leverage reduces a company's level of financial risk exposure. Based on how a

company finances its operations, leverage is a tool that creates the opportunity to be more profitable in the long term. However, this is met with increased exposure to risk and higher short-term expenses. To capitalise on this opportunity, a company leverages its short-term position by utilising debt. According to Alalade and Oguntodu (2015), there are two methods of business financing: debt and equity. If a company needs to buy more inventories, it could pay for the goods by taking out a loan or using the owner's money. The issuance of stock is an example of equity in which the owner has an underlying ownership stake in the company.

Alternatively, the utilisation of debt increases the company's underlying risk, but it preserves the previous equity position. This is the essence of financial leverage: increasing the risk within the company to yield potentially higher net income for the existing owners. The main risk of leverage becomes apparent as a company takes on too much debt. The amount of leverage a company incurs should be directly related to its liquidity and solvency. If a company takes on too much debt, it will be unable to meet its payment requirements with its short-term and long-term cash flows (Melese, 2014). In addition, as a company takes on more debt, the cost of borrowing more money increases through higher interest rates. The stock price or equity valuation of a company will be reduced based on the overall risk of the company as it incurs more debt.

However, when it is used properly and within safe constraints, financial leverage can be beneficial to a company. Utilizing low interest rates, a company can raise money inexpensively. From a long-term perspective, the owners will benefit from having less equity as a result of adding other owners. The company must weather the added cost of debt to experience the benefits of financial leverage. Expenses which may lead to an operating leverage. On the other hand, the total leverage of a firm is affected by both fixed operating expenses and fixed financial expenses. In fact, the variable cost is beyond the

control of the management because it varies as per the volume of sales made or services provided. However, the fixed cost can be controlled, and relatively lower fixed cost is an indication of managerial efficiency.

The firms with higher fixed cost are exposed to higher leverage, and ultimately it may affect the profitability as well. However, the degree of impact towards the profitability resulted by the leverage may be determined by the Operational effectiveness of the firm. The empirical evidences emphasise that there is a Value Relevance for accounting information (Khaled and Hazem, 2015; Mohammed *et al.*, 2014). Sorana (2014) if there is such, investors would not demand for stocks of highly leveraged firms, and lower demand for shares will decrease the share prices. The declined share prices result in lower market performance.

### **iii      Liquidity**

One of the main issues regarding working capital management is the tradeoff between the current assets and the financial slack that they provide (Agnieszka and Beata, 2011). According to Azila *et al.* (2014), liquid assets are usually less profitable than fixed assets. Investments in working capital do not generate production or sales. According to Babalola (2013), the management of working capital becomes even more important during crisis periods. "Liquidity management is important in good times and it takes further importance in troubled times." Also, according to him, the efficient management of the liquidity levels of a company is of extreme relevance for the profitability and wellbeing of the firm. Amdemikael (2012), Confirming a tradeoff between high amounts of net working capital and maximising profitability. This dilemma would be a consequence of the fact that high values used in current assets tend to generate costs for maintenance, not directly add value to the company and thereby generate profitability. It is thus a dilemma for managers between liquidity and profitability, demonstrated by a negative relationship between the

two variables. However, Asaolu and Awolowo (2012), argues that over the medium and long run, the relationship between liquidity and profitability could become positive, in the sense that low liquidity would result in lower profitability due to greater need for loans, and low profitability would not generate sufficient cash flow, thus creating a vicious cycle. Amdemikael (2012), state that in his article, Hirigo Yen only develops this idea in a theoretical way, grounding his theory in order to deduce, logically, the results of this possible long-term influence, without, however, applying it empirically in companies.

#### **iv Capital intensity**

Capital intensity is the amount of money invested in order to get one-dollar worth of output. The more capital applied to produce that same unit the more capital intense the firm is said to be. There are some industries that are considered to be more capital intensive and, in those industries, increasing the capital intensity results in improved quality of production and on time production. Now to increase the capital intensity of a firm the managers have to scavenge for the right financing alternative, to increase their market share and at the same time the market value. Firms do look to increase their capital intensity and improve quality as a result but getting the right mode of financing for this purpose becomes significant, because if the right mode is not selected it might prove counter productivity and might adversely affect the standings of the firm (Amdemikael, 2012).

Increased profitability is the most desired and ultimate reward for all the hard work and planning of a firm's management and they are constantly on a look to find ways to increase it. Profitable firms can expand in size by generating internal sources of financing. They attract investors from the market and are better able to negotiate the prices of additional financing and get better bargains (Golchia, 2014). However, they have to be

careful in the choice and price of financing as it affects their market standing and share price. The more they go for debt financing the more risk gets involved and the future gets uncertain which affects their share prices and market standing as the investors get detracted. Considering the challenges associated with debt financing for the firm, and the benefits associated to size, capital intensity and profitability, this study looks into how capital intensity, size of firm and profitability affect the debt a company employs in its capital structure and how does a firm debt financing is affected when the size, capital intensity and profitability of a firm is changing (Golchia, 2014).

#### **v      Managerial efficiency**

Managerial efficiency is usually defined in terms of enterprise efficiency which is not necessarily a good practice. A number of organizations have regularly paid dividends to satisfied owners only to suddenly end up in bankruptcy (Hartley, 2007). These events demonstrate that shareholder value and annual profits are not sufficient measures of corporate efficiency and point to the need for better measures. Management theoreticians agree that efficiency is a ratio of effect achieved to costs.

The historical perspective suggests that within scientific management, managerial effect is a raise in employee productivity (Huang *et al.*, 2006) while administrative management place emphasis on subordination within a company (Niven, 2005). The idea of formalization of management occurs within the quantitative management perspective so the managerial effect is measured in monetary units. This proved to be impossible in some cases due to the fact that some quantitative models require unrealistic or unfounded assumptions (Asegdew, 2016). In spite of that some researchers suggest measuring managerial efficiency as the ratio of additional profit company from a decision to the cost of the decision (Gorshkova, 2003; Egorshin, 2008; Vasilyev *et al.*, 2007).

## **vi Inflation**

Inflation is a sustained increase in the general price level of goods and services in a company over a period of time. When the period of price level rises, each unit of currency buys fewer goods and services; consequently, inflation reflects a reduction in the purchasing power per unit of money. Inflation affects economies in various positive or negative ways. The negative effects of inflation include an increase in the opportunity cost of holding money. Uncertainty over future inflation which may discourage investment and savings, and if inflation were rapid enough, shortage of goods as consumers begin hoarding out of concern that prices will increase in the future. Positive effects include reducing unemployment due to normal wage rigidity, allowing the central bank more leeway in carrying out monetary policy, encouraging loans and investment instead of money hoarding, and avoiding the inefficiencies associated with deflation.

Economist generally believes that the high rates of inflation and hyperinflation are caused by an excessive growth of the money supply. Today most economist favor a low and steady rate of inflation; low inflation reduces the severity of economic recession by enabling the labor market to adjust more quickly in a down turn. Since there are many possible measures of the price level, there are many possible measures of price inflation. Most frequently, the term inflation refers to a rise in a broad price index representing the overall price level for goods and services in the economy. The consumer price index (CPI) is one of examples of broad price indices.

## **vii Interest rate**

Interest is payment from the borrower or deposit taking financial institutions to a lender or a depositor of an amount above repayment of the principal sum, at a particular rate it is distinct from a fee which the borrower may pay the lender or some third party. Interest

differs from profit, in that interest is received by a lender, whereas profit is received by the owner of an asset, investment or company.

## **2.5 Challenges Faced by SMEs Construction Firms that Affect Profit Maximization**

Construction companies usually have a profit margin that's less than it is for most companies. Numerous challenges faced by contractors that affect realization of profit maximization, from unexpected delays to unexpected disasters (Ogunsemi, 2011; Oladimeji and Ojo, 2012; Parkitna and Sadowska, 2011; Chuan *et al.*, 2014).

### **1. Time**

Because a construction company's bid for a project takes into consideration all cost factors, time is a crucial element to maximizing the profit margin. A construction company does not charge per hour. It charges a price for the whole project, and that price is determined by estimating how long it will take, how much supplies cost, how much labor is involved and so forth. When the time to complete the project far exceeds the estimated time, the profit margin for the project falls drastically. For example, consider a project that a company estimates will take two months to complete. If the project takes four months, the company is essentially working for free for half of the project (Chuan *et al.*, 2014).

### **2. Supply Costs**

Supplies needed to complete a project do not come with consistent price tags. The cost of supplies changes often, much like the cost of gasoline will rise and fall numerous times in a month. If a construction company purchases all its supplies at the same time, it will not be affected by rising prices. But if it purchases supplies as the project progresses, it may be saddled with extra costs that were not figured into the bid, leading to a thinning

profit margin. Of course, that works both ways. The cost of supplies may drop at any given time, leading to a larger profit margin (Ogunsemi, 2011).

### **3. Unexpected Problems**

Problems that arise unexpectedly can wreak havoc with a construction company's profit margin. Such problems include damaged materials due to a natural disaster, theft of supplies and unexpected foundation problems that require drastic corrections. Most of these problems are difficult or impossible to predict (Ogunsemi, 2011).

### **4. Project Overhead**

Projects have administrators, office workers, supervisors and other overhead costs such as insurance and equipment rental that keep accumulating as long as the project is not finished. When there is a delay, the total overhead costs rise. When a project faces a substantial delay in the completion date, this can reduce overhead by cutting staff and eliminating costs caused by elements that will not be needed. The final, delayed leg of the project need to analysed and make sure project organization only keeps what is required for this last section (Oladimeji and Ojo, 2012).

### **5. Rate of Return**

Project costs include financing, and the project generates revenue upon completion. When a project is delayed, financing costs rise, and the project does not generate the planned revenue. Sometimes there is a need to mitigate these effects because, while part of the project may be delayed, other parts might be ready for service and revenue generation. If the delay is substantial, there may be a need to reduce costs by renegotiating the financing or keeping it in place as is but getting a bridging loan to cover the gap caused by the delay (Oladimeji and Ojo, 2012).

## **6. Weather**

In large parts of the developed countries of the world, construction activity is less expensive during some seasons than during others. In the north, winter construction adds significant costs. Normally, projects are scheduled so the construction activities avoid the winter. If a project is late, the delay may shift construction into the winter and cause additional costs. Sometimes it makes more sense to delay the project until the spring than to push ahead with rapid completion. There is a need to carry out a cost analysis to determine whether a further delay is more expensive than the additional construction costs (Ogunsemi, 2011).

## **7. Functionality**

One of the most important project goals is that it works as planned. When a project does not fulfill the required functionality, efforts to fix the problems often generate large delays. In addition to the extra costs from the delay itself, such problems cost money for additional equipment, changes in the executed project and design revisions. To avoid a sudden functionality gap near the end of the project with the accompanying delays and high costs, there is a need to make sure the design is adequate at all stages of the project and review the work to make sure it is in accordance with the approved design ( Parkitna and sadowska , 2011).

### **2.6 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:

### **2.6.1 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 field workers are an essential part of productivity, it is important that 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 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).

### **2.6.2 Know your cost**

In order to be profitable and improve profitability, there is a need to understand the costs associated with completing each project. This includes not just job costs but also overhead costs. If the contractor does not have a sense of what it will cost to complete a project,

there's no way of knowing how profitable each job will be. Job costs include everything directly needed to complete a project. These include labor, materials, supplies, equipment rental costs, bonding premiums, fuel, permits, and surveys. Basically, anything that pertains to costs on the actual jobsite is part of job costs. These can vary greatly by region and type of project, so it is important to stay up-to-date on job costs, especially if the contractor does work in multiple states. Having to pay prevailing wages on a job or dealing with fluctuating material costs can skew job costs in a way that greatly affects profitability. Overhead costs are the expenses needed to operate a business. Overhead items include support staff payroll, tools, insurance, utilities, office rental or mortgage, equipment, debt payments, owners' salary, legal fees, IT, and miscellaneous. When calculating and reporting overhead costs, there is a need to capture all costs and be as accurate as possible because estimators will need these to submit better bids. (Langmade, 2018).

### **2.6.3 Estimate for profit**

When a project bid is undertaken, winning is the expectation. When the bid is successful and the contract is awarded, profit is the prospect. For that to happen, the bidding estimates need to be realistic and as precise as possible. If the estimates are too low, no amount of project management or productivity gains will yield a profitable outcome. This is why having an accurate account of job costs and overhead is so important. It allows estimators to add in the proper markups to hit profit margin goals. A good bid is based on concrete data, not guesswork. Considering the risk factors on each project and building in a contingency line to the bid that can absorb additional costs when risk becomes reality Estimators also need to know the productivity levels of 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 estimators can determine how accurate

their estimates were and what adjustments might need to be made on the next bid. Avoid racing to the bottom by always trying to be the lowest bidder. If the company undercuts bids to win, the company will always struggle to be profitable. Going through bid/no bid decision-making, profitability should be a top consideration, along with a risk analysis and the firm's capability to perform the work (Langmade, 2018).

#### **2.6.4 Minimize waste**

The Jobsite is one of the major creators of 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. 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.

#### **2.6.5 Set profitability goals**

In order to improve the overall profitability of a company, there is a need to set profit margin goals. Where does the company want to be in the next year or in five years or ten years. Perhaps wanting to tackle larger projects or make the jump from public projects to the private sector. Knowing long-term business plans will allow management to set achievable revenue and profitability goals to get the company where it wants to be. It will also help shape the types of projects the companies take on and guide estimators on the markup percentage they should shoot for on each project to help hit those goals (Goodman, 2020).

### **2.6.6 Manage for profitability and track cost**

Good project management is key to improving profitability. If the company want to hit profit goal on a project there is need to keep costs down and finish the project within the scheduled completion date. Also keeping track of costs on any change orders so that they can be billed properly and increase profit margin. (Margaretha and 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 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).

### **2.6.7 Analyze results**

Once the project is completed, there is still some work to do. A postmortem analysis of how close the estimated profit was to the actual profit needs to be carried out. Did the estimated job costs match up with what was estimated, was overhead accounted for properly in the bid and did issues occur on the jobsite that resulted in productivity losses or went over budget. There is a need to take a hard look at estimates versus actual costs. If there are productivity issues, consider the need to provide additional training to workers and look for ways to reduce downtime when the planning and scheduling of the next project start. In construction, profits do not just happen. The industry is not built to operate that way. There are too many things that can go wrong and sink what would otherwise be a profitable project (Zaid *et al.*, 2014).

## **CHAPTER THREE**

### **3.0 RESEARCH METHODOLOGY**

#### **3.1 Research Design**

Research design is the overall plan for connecting the conceptual research problems to the pertinent empirical research. It articulates what data is required and what methods are going to be used to collect and analyse the data (Majid, 2017). It also constitutes the measurement, analysis, and collection of data. The research problem determines the type of research design (Majid, 2017). This study adopted a survey design approach using quantitative data. The survey design is suitable for this study because the factors considered are those identified from the literature whose applicability in small and medium-sized construction firms is to be verified in this study. Data was collected through a structured questionnaire administered to respondents within Abuja, the Federal Capital Territory (FCT) of Nigeria. Abuja was selected because it is one of the epicentres of construction activities in Nigeria and the seat of power and administration in the country. The methods used in carrying out this research are classified into two parts. The first part involves a review of past literature, i.e., journals, seminar papers, conference papers, textbooks, and materials from the internet. This literature review helps in identifying the contributions of various authors to the topic in question, providing a basis for further investigation. The second method involved a survey design approach using a well-structured questionnaire that was based on the information from the literature review.

#### **3.2 Research Population**

A research population is generally a collection of individuals or objects that are the main focus of a scientific query (Majid, 2017). Population in research is defined as the whole number of people or inhabitants in a country or region from which a sample can be drawn. The unit of analysis may be a person, group, organisation, country, object, or any other

entity that the study wishes to draw scientific inferences about (Majid, 2017). 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 of the Federal Capital Territory, Abuja. According to the Abuja Business Directory (2021), there are 255 small and medium-sized construction firms listed in the Abuja Business Directory.

### 3.3 Sample Size

A sample size is the number of data sources that are actually selected from the total population (Morgan, 2008). Due to the nature of and large number of respondents 224 staff were purposively selected. in other words, out of 224 small & medium size firms selected at least one professional was picked from each organization. The professionals, including procurement officers, accountants, site managers, and directors of the construction firm, each of these were purposively selected from each organization. Table 3.1 shows the breakdown of the sampled respondents.

**Table 3.1: Composition of the Respondents**

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

### 3.4 Sampling Technique

According to Laerd (2012), there are two main sampling techniques, namely, probability and non-probability sampling. A probability sample implies that every member of the population has a known and non-zero chance of being selected in the sample while a non-

probability is a sampling method in which not all members of the population have an equal chance of participating in the study (Laerd, 2012). Therefore, a purposive sampling which is a non-probability was adopted for the research. Purposive sampling was used in order to focus on particular characteristics of a population that are of interest and experience, so as to answer the research questions.

### **3.5 Method of Data Collection**

After pilot testing for validity and reliability together with carrying out any necessary modifications arising from the results of the pilot test, the questionnaire was administered to procurement officers, accountants, site managers, and directors of the selected small and medium construction firms registered with the Corporate Affairs Commission in Abuja.

### **3.6 Data Collection Instrument and Design**

A multi-choice type questionnaire was designed for this research. The questionnaire contained tables and check-boxes for easy selection of options by respondents. The questionnaires was structured in a manner that allowed respondents to select from the answer choices provided. The questionnaire reflects the major areas of interest in the study, thereby providing information relevant to the study objectives and answering the research questions. Some of the questionnaire questions were on a 5-point Likert scale, while some were on a 4-point scale. The questionnaire was divided into four (4) main parts. Part A relates to the demographic information of the respondents and their companies which are on Likert's scale of 4 point. Part B asked questions about factors that affect the profit maximisation of the construction firm, it is 5-point Likert's scale. Part C-asked questions on the determinants of profitability of construction firms. Part D-asked questions about challenges faced by contractors that affect realization of profit

maximization. Part E-asked questions about the strategies to maximise construction firms' profit.

### **3.6.1 Questionnaire administration**

For the purpose of this research, a well-structured questionnaire was used to gather information from 224 experts on the areas of interest. The questionnaire were administered to two hundred and twenty (224) respondents and one hundred and fifty-five (155) were retrieved representing a response rate of 69%.

## **3.7 Method of Data Analysis**

In order to achieve the aim and objectives of this research, the descriptive method of analysis was employed, and this ranged from the use of percentile, frequency, and Mean Item Score (MIS). Data processing was done with the aid of the Statistical Package for the Social Sciences (SPSS) software version 23.

### **3.7.1 Mean Item Score (MIS)**

This method of analysis was employed for different aspects of the study. MIS was employed in examining the factors that affect profit projects. MIS was used for two purposes, that is, ranking and determining the significance of different factors in the data to be collected. The premise of the decision for the ranking is that the factor with the highest mean item score is ranked 1st, and others in such a subsequent descending order. Since a Likert scale of a 5-point scale was employed for the collection of data, the formula for mean item score is written as:

$$MIS = \frac{5n_5 + 4n_4 + 3n_3 + 2n_2 + 1n_1}{n_5 + n_4 + n_3 + n_2 + n_1}$$

Where n is the frequency of each of the rankings, and

$n_1$  = number of respondents who answered “not applicable” or “strongly disagree”

$n_2$  = number of respondents who answered “low” or “disagree”

$n_3$  = number of respondents who answered “moderately applicable” or “indifferent”

$n_4$  = number of respondents who answered “applicable” or “agree”

$n_5$  = number of respondents who answered “highly applicable” or “strongly agree”

The data gathered from Objective one, three, and four was analysed using descriptive statistic such as frequency and percentage, Relative Important Index and Mean Item Score.

### 3.7.2 Decision rule for MIS analyses

The response of the respondents, on the MIS analyses, were ranked and analysed based on the cut-off points presented in Table 3.2.

**Table 3.2: 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

Source: Adapted and Modified from Shittu *et al.* (2015)

## CHAPTER FOUR

### 4.0 RESULTS AND DISCUSSION

#### 4.1 Presentation of Respondents' Profile

This section presents the profile of the respondents considered for the survey. The respondents' profile is presented in Tables 4.1- 4.3.

##### 4.1.1 Education attainments of the respondents

Table 4.1 shows that 54% of the respondents are first degree holders (Bachelor's Degrees and Higher National Diplomas). Followed by Master's Degree holders, who represent 37% of the respondents. Holders of PhD's constitute 8% of the population of respondents. This demonstrates that the respondents have the basic educational qualifications required to provide reliable responses for the study.

**Table 4.1: Education Attainments of Respondents**

<b>Education attainments</b>	<b>Frequency</b>	<b>Percent</b>
HND/B.Sc.	84	54.2
M.Sc./ MTech	58	37.4
Ph.D.	13	8.4
<b>Total</b>	<b>155</b>	<b>100.0</b>

##### 4.1.2 Work experience of respondent

Table 4.2 indicates that 10% of the respondents have less than five years of experience; 44% of the respondents, have between 5 and 15 years of experience; 33% of the respondents have between 16 and 25 years of experience; and 14% of the respondents have over 25 years of experience. This shows that the respondents are experienced enough to give reliable information needed for the study.

**Table 4.2: Work Experience of Respondent**

<b>Work experience of respondent</b>	<b>Frequency</b>	<b>Percent</b>
Less than 5 yrs.	15	9.7
5 yrs. – 15 yrs.	68	43.9
16 yrs. – 25 yrs.	51	32.9
More than 25 yrs.	21	13.5
<b>Total</b>	<b>155</b>	<b>100.0</b>

#### **4.2 Factors Affecting the Profitability of the Small & Medium Size Construction Firms**

The factors that affect the profitability of construction firms are presented as follows: The results in Table 4.3 reveal the sixteen (16) identified factors affecting the profit maximisation of the construction firms in this study. The respondent's opinion reveals that the most important factors affecting the profitability of the construction firms are: Supply costs were ranked first with a MIS of 4.34, followed by the degree of competition a firm face ranked second with a mean score of 4.32. Time and the strength of demand were ranked third with a MIS of 4.26 and 4.26, respectively. On average, all the identified factors affecting the profit maximisation of construction firms are important (average MIS = 3.56).

**Table 4.3: Factors Affecting the Profit Maximization of the Construction Firms**

<b>Factors</b>	<b>MIS</b>	<b>Rank</b>	<b>Decision</b>
Supplies Costs	4.34	1 <sup>st</sup>	Agree
The degree of competition a firm face.	4.32	2 <sup>nd</sup>	Agree
Time	4.26	3 <sup>rd</sup>	Agree
The strength of demand	4.26	3 <sup>rd</sup>	Agree
The state of the economy.	3.52	5 <sup>th</sup>	Agree
Unexpected problems	3.48	6 <sup>th</sup>	Somewhat Agree
Price discrimination.	3.46	7 <sup>th</sup>	Somewhat Agree
Financing	3.40	8 <sup>th</sup>	Somewhat Agree
Advertising	3.38	9 <sup>th</sup>	Somewhat Agree
Exchange rate.	3.38	9 <sup>th</sup>	Somewhat Agree
Objectives of firms	3.35	11 <sup>th</sup>	Somewhat Agree
Relative costs.	3.30	12 <sup>th</sup>	Somewhat Agree
Substitutes,	3.20	13 <sup>th</sup>	Somewhat Agree
Dynamically efficient.	3.20	13 <sup>th</sup>	Somewhat Agree
Price discrimination.	3.18	15 <sup>th</sup>	Somewhat Agree
Management.	3.00	16 <sup>th</sup>	Somewhat Agree
<b><i>Average MIS</i></b>	<b><i>3.56</i></b>		<b><i>Agree</i></b>

### 4.3 Measures of Profitability of Construction Firm

Table 4.4 shows the ten (10) measures of profitability of small and medium construction firms in Abuja, with their mean item scores in descending order. The respondent's opinion reveals that the most important measures of profitability for the construction firms are: Investment was ranked first with a MIS of 4.36, followed by firm size, which was ranked second with a mean score of 3.79. Partial and multiple-factor productivity was ranked third with a MIS of 3.78. On average, all the measures of profitability of small and medium construction firms are important (average MIS = 3.56).

**Table 4.4: Measures of Profitability of Construction Firm.**

<b>Measures of profitability of construction firm</b>	<b>MIS</b>	<b>Rank</b>	<b>Decision</b>
Investment	4.36	1	Agree
Firm size	3.79	2	Agree
Partial and multiple factor productivity	3.78	3	Agree
Managerial efficiency	3.74	4	Agree
Profit in previous period	3.69	5	Agree
Capital intensity	3.60	6	Agree
Leverage	3.57	7	Agree
Inflation	3.53	8	Agree
Interest rate	3.53	9	Agree
Liquidity	3.20	10	Somewhat Agree
<b>Average MIS</b>	<b>3.67</b>		<b>Agree</b>

#### **4.4 Challenges Faced by Contractors that Affect Realization of Profit Maximization**

This section presents an analysis of the challenges faced by contractors that affect the realisation of profit maximization. Table 4.5 reveals the analysis of the seven (7) identified challenges faced by contractors that affect the realisation of profit maximization. The most important challenges faced by contractors that affect the realisation of profit maximisation are time, supply costs, unexpected problems, project overhead, weather, and rate of return, which were ranked 1st, 2nd, 3rd, 4th, 5th, and 6th with MIS values of 4.52, 4.48, 4.36, 4.19, 4.13, and 4.09, respectively. On average, all the identified challenges faced by contractors that affect the realisation of profit maximisation are important (average MIS = 4.08).

**Table 4.5 Challenges Faced by Contractors that Affect Realization of Profit Maximization**

<b>Challenges</b>	<b>Mean</b>	<b>Rank</b>	<b>Decision</b>
Time	4.52	1 <sup>st</sup>	Severe
Supply Costs	4.48	2 <sup>nd</sup>	Significant
Unexpected Problems	4.36	3 <sup>rd</sup>	Significant
Project Overhead	4.19	4 <sup>th</sup>	Significant
Weather	4.13	5 <sup>th</sup>	Significant
Rate of Return	4.09	6 <sup>th</sup>	Significant
Functionality	2.81	7 <sup>th</sup>	Minor
<b>Average MIS</b>	<b>4.08</b>		<b>Significant</b>

#### 4.5 Strategies to Maximize Construction Firms' Profit Margin

The section presents the analysis of the identified strategies to maximise construction firms' profit margin. Table 4.6 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 4.6: Strategies to Maximize Construction Firms' Profit Margin**

<b>Strategies</b>	<b>MIS</b>	<b>Rank</b>	<b>Decision</b>
Minimize Waste	4.69	1 <sup>st</sup>	Very Effective
Set profitable goals	4.43	2 <sup>nd</sup>	Effective
Improve productivity	4.38	3 <sup>rd</sup>	Effective
Estimate for profit	4.33	4 <sup>th</sup>	Effective
Manage for profitability and track costs	4.33	4 <sup>th</sup>	Effective
Analyse your results	4.29	6 <sup>th</sup>	Effective
Know your costs	3.09	7 <sup>th</sup>	Fairly Effective
<b><i>Average MIS</i></b>	<b>4.22</b>		<b><i>Effective</i></b>

#### 4.6 Discussion of Results

The findings reveal the sixteen (16) identified factors affecting the profit maximisation of the construction firms. The respondent's opinion reveals that the most important factors affecting the profitability of construction firms are supply costs, followed by the degree of competition a firm faces. Time and the strength of demand, respectively. This study's finding is in line with Miksen's (2020), which established that time, cost of supplies, and finance are important factors that affect a construction company's profit margin. The findings reveal the ten (10) measures of profitability of small and medium construction firms in Abuja. The respondent's opinion reveals that the most important measures of profitability for the construction firms are investment, followed by firm size. Partial and multiple-factor productivity. This study's finding is in line with that of Jamali and Asadi (2012), who established that investment and firm size are important measures of

profitability for construction firms. The findings reveal seven (7) identified challenges faced by contractors that affect the realisation of profit maximisation. The most important challenges faced by contractors that affect the realisation of profit maximisation are time, supply costs, unexpected problems, project overhead, weather, and rate of return. This study's findings are in line with Ogunsemi (2011), Oladimeji *et al.* (2012) and Oladimeji and Ojo (2012), which established that time, supply costs, and unexpected problems are significant challenges faced by contractors that affect the realisation of profit maximisation.

#### **4.7 Summary of Findings**

The following are the primary findings based on the results of the data analysis conducted in this study:

- i. The identified sixteen (16) factors affecting the profit maximisation of the construction firms by this study. The most important factors affecting the profit maximisation of the construction firm is supply costs with MV=4.34 ranked 1<sup>st</sup>. On the average, all the identified factors affecting the profit maximisation of construction firms are important (average MIS = 3.56).
- ii. The result of the analysis on the measures of profitability of construction firms revealed ten (10) measures of profitability of construction firms, investment (MIS = 4.36; ranked 1st), firm size (MIS = 3.79; ranked 2nd), and partial and multiple factor productivity (MIS = 3.78; ranked 3rd) are the most effective measures of profitability of construction firms. On average, all the identified measures of profitability of a construction firm are effective (average MIS = 3.68). On average, all the identified measures of profitability of a construction firm are effective (average MIS = 3.68).

- iii. The study found that the most important challenge faced by contractors that affect the realisation of profit maximisation is: “time” ranked 1st, with MIS values of 4.52 respectively. On average, all the identified challenges faced by contractors that affect the realisation of profit maximisation are important (Average MIS = 4.08).
  
- iv. The findings revealed that “maximise construction firms’ profit margin, to minimise 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).

## **CHAPTER FIVE**

### **5.0 CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Conclusion**

This study assessed the strategies for maximising profitability for small and medium-sized construction firms in Abuja. The data for the study were gathered using a questionnaire. The questionnaire administered to two hundred and twenty (224) respondents and one hundred and fifty-five (155) were retrieved representing a response rate of 69%. The analysis carried out led to the conclusions made in this chapter. Background information revealed that the respondents are well equipped professionally and in terms of experience to give reasonable insight into the subject under consideration. 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. It was shown that the greatest challenge faced by contractors that affects the realisation of profit maximisation is time. The findings revealed that “maximising construction firms’ profit margins to minimise waste” was ranked as 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.

## **5.2 Recommendations**

As a result of the findings made in this study, the following were recommended:

1. The construction firms should put in place an effective waste management strategy so as to minimise waste and maximise profitability.
2. In order to improve profitability, the construction firm needs to understand the costs associated with completing each item of work. This includes not just job costs but also overhead costs.
3. The management of the construction firms should set profit margin goals at the beginning of every year in order to improve the overall profitability of the company. Also knowing the long-term business plans of the firm will help the firm set achievable revenue and profitability

## **5.3 Contribution to Knowledge**

The study has made the following significant contributions to the body of knowledge:

The study identified factors affecting the profit maximisation of the construction firms in Abuja. The study identified measures of profitability of construction firms and investment. The study identified challenges faced by contractors that affect the realisation of profit maximization. Time is the most important challenges faced by contractors that affect the realisation of profit maximisation. The study also revealed waste minimization is the best strategy to maximise construction firms' profit margin.

#### **5.4 Areas for Further Studies**

In the light of the limitations of this study, the following areas are suggested for further research:

- (i) Assessment of the relationship between firm size and Profitability in Nigeria construction firms.
- (ii) Assessment of the impact of technology adoption on profitability in small and medium construction firms
- (iii) Conceptual framework of effective strategies for maximizing profitability in small and medium construction firms.

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## APPENDIX I



### **FEDERAL UNIVERSITY OF TECHNOLOGY MINNA**

**SCHOOL OF ENVIRONMENTAL TECHNOLOGY,  
DEPARTMENT OF QUANTITY SURVEYING  
MAIN CAMPUS GIDAN-KWANO, MINNA, NIGER STATE.**

Department of Quantity Surveying,  
School of Environmental Technology,  
Federal University of Technology,  
P.M.B. 65, Minna, Niger State.

**Dear Participant,**

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

I am a Master's Degree student of Quantity Surveying, Department of, School of Environmental Technology, Federal University of Technology Minna, Niger State. I am conducting an MTech research on "*Assessment of Strategies for Maximizing Profitability in Small and Medium Construction Firms in Abuja*".

Your participation in filling the attached questionnaire is crucial to the successful conclusion of this research. Please note that all information provided will be used for academic purposes only, and no personal identity information is required.

If you have questions or observations at any time about the survey or procedures, please make use of the contact information below:

Thank you very much for your support.

Aliyu, Mohammed  
Phone No:

**Section A: Demographic information of respondents**

1. Please provide information about the respondent as requested by selecting one of the options provided. Thank you.

---

<b>A Position of respondent</b>	1	Procurement officers	
	2	Accountant	
	3	Site managers	
	4	Director	

<b>B Education attainments</b>	1	OND/NCE	
	2	HND/B.Sc.	
	3	M.Sc.	
	4	Ph.D.	

<b>C Work experience of respondent</b>	1	Less than 5 yrs.	
	2	5 yrs. – 15 yrs.	
	3	16 yrs. – 25 yrs.	
	4	More than 25 yrs.	

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<b>D Type of organization</b>	1	Small	
	2	Medium	

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**Section B: Factors That Affect the Profit Maximization of the Construction Firms**

1. Listed below are statements related to the Factors Affecting the Profit Maximization of the Construction Firms. Kindly rate the extent to which you believe the Factors That Affect the Profit Maximization of the Construction Firms. Kindly use the five-point scale provided as follows:

**Factor rating scale:**

5 (SA) = Strongly Agree; 4 (A) = Agree; 3 (SWA) = Somewhat Agree; 2 (D) = Disagree; 1 (SD) = Strongly Disagree.

Factors That Affect the Profit Maximization of the Construction Firms		1	2	3	4	5
		SD	D	SWA	A	SA
1	The degree of competition a firm face.					
2	The strength of demand.					
3	The state of the economy.					
4	Advertising.					
5	Substitutes,					
6	Relative costs.					
7	Economies of scale.					
8	Dynamically efficient.					
9	Price discrimination.					
10	Management.					
11	Objectives of firms					
12	Exchange rate.					
13	Time					
14	Supplies Costs					
15	Financing					
16	Unexpected problems					

**Section C: Measures of Profitability of Construction Firm**

2. Listed below are statements related to the Measures of Profitability of Construction Firm. Kindly rate the extent of agreement to the Measures of Profitability of Construction Firm Kindly use the five-point scale provided as follows:

5 (SA) = Strongly Agree; 4 (A) = Agree; 3 (SWA) = Somewhat Agree; 2 (D) = Disagree; 1 (SD) = Strongly Disagree.

Measures of Profitability of Construction Firm		1	2	3	4	5
		SD	D	SWA	A	SA
1	Investment					
2	Profit in previous period					
3	Partial and multiple factor productivity					

Measures of Profitability of Construction Firm		1	2	3	4	5
		SD	D	SWAA	SA	
4	Firm size					
5	Leverage					
6	Liquidity					
7	Capital intensity					
8	Managerial efficiency					
9	Inflation					
10	Interest rate					

**Section C:**

1. What is the net income made by your firm in the year 2021? .....
3. What is the Earnings made by your company before interest in the year 2021?.....
4. What is the total asset of your company in 2021?.....
5. Do you make profit at the end of 2021 fiscal year (a) yes (b) no
6. What is the value of the debt incurred by your firm in 2021 fiscal year?.....
7. What is the value of the annual inflation rate of your in 2021 fiscal year?.....
8. What is the value of the annual interest rate generating by your firm in 2021 fiscal year?.....

**Section D: Challenges Faced by Contractors that Affect Realization of Profit Maximization**

9. Kindly use this five-point scale to rate the challenges faced by contractors that affect realization of profit maximization: KEY: SE= Severe (5), SI= Significant (4), M = Moderate (3), MI= Minor (2) and IS = Insignificant (1)

Challenges Faced by Contractors that Affect Realization of Profit Maximization		5	4	3	2	1
		SE	SI	M	M	IS
1.	Time					
2.	Supply Costs					
3.	Unexpected Problems					
4.	Project Overhead					
5.	Rate of Return					
6.	Functionality					
7.	Weather					

**SECTION E: Strategies to Maximize Construction Firms' Profit Margin.**

10. Kindly use this five-point scale to rank the strategies to maximize construction firms' profit margin.: 5 (VE) = Very Effective ; 4 (E) = Effective ; 3 (FE) = Fairly Effective; 2 (LE) = Less Effective; 1 (LSE) = Least Effective

Strategies to maximize construction firms' profit margin.	5	4	3	2	1
	VE	E	FE	LE	LSE
1. Improve productivity					
2. Know your costs					
3. Estimate for profit					
4. Minimize Waste					
5. Set profitability goals					
6. Manage for profitability & tack costs					
7. Analyze your result					

Kindly suggest other strategies to improve profitability of SMEs construction firms

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Thank you