

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,  
KUMASI, GHANA**

**SWOT Analysis of Indigenous Building Contractors in Northern Ghana**

by

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A Dissertation submitted to the Department of Building Technology,

College of Art and Built Environment

in partial fulfilment of the requirements for the degree of

**MASTER OF SCIENCE**

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## DECLARATION

I hereby declare that this submission is my own work towards the MSc Construction Management and that, to the best of my knowledge, it contains no material previously published by another person, nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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## **ABSTRACT**

It has been established in many writings and researches that most Ghanaian Construction firms perform poorly in terms of meeting project objectives of cost, time and quality due to weaknesses such as poor planning and scheduling, poor managerial practices and leadership, poor cost predictability, low profitability, low productivity , unprofessionalism, improper documentation and effective keeping of records, poor business performance, inadequate funding and access to credit, and inability to maximize the strengths and opportunities Ghana offers them. This study is aimed at conducting a SWOT (strengths, weaknesses, opportunities and threats) analysis of indigenous building contractors in Northern Ghana in order to improve performance and enhance growth by knowing the true standing of these contractors and how weaknesses and threats can be overcome, strengths and opportunities optimized through proper strategic planning and management. A sample size of 30 contractors was used. These contractors were determined through non-probability sampling technique. Specifically, the purposive sampling method was used for the selection of the contractors with the help of pre-selection criteria. The data collected was analyzed through descriptive analysis, mean score, and factor analysis by SPSS 16.0. The identified major strengths were clemency of weather, availability of land and client's relations. The minor strengths are low overheads, cheap labor, low living expenses, quality of products and services, experience, production efficiency, IT utilization, procurement management, organizational structure and diversified array of projects. The major weaknesses identified were Cost overruns, delays, research and development activities, training and retraining of staff and partnership while the minor weaknesses are poor supervision, poor finishes, improper documentation and records keeping, inadequate financial resources, corrupt employees, lack of proper planning and

scheduling, improper managerial economics, high employee turnover, low profit margins, inexperienced employees, lack of required plant and equipment, poor health and safety practices, joint ventures with overseas firms, lack of innovation, and poor risks identification and management. The opportunities are establishment of a quarry, sand winning, training of employees in software usage, investment into real estate development, designing and building of residential buildings, establishment of R & D department, and training and retraining of employees, training of locals in artisanship, officially renting out equipment, belonging to northern network of contractors, choosing an industry standard as a benchmark, international partnership, and employment of experienced staff and building with local materials. Finally, from the results, the identified major threats are instability in the country and unfavorable government policies while the minor threats are existence of more competent Ghanaian firms, national and international bidding, bribery and corruption in the award of contracts, global competition, high interest rates on loan facilities, Ghanaians increasing appetite for foreign taste, and poor microeconomic indicators. It is recommended that, contractors should conduct a SWOT analysis of their companies regularly to inform strategic planning and management and to help achieve project objectives of cost, time, quality and client satisfaction. Also, a further study is recommended for the Political, environmental, social and technological (PEST) analysis and Porter's five factors for indigenous Northern Contractors.

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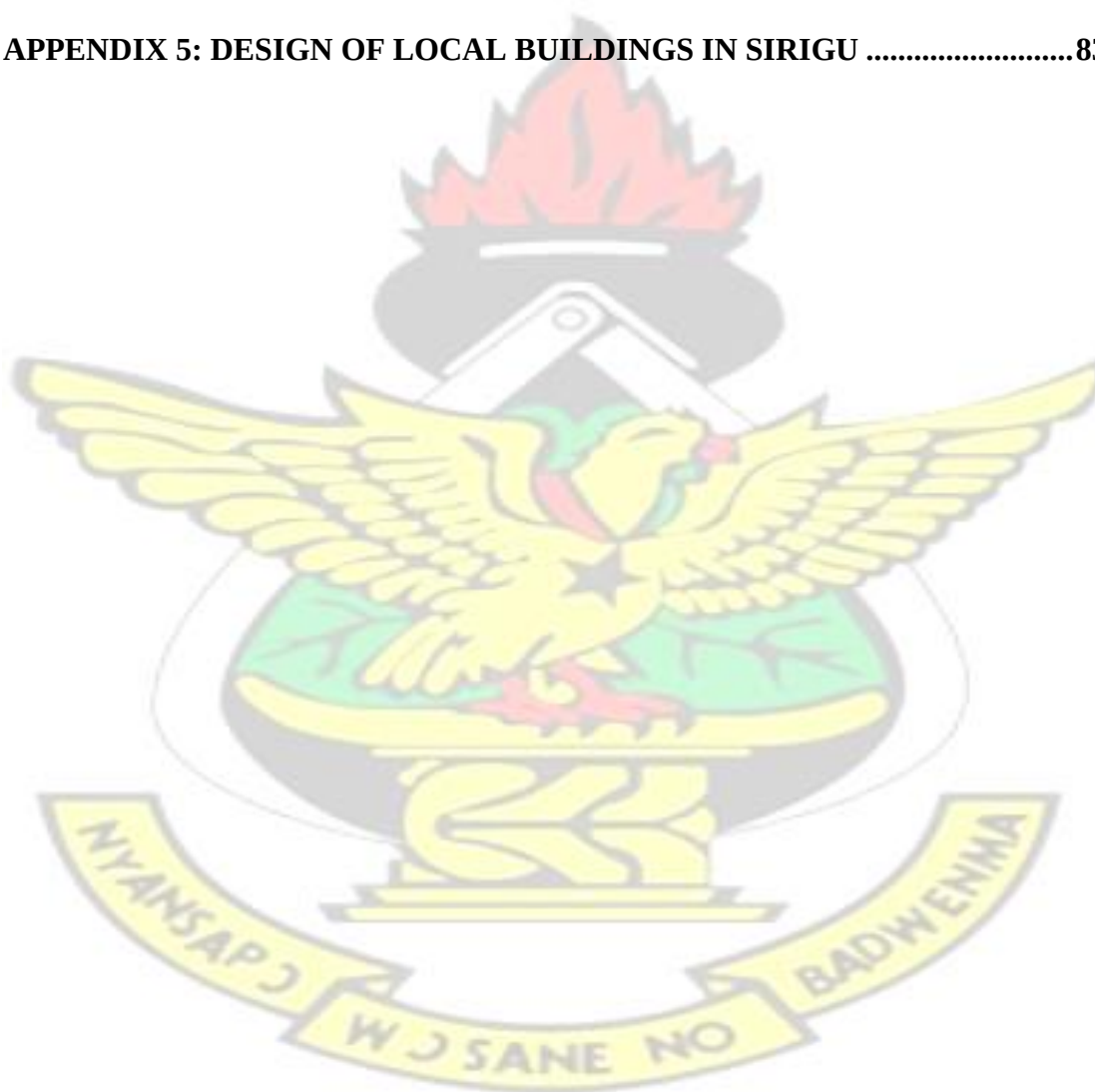
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Above all, thanks and praise to the Almighty God for all the things He has done for me. Great is Thy Faithfulness!

God richly bless you all! Amen!

## DEDICATION

To my lovely wife Winnie-ndeke Clara; my God given Sons, Lucas Wepia Jnr. and

Lemuel Wedam

To my auntie, Theresa; Dad, Stephen; Fr. Robert Anhof and other friend Rev Frs.;  
family and friends

And

To the memory of Mama Evelyn, Bishop Lucas and Grand Mum Api Jane.



## CHAPTER ONE

### INTRODUCTION

#### 1.1 BACKGROUND OF THE STUDY

Infrastructure development in every developing country is a basic agenda rigorously pursued to provide social amenities or infrastructure like hospitals, schools, roads, markets, places of convenience, affordable houses, public offices etc and improve the built environment for the needs of the present generation and for posterity.

The Ghana Statistical Service (2013) declared that, the Ghanaian construction industry represents 11.8% of Ghanaian's Gross Domestic Product (GDP). This means that the construction industry influences the economy of Ghana significantly. It also reveals that, due to the significant contribution of the construction industry to the economy of Ghana, the government invests in construction as a form of maintaining, improving and controlling the economy.

A completed construction project is defined to be a success provided the technical requirements, specifications and set objectives are met. According to Frimpong *et al.* (2003), a successful project is one which has its targets and objectives as specified in the project scope and plan met. Generally, the most important objective of every construction is that the project is finished timely, within budget and of the right quality to ensure client satisfaction. Achieving these project objectives require proper planning and scheduling, cost plan, quality assurance, risk management, proper documentation and effective keeping of records, effective communication and proper utilization of all resources.



Despite significant progress in performance improvement and growth in many construction firms located in the southern part of Ghana, the same cannot be said of those in Northern Ghana. The perception of poor performance and underperformance amongst Northern contractors is widespread. This perception is fuelled in part by a high frequency of delayed, abandoned or discontinued projects arising from contractor non-performance. Contracts for most large-scale projects are executed by southern or foreign owned contractors or contractors with foreign backing (Tawiah 1999). In addition to the above challenges, the quality of finished projects by most Northern Contractors is a major issue. Many projects by Northern Contractors are characterized by significant and obvious defects, waste, rework, double handling, poor and inexperienced management and leadership, unplanned construction, etc which lead to losses, low profit margins, poor finishes, poor relationships due to inferior or sub-standard works, delays and cost over-runs. Oblivious of the fact that, firms exist to make profit, they sometimes resort to sub-standard works and shortcuts to cater for their shortcomings that made them spend more.

## **1.2 PROBLEM STATEMENT**

It has been established in many writings and researches that most Ghanaian Construction firms perform poorly in terms of meeting project objectives of cost, time and quality due to weaknesses such as poor planning and scheduling, poor managerial practices and leadership, poor cost predictability, low profitability, low productivity , unprofessionalism, improper documentation and effective keeping of records, poor business performance, inadequate funding and access to credit, and inability to maximize the strengths and opportunities Ghana offers them (Ofori-kuragu 2013). It is therefore due to these weaknesses and problems that majority of projects and contracts in Ghana are awarded to notable large firms who have a track record and the capacity

to deliver; most of these are foreign owned (Vulink 2004) due to the inability of Ghanaian firms to compete with international organizations. These international firms have a record of world-class performance and are used as benchmarks for Ghanaian construction firms.

In Ghana, a comparison of building contractors in the south to those in the north will reveal that the southern part has more competent and able contractors than in the north. This is attributable to the fact that there is more infrastructural demand and development in the south as compared to the northern part of Ghana. Most of the contractors in the south perform better than their counterparts in the north because they have a capital base, easy access to credit facilities, available plant and machinery, professional management team, international partnership, use modern tools and technology, good experience and network than those in the north. Therefore, just like most construction works in Ghana are awarded to foreign firms, most of those contracts in the northern part of Ghana are also awarded to southern contractors leaving little or no contract for indigenous Northern contractors (Vulink 2004).

Most building contractors in the North have serious challenges or knowledge gap in the application of requisite management techniques. The management of most firms'

Resources – human resource, labor, plant and machinery, finances, materials is carried out haphazardly which leads to muda (waste), inefficiencies, and poor performance (Vulink 2004). Many of the owners and managers of these construction firms have little or no knowledge in the construction industry (Tawiah 1999). This is a recipe for under-performance and losses or low profitability.

In all these problems, there lies an opportunity in overcoming these inefficiencies or weaknesses and improving on the strengths of these companies. "Opportunities arise

when a company can take advantage of conditions in its environment to formulate and implement strategies that enable it to become more profitable” (Hill and Jones 2004, p. 37). The natural environment, natural resources, geography, culture, etc provides enormously unique strengths and opportunities which can be strategically maximized to improve performance and enhance growth. Indigenous Northern firms in Ghana who want to breakthrough ought to formulate the right strategic plans, develop innovative business strategies, develop professionalism, and merge or partner with other local or international firms.

### **1.3 AIM AND OBJECTIVES**

#### **1.3.1 Aim**

The aim of this study is to explore through a SWOT analysis the opportunities of Indigenous Building Contractors in Northern Ghana for improved performance and enhanced growth.

#### **1.3.2 Objectives**

To achieve the stated aim of this study, the following objectives are outlined:

1. To identify strengths and weaknesses of indigenous building contractors in Northern Ghana
2. To identify threats and opportunities of indigenous building contractors in Northern Ghana
3. To recommend strategic steps to improve performance and enhance growth of Indigenous building contractors in Northern Ghana.

#### **1.4 SCOPE OF RESEARCH**

The sample size for this research is 30 indigenous building contractors in Northern Ghana who were gotten through pre-selection criteria.

The study targeted contractors in the three (3) regions of the North; Upper East, Upper West and Northern Region because these regions have similar cultural background, topography and drainage, climate and vegetation, settlement, developmental needs and geographically proximate.

#### **1.5 LIMITATIONS**

Most of the respondents did not grant us an interview since they asserted that what they have filled in the questionnaire was adequate. Also, only one person could answer for a company since the research was on SWOT analysis of companies and information from a particular firm when even answered by different people will not vary too much.

#### **1.6 SIGNIFICANCE OF THE STUDY**

This study is significant because of the following reasons:

- ❖ To document the strengths, weaknesses, opportunities and threats of Northern construction firms in order that these firms will know their true business position
- ❖ To make recommendations on how to overcome such weaknesses or threats and how to maximize strengths and opportunities.
- ❖ To make it easy for each of the participating firms in this study to use the outcome and recommendations for implementation to achieve the aim of the study; ‘explore through a SWOT analysis the strengths and opportunities of Indigenous Building Contractors in Northern Ghana toward strategically maximizing the potential for improved performance and enhanced growth.’



## **1.7 RESEARCH METHODOLOGY**

This study is an exploratory research which seeks to identify key issues and variables through the SWOT analysis. The population of the study is all Northern Building Contractors with a sample size of 30 contractors who currently have projects in progress or have finished not later than a year ago. The purposive sampling method of the non-probability technique was used to get the responding contractors. Data collection was carried out through the administration of questionnaires; followed by semi structured and unstructured interviews. The data collected was then analyzed with the help of SPSS and the data from the interviews transcribed for conclusions and recommendations to be made.

## **1.8 ORGANIZATION OF THE STUDY**

This study is organized into chapters in a sequential manner. The chapters are numbered from one (1) to five (5). Every chapter has major headings which are listed in the Table of contents. Chapter one(1) captioned as INTRODUCTION, includes ‘Background of the study’, ‘Problem Statement’, ‘Aim and objectives’, ‘Scope of Research’, ‘Significance of the Study’, ‘Research Methodology’ and ‘Organization of the Study’. Chapter two (2) is captioned ‘LITERATURE REVIEW’ which identifies, locates and analyzes documents containing information relevant to the study. Chapter three (3) is captioned ‘METHODOLOGY’ which is primarily about research design, instruments and data collection. The last 2 chapters in the sequence are Chapter four (4); ‘RESULTS AND DISCUSSION’ and chapter five (5); ‘CONCLUSION AND RECOMMENDATIONS’



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

The acronym, SWOT stands for strengths, weaknesses, opportunities and threats. The strengths are the resource factors favoring the firm while the weaknesses are the resource inadequately or paucity relative to competitors. Opportunities are complimentary while threats are adverse or impede circumstances in the firm. Strengths and weaknesses are internal to a firm while opportunities and threats are considered as external factors which may not always be the case since threats and opportunities can also come from within. SWOT analysis is regarded as a powerful, organized, diagnostic and treatment tool that is used in strategic planning and management by tactfully analyzing a company in totality to identify problems and find solutions to them. Business plan, mission and vision statements, objectives, goals, historical performance and experience serve as relevant inputs for a proper SWOT analysis. (Pearce II and Robinson Jr. 2000, Rabin et al. 2000, Macmillan and Tampoe 2000).

#### **2.2 THE POLITICAL, SOCIO-ECONOMIC AND LEGAL ENVIRONMENTS OF CONTRACTORS IN GHANA**

Ghana is a West African Country with a population of 24.26 million (from 2010 population census) and with a projected population of 27.75 as of 1<sup>st</sup> January 2016. The country is divided into 10 regions and is surrounded by Francophone countries and the Gulf of Guinea; Cote D'Ivoire to the West; Benin to the East; Burkina Faso to the North and the Gulf of Guinea to the south. Historically, from 1966 to 1983, Ghana faced five (5) successful military coup d'états but later gained democracy in 1992 when the

constitution of Ghana was promulgated and came into force. Ghana practices a multi-party democratic system of governance and has since been politically stable and peaceful for the past 23 years. It is difficult to conclude on the impact of politics in the Ghanaian construction industry because there is no known published research on that. Notwithstanding, the research work by Jaselskis and Talukhaba (1998) on bidding considerations in developing countries is emphatic that governments of developing countries have a direct and greater influence on both public and private construction through their policies, legislations and behavior. As in many countries, government is the major client of construction projects in Ghana ( Eyiah and Cook 2003). Therefore, it is difficult to disassociate the impact of government and politics on construction in Ghana. For example, a contractor who has not been registered as either D1K1, D2K2, D3K3 or D4K4 by the ministry in charge of works and housing and either A1B1, A2B2, A3B3 or A4B4 by the government ministry in charge of roads and transport is not qualified to be awarded any project or contract from the government.

For some years now, Ghana has recorded stable patterns of economic growth, Gross domestic product (GDP) and increased investments especially with the discovery of oil. However, like any other developing country, macro-economic factors such as unemployment, inflation, depreciation of the cedi etc are still challenges the country is grappling with (Anaman and Osei-Amponsah 2007). As there is a strong bond between the economy of the country and the construction industry, the increased investments, economic growth especially with the emergence of the oil industry means that, there will be an increasing need for construction deliverables now and in the future. Another reason why there will be an increasing need for construction deliverables is the fact that, Ghana is a developing country ( according to United Nations Development Report/index 2008) and according to a paper by Jaselskis & Talakhuba (1998),

developing countries have great need for almost all types of construction deliverables such as roads, buildings, maintenance on existing infrastructure etc. The construction industry in Ghana is therefore an important element of the National economy.

Ghana's legal system is based on English common law and customary law. The civil law that is in force traces its roots to the common law, doctrines of equity and general statutes from England in 1874 as modified by subsequent ordinances. However, Ghanaian customary law is the basis for most domestic, contractual relationships and domestic purposes. The country's criminal law is based on the Criminal Procedure Code, 1960, derived from English Common Law, and since amended.

### **2.3 CHALLENGES OF CONTRACTORS IN DEVELOPING COUNTRIES**

Foreign contractors dominate the market of projects and contracts in most developing countries. In Nigeria, a study that involved 69 indigenous contractors and 71 professionals as respondents, Adams (1997) found that, in most developing countries, major and big projects are untaken by foreign contractors or their allies because of deficiencies, incapacities and under-performance in most indigenous contractors in these developing countries. This assertion was also confirmed in a study by Aniekwu(1995) on the business environment of contractors in Nigeria. In his study, questionnaires were administered to eleven (11) states in Nigeria with a sample size of 344 contractors to make an assessment of 47 variables relating to the construction industry in Nigeria. Out of the sample size of 344 respondents, 266 were indigenous contractors (100% Nigerian owned) and 78 were foreign owned (either a Nigerian branch of a foreign firm or a Nigerian/foreign joint venture). Annually, the total volume of work done by the indigenous contractors (22%) is substantially lower than that of the 78% by foreign contractors.

In a study by Adams (1997), the recognized challenges of indigenous Nigerian contractors performance are: fluctuations and uncertainty in material supply and prices, advance mobilization, interim payment of certificates, procurement of works, access to financial resources, agreement on variation terms, inadequate or lack of the needed plant and equipment, ill-chosen contract terms and conditions, plant and equipment maintenance, contract dispute resolution, delays, changes in designs, unfinished contract documents, transportation of equipment and materials, double handling, rework,unreliable tenders, ineffective communication, labour inefficiencies, improper financial management, project planning and scheduling, inadequate supervision, use of technology in construction, research and development activities, inefficient resource management, lack of commitment to construction work and inadequate risk identification and management. In developing countries, indigenous contractors have challenges with funding especially the small and medium scale contractors. The inadequate financial resources results in their inability to meet financial demands- bid securities, performance bonds etc – required to win major contracts mostly awarded to foreign contractors who have the capacity, resources and experience to execute such works.

Similar challenges are faced by indigenous Ghanaian contractors. In a study by Eyiah and Cook (2003), questionnaires were administered to identify the financial requirements and challenges of Ghanaian entrepreneurs; establish the degree to which their characteristics influence their financial requirements and challenges; study contributing factors to the challenges and their effects on different categories of contractors; all in a bid to inform the development of guidelines for policy-makers. The centre of attention for the research was on the experience of the onetime Bank for housing and Construction (BHC) in Ghana; a government owned bank established to



help private housing schemes, real estate development, affordable housing and construction industry activities. Initially, the financial agenda of the BHC achieved an appreciable degree of success but later degenerated significantly due to delays in payment of contractors, low profitability levels of contractors due to inadequate managerial and technical capabilities, inability to obtain contracts and default in payment of loans. Eyiah and Cook (2003) campaigned for many other such support schemes but should be very effective in management and performance. The Social Security Bank and other financial support schemes for indigenous Ghanaian contractors also failed due to factors as enumerated below as in a research by Eyiah and Cook (2003). The factors are depreciation of the Ghanaian currency against most major foreign trading currencies, poor attitude in bidding and tendering processes, default in repayment of loans especially loans used to purchase equipment which finally result in their seizure, managerial incompetency etc. The final fall and resultant liquidation of the BHC is attributed to its clients; the contractors and their management by the Bank. Some of the challenges faced by the BHC are; improper management of debtors and loans, interference by government, indiscipline on the part of contractors, lack of standard infrastructure and services, poor distribution systems and poor legal framework. Notwithstanding, these should be considered as obstructions and not obstacles to investment in the construction industry of developing countries. There exist great and enormous opportunities also as indicated by Wooldridge (2010).

## **2.4 BUILDING AND CIVIL ENGINEERING CONTRACTORS: CHALLENGES AND OPPORTUNITIES**

The challenges of contractors are fluctuations and uncertainty in material supply and prices, advance mobilization, interim payment of certificates, procurement of works, access to financial resources, agreement on variation terms, inadequate or lack of the



needed plant and equipment, ill-chosen contract terms and conditions, plant and equipment maintenance, contract dispute resolution, delays, changes in designs, unfinished contract documents, transportation of equipment and materials, double handling, rework, unreliable tenders, ineffective communication, labour inefficiencies, improper financial management, project planning and scheduling, inadequate supervision, use of technology in construction, research and development activities, inefficient resource management, lack of commitment to construction work and inadequate risk identification.

## **OPPORTUNITIES**

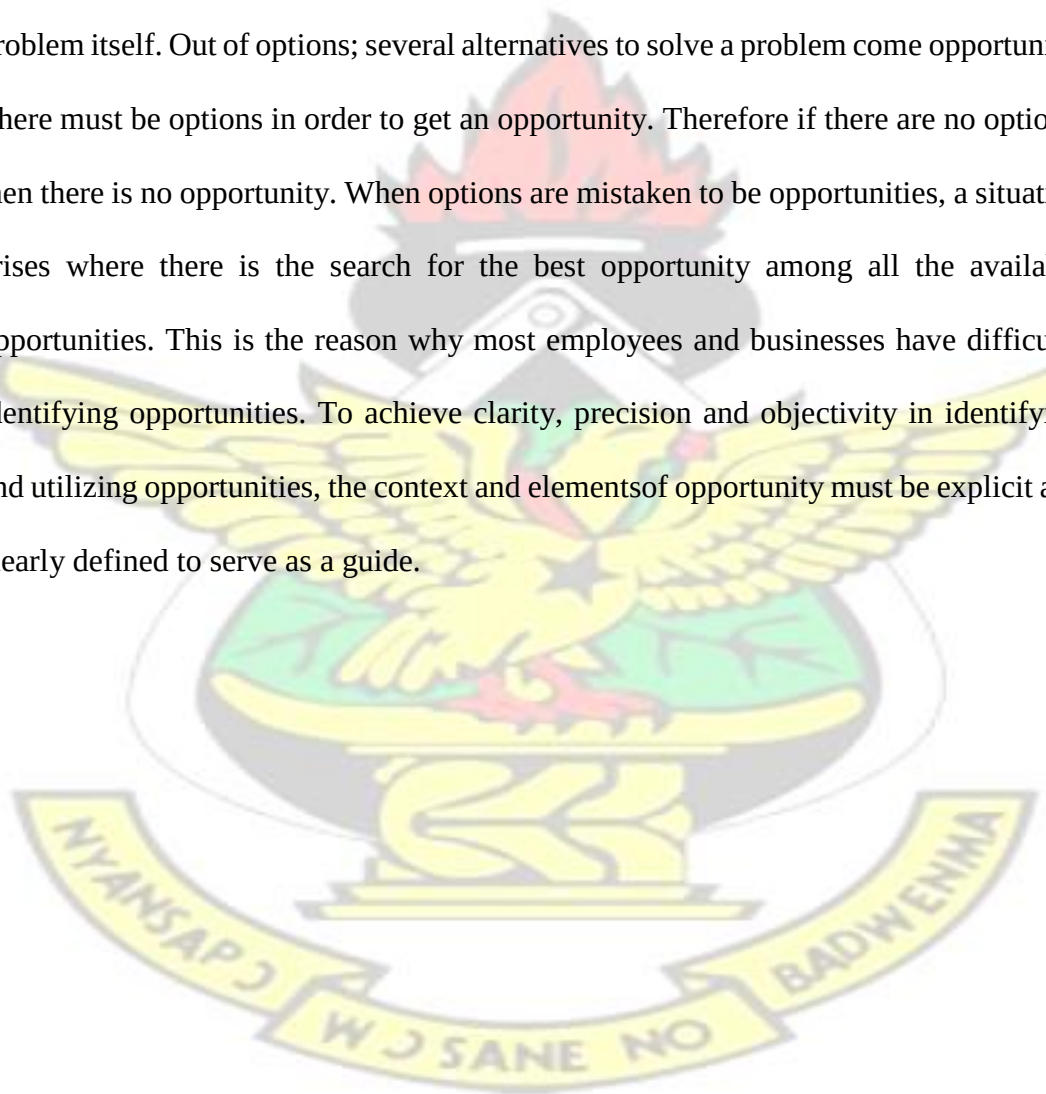
An opportunity is a favorable solution to a problem. Opportunities are advantageous circumstances or situations of great value to improve organizational performance and the realization of set goals and targets. A well utilized opportunity is a gateway for many other opportunities because a utilized opportunity contains the seeds for further improvement, more options and future opportunities (Donald Morris 2005).

Companies should identify opportunities as the best option among alternatives and maximize them well with consistency to achieve positive results or success which can be sustained and becomes the culture of the company. While opportunities may be everywhere, they are not always clearly seen or utilized and once missed, they are gone.

### **2.5 THE OPPORTUNITY MODEL BY DONALD MORRIS**

It was difficult for me to see an opportunity until it had ceased to be one (Mark Twain). According to Black and Gregerson 2003, p.114; in their recent book on leadership and change, the authors categorically stated that, “the biggest obstacle to greater growth is getting employees (including senior executives) to see new opportunities”. This is true if more time is spent on carefully and critically studying the meaning of opportunity to

have a better and precise understanding. Like many platitudes or clichés, a lack of precision permeates its application. Many mistaken catalysts for opportunities (Hill and Jones 2004). Typically, a midwife who helps a woman in labour deliver is a catalyst in child birth. Company goals, objectives, targets, strategies, options and orientation must be realigned whenever the business environment changes. Time and again, threats; setbacks and catastrophes are mostly confused as opportunities but these are problems and not opportunities. An opportunity is a favorable solution to a problem and not the problem itself. Out of options; several alternatives to solve a problem come opportunity. There must be options in order to get an opportunity. Therefore if there are no options, then there is no opportunity. When options are mistaken to be opportunities, a situation arises where there is the search for the best opportunity among all the available opportunities. This is the reason why most employees and businesses have difficulty identifying opportunities. To achieve clarity, precision and objectivity in identifying and utilizing opportunities, the context and elements of opportunity must be explicit and clearly defined to serve as a guide.



### 2.5.1 THE CONTEXT AND ELEMENTS OF OPPORTUNITY

The context of opportunity is as follows.

**Problem:** The basic precondition or requirement for an opportunity is the prevalence of a problem, a challenge, an obstacle or threat, dissatisfaction or hardship. The acuteness, sensitivity and effects of a problem are unique for every organization.

**Options:** Options are alternatives which can be a solution to a problem but among which a choice has to be made.

**Choice:** Out of options; several alternatives to solve a problem come opportunity. There must be options in order to get an opportunity. Therefore if there are no options, then there is no opportunity. The alternatives must be effective solutions to the problem and not mere dreams with no known way of accomplishing them. If only one option exists, then there is no opportunity.

**Value:** An opportunity is a favorable solution to a problem. Opportunities are advantageous circumstances or situations of great value to improve organizational performance and the realization of set goals and targets. While opportunities may be everywhere, they are not always clearly seen or utilized and once missed, they are gone.

**Organization mission:** The mission, vision, goals, targets, strategic plan or an alteration of these form the basis or parameters of opportunity.

The elements of opportunity are:

**Time constraint:** An opportunity is timely and seasonal. Once missed, it is gone. Therefore, organizations have limited time to make decisions on opportunities and utilize them appropriately.

**Sacrifice:** Opportunity involves giving up on something that is of value to another of more value. The sacrifice may come in different forms like added effort, ignoring other

goals, exhausting resources or acceding to restrictions placed on actions. In economics, sacrifice is referred to as opportunity cost or tradeoffs.

**Risk:** There is risk in opportunity since the outcome cannot be predicted or forecasted with certainty. There is either a gain or loss depending on how the opportunity is being utilized. When opportunities are utilized properly, there is certainty of success just that the degree of success may not be known but failure too is a possibility.

**Catalyst:** A catalyst is outside the control of a firm but a signal to a new light. Change, altered circumstance, disconnects, shifting of the fulcrum, anomaly, unanticipated event or uncertainty that alters how we evaluate problems and their possible solutions can trigger opportunities.

**Possibility of regret:** To act on what is believed an opportunity; or to fail to recognize an opportunity; or to act on an opportunity may lead to regret.

The above are the true embodiment and characteristics of an opportunity. Therefore, every opportunity must be dissected to know each of these elements and context to enable proper utilization and high success rates.

## **2.6 SWOT SUMMARY FOR LARGE UNITED ARAB EMIRATES (UAE)**

### **CONSTRUCTION FIRMS**

According to Irshad Ahmad (2004), the following are the strengths, weaknesses, opportunities and threats of large UAE construction firms.

#### **Major Weaknesses**

1. R&D Activities
2. Training/Retraining of Staff

#### **Minor Weaknesses**

1. Human Resources
2. Innovation in Services
3. Global Operations
4. Strategic Planning
5. Joint Ventures with Overseas Firms



### **Major Strengths**

1. Financial Resources
2. Quality of Products/Services
3. Plant & Equipment Management
4. Technological Capability
5. Strategic Alliances with Local Firms
6. Experience

### **Minor Strengths**

1. Procurement Management
2. Marketing skills
3. Suppliers' selection
4. Organizational Structure
5. Clients' Relations
6. Production efficiency
7. Information Systems and Knowledge Acquisitions
8. IT utilization

### **Potential Opportunities due to WTO/GFOL agreements**

1. Opening of new international markets
2. Knowledge and expertise transfer
3. Most Favored Nation (MFN) and national treatment by WTO member countries.

### **Potential threats due to WTO/GATS agreements**

1. Entry of lower cost foreign competitors
2. MFN and national treatment for foreign firms in the UAE market.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 INTRODUCTION**

The methodology of a research is determined by the nature of data and the problem that the study will address. This chapter seeks to describe the approach employed to extract and analyze data for the study. The methodology covered research design, population of study, sample and sampling techniques, instrumentation, data collection, data analysis and presentation of results and ethical considerations. These will be elaborated in the sub – headings below. Literature showed that similar studies undertaken by various researchers adopted a quantitative approach, using structured survey questionnaires with a combination of open and close ended questions of which this study is no exception. This study adopts the Survey approach to explore through a SWOT analysis, the strengths and opportunities of Indigenous Building Contractors in Northern Ghana toward strategically maximizing the potential for improved performance and enhanced growth. By adopting the survey approach, data is gathered by giving out questionnaires to the identifiable respondents to complete. Also, the researcher used self- administered questionnaires and interviews as an approach to collect data for the study.

#### **3.2 RESEARCH DESIGN**

This study adopted the mixed method approach to carry out the SWOT analysis of Indigenous Northern Building Contractors. This approach combines both qualitative and quantitative methodologies to augment each other. The mixed method approach was adopted because its usage provides an overall strength greater than either qualitative or quantitative research. Also, the mixed method helps with the collection

of diverse types of data which helps with the understanding of the research problem better.

### **3.3 POPULATION OF THE STUDY**

Population is defined as a group of individual persons, objects, or items from which samples are taken for measurement. The population of the Study is all Northern Building Contractors. The sample frame of building contractors in the 3 regions of the North was gotten from A& Qs and AESL in the 3 regions after which the contractors who were qualified based on the pre-selection criteria were verified and confirmed at the Registrar's General Department, Tamale-Northern Zone.

### **3.4 SAMPLE SIZE**

Because of time constraints coupled with the fact that the researcher has to traverse three(3) regions, this study had a sample size of 30 building Contractors in Northern Ghana who were gotten through pre-selection criteria as outlined below.

#### **Pre-selection Criteria of Building Contractors to form the sample size**

- ❖ The contractor must be a building contractor but could also be doing business in related diversification e.g. roads projects, quarry etc.
- ❖ The business must be a limited liability company
- ❖ Must be either D1K1, D2K2 or D3K3 classified.
- ❖ It must be an indigenous business
- ❖ Must currently be undertaking a building project or have undertaken a building project not more than a year ago.

A sample size of 30 building contractors was purposively selected through the non-probability sampling technique using the pre-selection criteria above. Denzin (2000) points out that, the purposive sampling is one of the most common sampling strategies

for selecting participants using pre-selected criteria relevant to a particular research question. The purposive sampling helped the researcher reduce the difficulty in locating respondents and getting them to provide sensitive information about their companies such as the SWOT, and for reasons of expediency since the duration of the study is short.

The population of the study was gotten from AESL and A & QS Consortium which was passed through the pre-selection criteria to obtain the purposive sample size. The names of these businesses were confirmed from the Registrar's General Department-Northern Zone in Tamale

The sample size is made up of 10 contractors each from the Northern region, upper west and upper east regions.

### **3.5 SAMPLING TECHNIQUES**

Kothari (2004) identified two types of sampling techniques; probability sampling and non-probability sampling. Though the probability sampling gives every element an equal chance of being sampled and eliminates bias, this study has adopted the non-probability technique. Specifically, the purposive sampling method was used because most of the Contractors in the North were difficult to contact because of apathy, unwillingness to give out sensitive information and traceability of these contractors. Denzin (2000) points out that, the purposive sampling is one of the most common sampling strategies for selecting participants using pre-selected criteria relevant to a particular research question. The purposive sampling helped the researcher reduce the difficulty in locating respondents and for reasons of expediency since the duration of the study was short.



### **3.6 SOURCES OF DATA**

Data for this study was collected from two main sources; primary and secondary. Primary Data was collected through the administration of questionnaires to the target respondents. This was the major source of data. Secondary data was also collected via internet, manuals, books, reports and newspapers which gave the researcher a sense of direction, insight and information. The secondary data was gotten at the inception stage when the researcher needed more information to make informed choices and at the literature review stage.

### **3.7 RESEARCH INSTRUMENTS**

Two instruments were used to sample views of respondents in this study; questionnaire and interview schedule.

#### **3.7.1 Questionnaire**

In this study, the self-administered type of questionnaire was used to collect data from the contractors. Data collection through the questionnaire is convenient for this study because it is planned and covers all areas of the study objectives and is able to capture a lot of information within a very short time and at a relatively low cost. The data collected through the questionnaire is easy to be used as an input in SPSS for quick data analysis unlike interviews. Questionnaires are easier to prepare and arrange than personal interviews. Questionnaires supply standardized answers, to the extent that all respondents are given exactly the same questions and possible answer options with no room for scope creep or digression (Goodman 1997). The self-administered questionnaire for the study contained questions about the company, type of resources and materials, systems and processes, equipment, tools and software etc. In addition, a list of some strengths, weaknesses, opportunities, and threats were identified and a five

point scale provided for the respondents to tick accordingly. Respondents were allowed space to express themselves in their own words where necessary especially in the area of the strengths, weaknesses, opportunities and threats since such list may not be exhaustive.

### **3.7.2 Interview**

Semi structured and unstructured interviews were used to explore and explain themes identified through the questionnaire and to verify findings. Unstructured interview sometimes called in-depth or non-directive interviews, are designed to explore in depth, a general area of research interest. Interviewees are encouraged to talk freely about events, behavior and beliefs in relation to the research area. Such interviews are used in exploratory research to find out more about a particular event and seek new insights. The interview was recorded with a recording device and with a mobile phone as a backup and transcribed into a form which can be analyzed or for it to appear in print.

### **3.8 MODE OF DATA COLLECTION**

Permission was duly sought from the management of each of the firms to administer the questionnaire and further have interviews. Only 3 contractors granted the interviews with the reason that the questionnaire will take care of their responses for the interview. Thirty (30) Northern building Contractors who have their projects currently running or who have finished not later than a year ago were the respondents. To each questionnaire, a respondent used approximately 25 minutes for responding. The data collection took the researcher a month and a lot of financial commitment since the sample size is scattered across the 3 regions of the North. The distances from Tamale to Wa via Sawla-Damongo Rd and Wa-Bole Rd/N12 is 302km; from Bolgatanga to tamale is 165km. These are distances from one regional capital to the other.

### 3.9 PRE-TESTING

Data collection began with a pilot test during which the questionnaire was tested. According to (Presser et al. 2004) pre-testing exercise is used to decide the suitability of the research instruments for the study. The pilot study was conducted using 2 contractors in the population. The pilot testing helped to make necessary changes to the questionnaire in order to solicit the needed data for study. It also helped to know the right time and occasion for administering the questionnaires since most of the contractors have busy schedules and appointments.

The pilot-test was also used to know the amount of time used to answer the questionnaire, check for ambiguity and lack of clarity of questions, appropriateness of layout and the general feeling of the piloted respondents on the structure and content of the questionnaire as well as the deportment of the administrator or interviewer.

### 3.10 VALIDITY AND RELIABILITY

Research quality was normally determined by the validity and reliability of the methodology and data (Amaratunga et al. 2002). In designing, collecting data, analyzing results and judging the quality of data, *reliability and validity* are the two main factors that any research should be concerned about.

Reliability refers to the degree to which an assessment tool produces stable and consistent results. There are different types of reliability which suit different situations. According to (Golafshani 2003), reliability means consistency or dependability. It indicates the likelihood of a given measurement technique that repeatedly yields similar findings or the same description of the phenomenon. The pilot-test was used to ensure the reliability of the instruments by ascertaining the dependability of items in the questionnaire.

Validity refers to how well a test measures what it is purported to measure. While reliability is necessary, it is alone insufficient. Therefore, for a test to be reliable, it also needs to be valid. If the measures used to measure what they claim to and if there are no logical errors when drawing conclusions from the data, then the study is said to be valid (Trochim 2005). The researcher ensured the validity of the items in the questionnaire by pre-testing on some contractors with similar characteristics as the respondents used for the study.

### **3.11 DATA ANALYSIS AND PRESENTATION OF RESULTS**

Data analysis can be the most challenging and interesting aspect of research. Data analysis refers to deriving meaning from the data that has been collected in a study. The Data analysis assumes many forms.

In quantitative data analysis, a researcher uses a summary description of the data collected from the field. Quantitative data analysis involves the use of statistical methods to assemble, classify, analyze and summarize the data to derive meaning. The data collected from the questionnaire was analyzed using Statistical Package for the Social Sciences (SPSS). However, analysis begins by checking the number of questionnaires collected from the field to ascertain whether the questionnaires have been properly completed by the contractors. The SPSS is more preferable for quantitative analysis because it is easier to define variables, input data and generate outputs or reports.

The descriptive analysis tool in SPSS version-16 was used to enter and code each of the questions through the data editor variable view and the responses entered through the data view. Mean analysis was done using the five point scale with assignments as: strongly agree (1), agree (2), neutral (3), disagree (4), strongly disagree (5). A mean test



value of three (3) was used to accept ( $<3$ ) or reject ( $>3$ ) each of the responses given under the strengths, weaknesses, opportunities and threats. Furthermore, since the test mean value is 3, half of that gives 1.5 and that was used as a test value for the ranking of the strengths as either major strength( mean  $< 1.5$ ), neutral (mean  $=1.5$ ) or minor strength (  $>1.5$ ).

The accepted strengths, weaknesses, opportunities and threats were used as input for factor analysis which resulted in the grouping of factors. This process is consistent with what Jorgensen (1989) assertion that in qualitative analysis, the researcher sorts and sifts data, searching for types, classes, sequences, patterns or whole with an aim to assemble or reconstruct the data in a meaningful or comprehensible fashion. The analyzed qualitative data was then presented in themes that are in jalopy with the objectives of the research.

### **3.12 ETHICAL CONSIDERATION**

In the view of Guillemine and Gillam (2004), ethics in research summarizes matters associated with morality, and this both deals with what is right and what is wrong. The ethical considerations which guided the conduct of this study included:

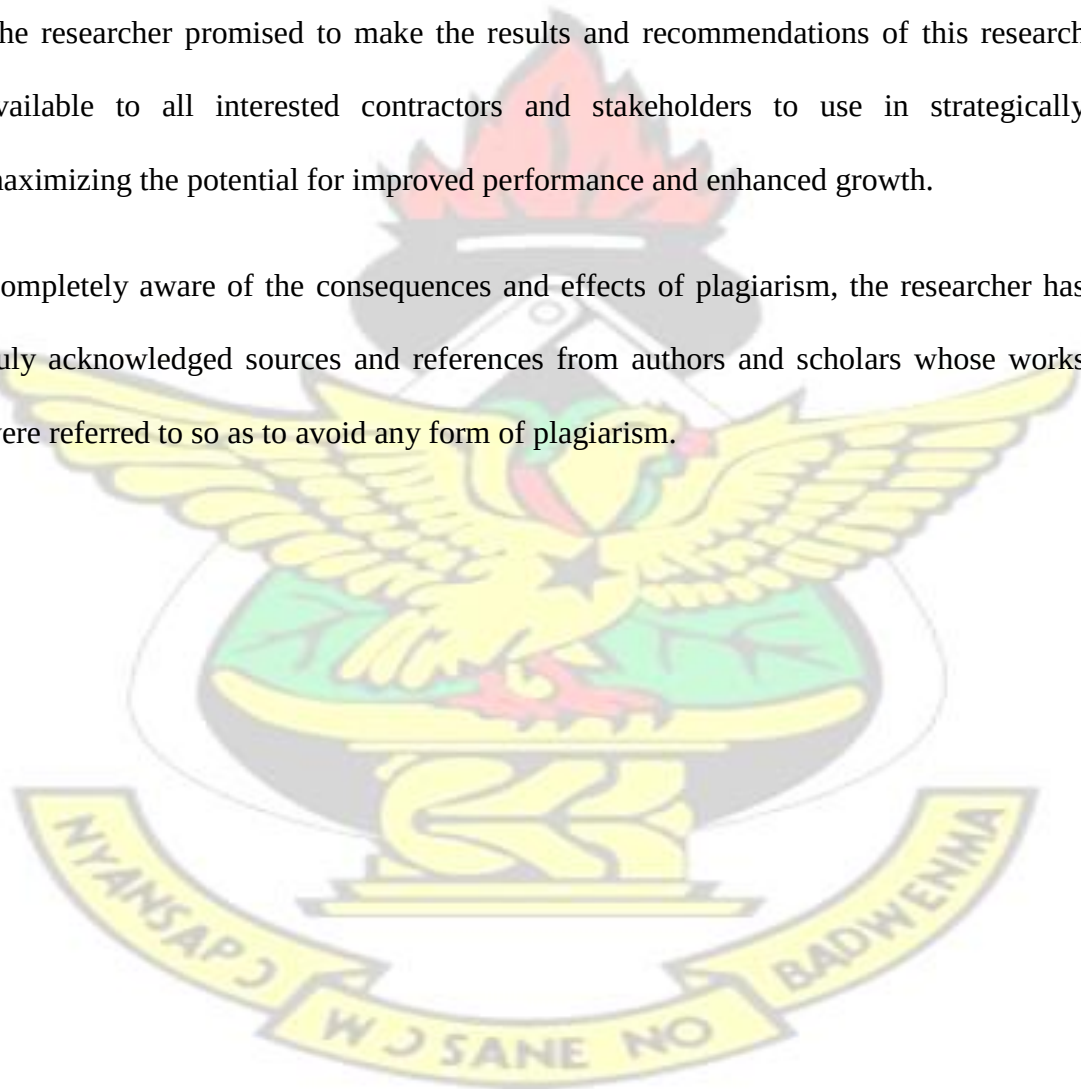
Newman (2007) stated that a researcher must be aware that self-presentation will influence field relations to some degree. It is difficult to present a highly deceptive front or to present oneself in a way that deviates sharply from how one is ordinarily. Therefore, the researcher was dressed and presented in a decent and presentable way and in a manner that was acceptable in the Ghanaian culture and to people from different religious and ideological backgrounds. Care was been taken in the mode of dressing that will not be intimidating, deceptive and dissuasive.

Participation in the research is completely voluntary. This was a clear indication and assurance that there is no harm associated with the research. This was coupled with anonymity where it is not mandatory to indicate the name of the respondent.

All information and communication solicited from the contractors was held in utmost confidentiality. Interactions were done with a high level of objectivity devoid of bias, favoritism or nepotism

The researcher promised to make the results and recommendations of this research available to all interested contractors and stakeholders to use in strategically maximizing the potential for improved performance and enhanced growth.

Completely aware of the consequences and effects of plagiarism, the researcher has duly acknowledged sources and references from authors and scholars whose works were referred to so as to avoid any form of plagiarism.



## **CHAPTER FOUR**

### **RESULTS AND DISCUSSION**

#### **4.1 INTRODUCTION**

This chapter presents appropriate analysis of the data gotten from the research and the discussion of the results of the analysis. The data include relevant information from literature review and the pragmatic or firsthand data gotten from the indigenous building contractors in Northern Ghana through the administration of questionnaires and interviews. The data input and analysis is done using SPSS 16.0. Statistical methods of One Sample T-test, mean analysis and factor analysis are used to sieve and reduce information from the data in order to meet the objectives of this study.

Descriptive analysis using frequencies, percentages are also used to communicate and explain results from the data analysis in a clear and simple manner for easy understanding and appreciation of trends.

The study focused on identifying the strengths, weaknesses, opportunities and threats of indigenous building contractors in Northern Ghana and the discussion of those. The uniqueness of this study lies in its setting and from literature review; no such specific study was seen and documented for indigenous building contractors in Northern Ghana.

#### **4.2 STRUCTURE OF ANALYSIS AND DISCUSSION**

The organization of the analysis and discussion is in harmony with the structure of the questionnaire and order of the acronym; SWOT. The sequence of analysis and discussion are

- ❖ Respondent's profile and company details
- ❖ Strengths of indigenous building contractors in Northern Ghana

- ❖ Weaknesses of indigenous building contractors in Northern Ghana
- ❖ Opportunities of indigenous building contractors in Northern Ghana
- ❖ Threats of indigenous building contractors in Northern Ghana.

Identifying the strengths, weaknesses, opportunities and threats of the contractors was done on a scoring system for this study based on a 5-point scale. The scale assignments are; strongly agree (1), agree (2), neutral (3), disagree (4), strongly disagree (5). The items and the respective responses from the completed questionnaire were coded and entered on the SPSS spreadsheet as data for the analysis. Tables are used to illustrate and present the analysis and results.

#### **4.3 BACKGROUND INFORMATION**

A sample size of 30 building contractors was purposively selected through the non-probability sampling technique using the pre-selection criteria. Denzin (2000) points out that, the purposive sampling is one of the most common sampling strategies for selecting participants using pre-selected criteria relevant to a particular research question. The purposive sampling helped the researcher reduce the difficulty in locating respondents and getting them to provide sensitive information about their companies such as the SWOT, and for reasons of expediency since the duration of the study was short.

The population of the study was gotten from AESL and A & QS Consortium which was passed through the pre-selection criteria to obtain the purposive sample size. The names of these businesses were confirmed from the Registrar's General Department-Northern Zone in Tamale

The sample size is made up of 10 contractors each from the Northern region, upper west and upper east regions.



#### 4.4 RESPONDENT'S PROFILE AND COMPANY DETAILS

The analysis and discussion of results on respondent's profile and company details include gender of respondent, position of respondent in the company, highest academic qualification, years of experience of respondent, number of projects undertaken by the company in the last 5 years, business incorporation type and the grade of the company. The results from the research are summarized in the Table 4.1 below:



**Table 4.1 Results from Research On Background Of Respondent And Company**

| Position of Respondents In company | Freq | %    | Highest Academic qualification | Freq | %    | Years of Experience of Respondents | Freq | %    | Number Of building Projects Undertaken In the last 5 Years | Freq | %    | Company Grade | Freq | %    |
|------------------------------------|------|------|--------------------------------|------|------|------------------------------------|------|------|------------------------------------------------------------|------|------|---------------|------|------|
| <b>CEO</b>                         | 8    | 26.7 | <b>HND</b>                     | 4    | 13.3 | <b>1-5 yrs</b>                     | 9    | 30   | <b>1-15 years</b>                                          | 8    | 26.7 | <b>D1K1</b>   | 11   | 36.7 |
| <b>Project Manager</b>             | 13   | 43.3 | <b>BSc.</b>                    | 15   | 50   | <b>6-10 yrs</b>                    | 16   | 53.3 | <b>6-10 years</b>                                          | 12   | 40   | <b>D2K2</b>   | 13   | 43.3 |
| <b>Civil Engineer</b>              | 4    | 13.3 | <b>MSc.</b>                    | 7    | 23.3 | <b>11-15 yrs</b>                   | 5    | 16.7 | <b>11-15 years</b>                                         | 9    | 30   | <b>D3K3</b>   | 6    | 20   |
| <b>Quantity Surveyor</b>           | 2    | 6.7  | <b>MPhil.</b>                  | 2    | 6.7  |                                    |      |      | <b>Above 20 years</b>                                      | 1    | 3.3  |               |      |      |
| <b>Geomatic Engineer</b>           | 1    | 3.3  | <b>PhD.</b>                    | 1    | 3.3  |                                    |      |      |                                                            |      |      |               |      |      |
| <b>Administrator</b>               | 1    | 3.3  | <b>MBA</b>                     | 1    | 3.3  |                                    |      |      |                                                            |      |      |               |      |      |
| <b>Supervisor</b>                  | 1    | 3.3  |                                |      |      |                                    |      |      |                                                            |      |      |               |      |      |
| <b>Total</b>                       | 30   | 100  |                                | 30   | 100  |                                    | 30   | 100  |                                                            | 30   | 100  |               | 30   | 100  |

## **GENDER OF RESPONDENTS**

Results from the study had all the respondents to be males. This confirms the general view that, the construction industry is male dominant. The male dominance is not only in the physical or artisanal aspects but also at the management level of construction firms since the respondents to this study are all at the management level of their companies.

## **HIGHEST ACADEMIC QUALIFICATION OF RESPONDENTS**

From table 4.4.1, 50% of the respondents have a BSc. Degree followed by 23.3% who have BSc. degrees and 13.3% with diploma qualification. MPhil and MBA have only 2 respondents (6.7%) each. From the results, 5 project managers have BSc. qualification, 5 with MSc, One (1) with MPhil and no project manager with a PhD. For the CEOs, 4 out of 30 have their highest qualification in BSc, one (1) MSc, One (1) Mphil, no PhD. This means the respondents are generally the elite in their companies and are conversant with the management of firms.

## **YEARS OF EXPERIENCE OF RESPONDENTS**

The respondents have experience not exceeding 15 years in the construction industry. The highest experience category of the respondents is 6-10years with 53.3% followed by 1-5 years with 30.0% and the last category of 1-5 years with 16.7 %.

## **NUMBER OF BUILDING PROJECTS UNDERTAKEN IN THE LAST 5 YEARS**

Only one company out of the 30 has undertaken above 20 projects in the last 5years. The other companies have only undertaken 15 projects and below.

## **BUSINESS INCORPORATION TYPE**

The results indicate that all the companies are incorporated through the Registrar's General Department as Limited Liability Companies. This conforms with a criterion found in the pre-selection criteria.

## **COMPANY GRADE/CLASSIFICATION**

The results have 43.3% of the companies classified as D1K1 contractors followed by the D2K2 contractors and 20% as D3K3 contractors.

## **4.5 STRENGTHS OF INDIGENOUS BUILDING CONTRACTORS IN NORTHERN GHANA**

Using a mean test value of three (3), a mean ranking analysis of the means of the 18 variables in Table 4.2 vis-à-vis the test mean accepts all the variables as strengths except 'easy to win contracts', 'financial resources', 'plant and equipment', 'strategic alliances with local firms' and 'technological capacity' because they have means which are greater than the test mean value of 3. Hence, they are interpreted as being rejected or 'not accepted'

Furthermore, since the test mean value is 3, half of that gives 1.5 which was used as a test value for the ranking of the strengths as either major strength( mean < 1.5), neutral (mean =1.5) or minor strength ( >1.5).



**Table 4.2 One Sample Statistics Of Strengths**

|                                      | N  | Mean | Std. Deviation | Interpretation |
|--------------------------------------|----|------|----------------|----------------|
| Clemency of weather                  | 30 | 1.33 | 0.547          | Major strength |
| Availability of land                 | 30 | 1.17 | 0.592          | Major strength |
| Easy to win contracts                | 30 | 3.10 | 1.125          | Not accepted   |
| Low overheads                        | 30 | 2.37 | 1.066          | Minor strength |
| Cheap labor                          | 30 | 1.90 | 0.607          | Minor strength |
| Low living expenses                  | 30 | 1.77 | 0.504          | Minor strength |
| Financial resources                  | 30 | 3.20 | 1.095          | Not accepted   |
| Plant and equipment                  | 30 | 3.13 | 1.224          | Not accepted   |
| Quality of products/services         | 30 | 2.47 | 0.900          | Minor strength |
| Experience                           | 30 | 2.67 | 1.093          | Minor strength |
| Strategic alliances with local firms | 30 | 3.33 | 1.269          | Not accepted   |
| Production efficiency                | 30 | 2.67 | 0.994          | Minor strength |
| IT utilization                       | 30 | 2.40 | 0.932          | Minor strength |
| Procurement management               | 30 | 2.07 | 1.048          | Minor strength |
| Organizational Structure             | 30 | 1.87 | 0.819          | Minor strength |
| Client's Relations                   | 30 | 1.37 | 0.718          | Major strength |
| Technological capacity               | 30 | 3.27 | 1.015          | Not accepted   |
| Diversified array of projects        | 30 | 2.93 | 1.112          | Minor strength |

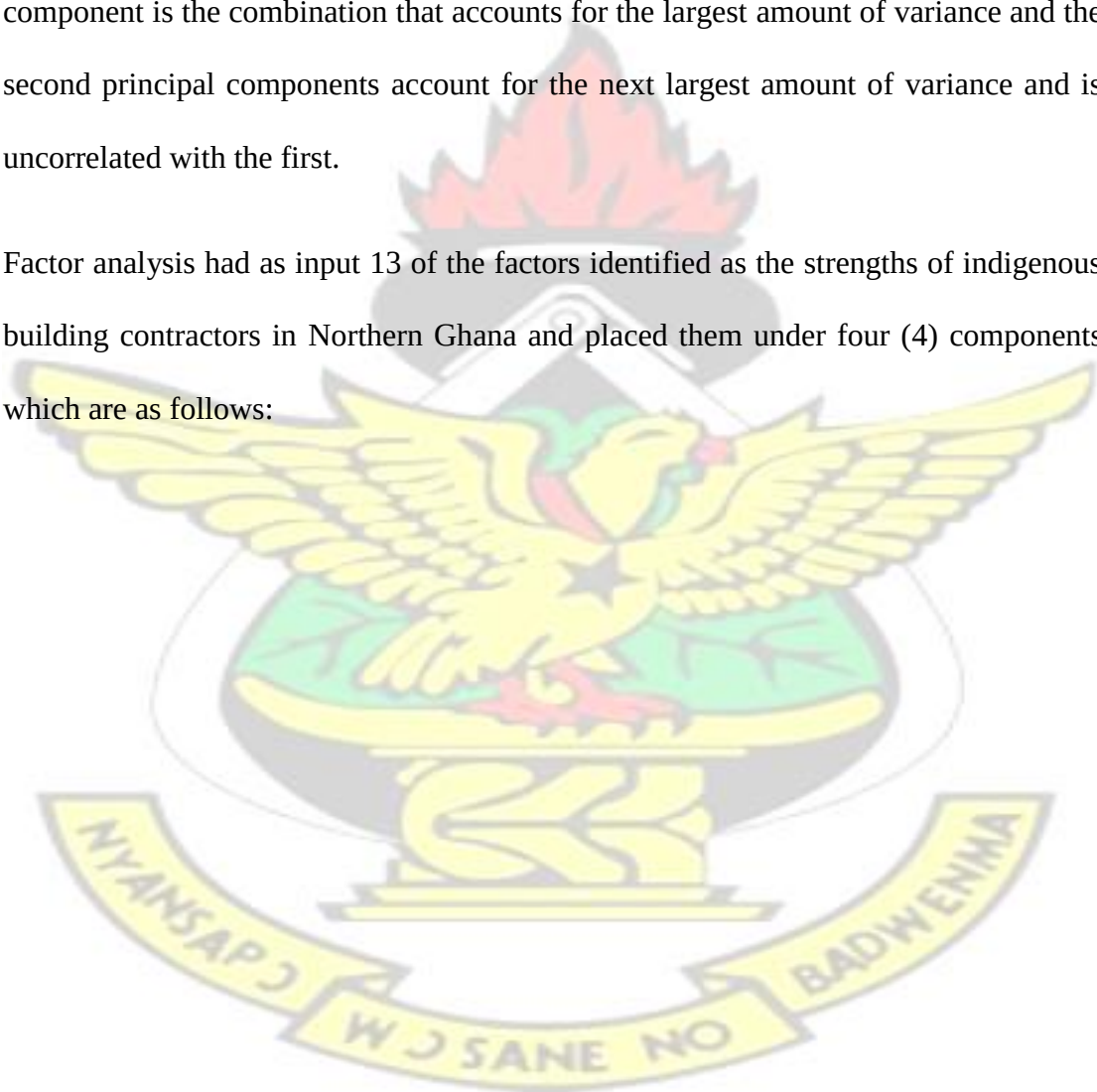
All the thirteen (13) strengths which are accepted as either major strength or minor strength served as the input variables for factor analysis in Table 4.3 which is used to reduce the data into predictive regression models. The Factor Analysis is an explorative analysis. Much like the cluster analysis grouping similar cases, the factor analysis groups similar variables into dimensions. This process is also called identifying latent variables. The purposes of factor analysis are simplification of data, testing to verify scale construction and operationalizations.

All the 13 strengths in Table 2 had communalities of 1.00, indicating their suitability for the study for factor analysis. The 13 strengths were further reduced to common

factor patterns. The principal component analysis with Varimax rotation and Kaiser Normalization were used to determine which strengths are empirically significant. Factor retention was by the eigenvalue  $\geq 1.0$  criteria, indicating that factors with variance greater than one was included in the factor extraction.

The principal component analysis (Table 4.3), where linear combinations of observed variables formed was the method used to extract the factors. The first principal component is the combination that accounts for the largest amount of variance and the second principal components account for the next largest amount of variance and is uncorrelated with the first.

Factor analysis had as input 13 of the factors identified as the strengths of indigenous building contractors in Northern Ghana and placed them under four (4) components which are as follows:



**Table 4.3 Rotated Component Matrix of Strengths**

**Rotated Component Matrix<sup>a</sup>**

|                               | Component |      |      |       |
|-------------------------------|-----------|------|------|-------|
|                               | 1         | 2    | 3    | 4     |
| Clemency of weather           |           |      |      | .835  |
| Availability of land          |           | .461 |      | .743  |
| Low overheads                 |           |      | .704 |       |
| Cheap labor                   |           | .906 |      |       |
| Low living expenses           |           | .808 |      |       |
| Quality of products/services  | .907      |      |      |       |
| Experience                    | .447      |      |      |       |
| Production efficiency         | .869      |      |      |       |
| IT utilization                | .449      |      |      | -.525 |
| Procurement management        |           |      | .806 |       |
| Organizational Structure      | .403      |      | .664 |       |
| Client's Relations            |           | .655 |      |       |
| Diversified array of projects | .484      |      |      | -.613 |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

b. 4 components identified

The components are:

**Component 1:** Quality of products and services, experience, production efficiency, IT utilization, organizational structure, diversified array of projects. Described as **Company Internal related strengths**

**Component 2:** Availability of land, cheap labor, low living expenses, client's relations. Described as **environmental related strengths**

**Component 3:** Low overheads and procurement management. Described as **Financial related strengths**

**Component 4:** Clemency of weather. Described as **Climatic related strengths**.

**Table 4.4 Total Variance of Strengths Explained**

| Component | Initial Eigenvalues |               |              | Extraction Sums of Squared Loadings |               |              | Rotation Sums of Squared Loadings |               |              |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|---------------|--------------|
|           | Total               | % of Variance | Cumulative % | Total                               | % of Variance | Cumulative % | Total                             | % of Variance | Cumulative % |
| 1         | 3.124               | 24.031        | 24.031       | 3.124                               | 24.031        | 24.031       | 2.500                             | 19.230        | 19.230       |
| 2         | 2.853               | 21.950        | 45.981       | 2.853                               | 21.950        | 45.981       | 2.413                             | 18.562        | 37.792       |
| 3         | 1.607               | 12.361        | 58.342       | 1.607                               | 12.361        | 58.342       | 2.097                             | 16.133        | 53.925       |
| 4         | 1.478               | 11.370        | 69.712       | 1.478                               | 11.370        | 69.712       | 2.052                             | 15.787        | 69.712       |
| 5         | .912                | 7.016         | 76.728       |                                     |               |              |                                   |               |              |
| 6         | .835                | 6.424         | 83.152       |                                     |               |              |                                   |               |              |
| 7         | .601                | 4.622         | 87.774       |                                     |               |              |                                   |               |              |
| 8         | .470                | 3.618         | 91.392       |                                     |               |              |                                   |               |              |
| 9         | .396                | 3.045         | 94.437       |                                     |               |              |                                   |               |              |
| 10        | .376                | 2.889         | 97.326       |                                     |               |              |                                   |               |              |
| 11        | .189                | 1.455         | 98.781       |                                     |               |              |                                   |               |              |
| 12        | .116                | .895          | 99.676       |                                     |               |              |                                   |               |              |
| 13        | .042                | .324          | 100.000      |                                     |               |              |                                   |               |              |

Extraction Method: Principal Component Analysis.

**Table 4.5 KMO and Bartlett's Test of Strengths**

|                                                  |         |
|--------------------------------------------------|---------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | .511    |
| Bartlett's Test of Sphericity Approx. Chi-Square | 175.707 |
| df                                               | 78      |
| Sig.                                             | .000    |



#### 4.6 WEAKNESSES OF INDIGENOUS BUILDING CONTRACTORS IN NORTHERN GHANA

Using a test value of 3, a mean ranking analysis of the means of the 24 variables in Table 4.6 vis-à-vis the test mean accepts 20 variables as weaknesses and rejects 4 variables namely: 'poor management of resources', 'poor communication', 'poor clients relations' and 'IT under-utilization' because they have means which are greater than the test mean value of 3. Hence they are interpreted as being rejected or 'not accepted'

Furthermore, since the test mean value is 3, half of that gives 1.5 which is used as a test value for the ranking of the weaknesses as either major weakness (mean < 1.5), neutral (mean = 1.5) or minor weakness (> 1.5).

Therefore, the confirmed weaknesses of indigenous building contractors in Northern Ghana are:

**Major Weaknesses:** Cost overruns, delays, research and development activities, training and retraining of staff and partnership.

**Minor weaknesses:** Poor supervision, poor finishes, improper documentation and records keeping, inadequate financial resources, corrupt employees, lack of proper planning and scheduling, improper managerial economics, high employee turnover, low profit margins, inexperienced employees, lack of required plant and equipment, poor health and safety practices, joint ventures with overseas firms, lack of innovation, and poor risks identification and management.

**Table 4.6 One Sample Statistics Of Weaknesses**

|                                            | N  | Mean | Std.<br>Deviation | Interpretation |
|--------------------------------------------|----|------|-------------------|----------------|
| Poor supervision                           | 30 | 2.47 | 1.008             | Minor weakness |
| Poor finishes                              | 30 | 2.77 | 1.165             | Minor weakness |
| Poor management of resources               | 30 | 3.40 | 1.070             | Rejected       |
| Improper documentation and records keeping | 30 | 2.07 | .868              | Minor weakness |
| Poor communication                         | 30 | 3.27 | 1.015             | Rejected       |
| Inadequate financial resources             | 30 | 2.20 | 1.297             | Minor weakness |
| Poor client relations                      | 30 | 3.83 | .950              | Rejected       |
| Corrupt employees                          | 30 | 2.53 | 1.456             | Minor weakness |
| Lack of proper planning and scheduling     | 30 | 2.67 | 1.061             | Minor weakness |
| Improper Managerial economics              | 30 | 2.60 | 1.037             | Minor weakness |
| High employee turnover                     | 30 | 2.37 | 1.129             | Minor weakness |
| IT under utilization                       | 30 | 3.13 | .973              | Rejected       |
| Cost overruns                              | 30 | 1.27 | .521              | Major weakness |
| Delays                                     | 30 | 1.17 | .379              | Major weakness |
| Low profit margins                         | 30 | 2.13 | .730              | Minor weakness |
| Inexperienced employees                    | 30 | 2.99 | .983              | Minor weakness |
| Lack of required plant and equipment       | 30 | 2.33 | 1.213             | Minor weakness |
| Poor health and safety practices           | 30 | 2.67 | 1.028             | Minor weakness |
| Research and development activities        | 30 | 1.20 | .407              | Major weakness |
| Training and retraining of staff           | 30 | 1.33 | .661              | Major weakness |
| Joint ventures with overseas firms         | 30 | 1.53 | .900              | Minor weakness |
| Partnership                                | 30 | 1.47 | .681              | Major weakness |
| Lack of innovation                         | 30 | 2.87 | 1.042             | Minor weakness |
| Poor risks identification and management   | 30 | 2.60 | 1.003             | Minor weakness |

**Table 4.7 Rotated Component Matrix of Weaknesses**

|                                            | Component |      |      |       |      |       |
|--------------------------------------------|-----------|------|------|-------|------|-------|
|                                            | 1         | 2    | 3    | 4     | 5    | 6     |
| Poor supervision                           |           | .582 |      |       |      | -.469 |
| Poor finishes                              | .508      | .723 |      |       |      |       |
| Improper documentation and records keeping |           | .733 |      |       |      |       |
| Inadequate financial resources             | .588      | .679 |      |       |      |       |
| Corrupt employees                          |           |      |      | .840  |      |       |
| Lack of proper planning and scheduling     | .811      |      |      |       |      |       |
| Improper Managerial economics              | .907      |      |      |       |      |       |
| High employee turnover                     |           |      | .679 |       |      |       |
| Cost overruns                              |           | .415 | .770 |       |      |       |
| Delays                                     |           |      | .853 |       |      |       |
| Low profit margins                         |           |      |      |       |      | .738  |
| Inexperienced employees                    | .663      |      |      | .472  |      |       |
| Lack of required plant and equipment       | .729      |      |      |       |      |       |
| Poor health and safety practices           | .681      |      |      |       |      |       |
| Research and development activities        |           |      |      |       | .796 |       |
| Training and retraining of staff           |           | .465 | .498 |       |      |       |
| Joint ventures with overseas firms         |           | .781 |      |       |      |       |
| Partnership                                |           |      |      |       | .907 |       |
| Lack of innovation                         |           |      |      | -.817 |      |       |
| Poor risks identification and management   |           |      |      | .644  |      | .580  |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 11 iterations.

**b. 6 components extracted**

**Table 4.8 KMO and Bartlett's Test of Weaknesses**

|                                                  |                    |         |
|--------------------------------------------------|--------------------|---------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. |                    | .585    |
| Bartlett's Test of Sphericity                    | Approx. Chi-Square | 401.350 |
|                                                  | df                 | 190     |
|                                                  | Sig.               | .000    |

All the 20 accepted weaknesses in Table 4.7 had communalities of 1.00, indicating their suitability for the study for factor analysis. The 20 weaknesses were further reduced to common factor patterns. The principal component analysis with Varimax rotation and Kaiser Normalization were used to determine which weaknesses are empirically significant. Factor retention was by the eigenvalue  $\geq 1.0$  criteria, indicating that factors with variance greater than one was included in the factor extraction.

The first principal component is the combination that accounts for the largest amount of variance and the second principal components account for the next largest amount of variance and is uncorrelated with the first.

Factor analysis had as input 20 of the weaknesses identified as the weaknesses of indigenous building contractors in Northern Ghana and placed them under six (6) components as found in Table 4.7.

**Component 1:** Inadequate financial resources, lack of proper planning and scheduling, improper managerial economics, lack of required plant and equipment, poor health and safety practices.

**Component 2:** Poor supervision, poor finishes, improper documentation and records keeping, cost overruns, training and retraining of staff, joint ventures with overseas companies.

**Component 3:** High employee turnover, delays

**Component 4:** Corrupt employees, inexperienced employees, lack of innovation, poor risks identification and management

**Component 5:** Partnership, research and development activities.

### **Component 6: Low profit margins**

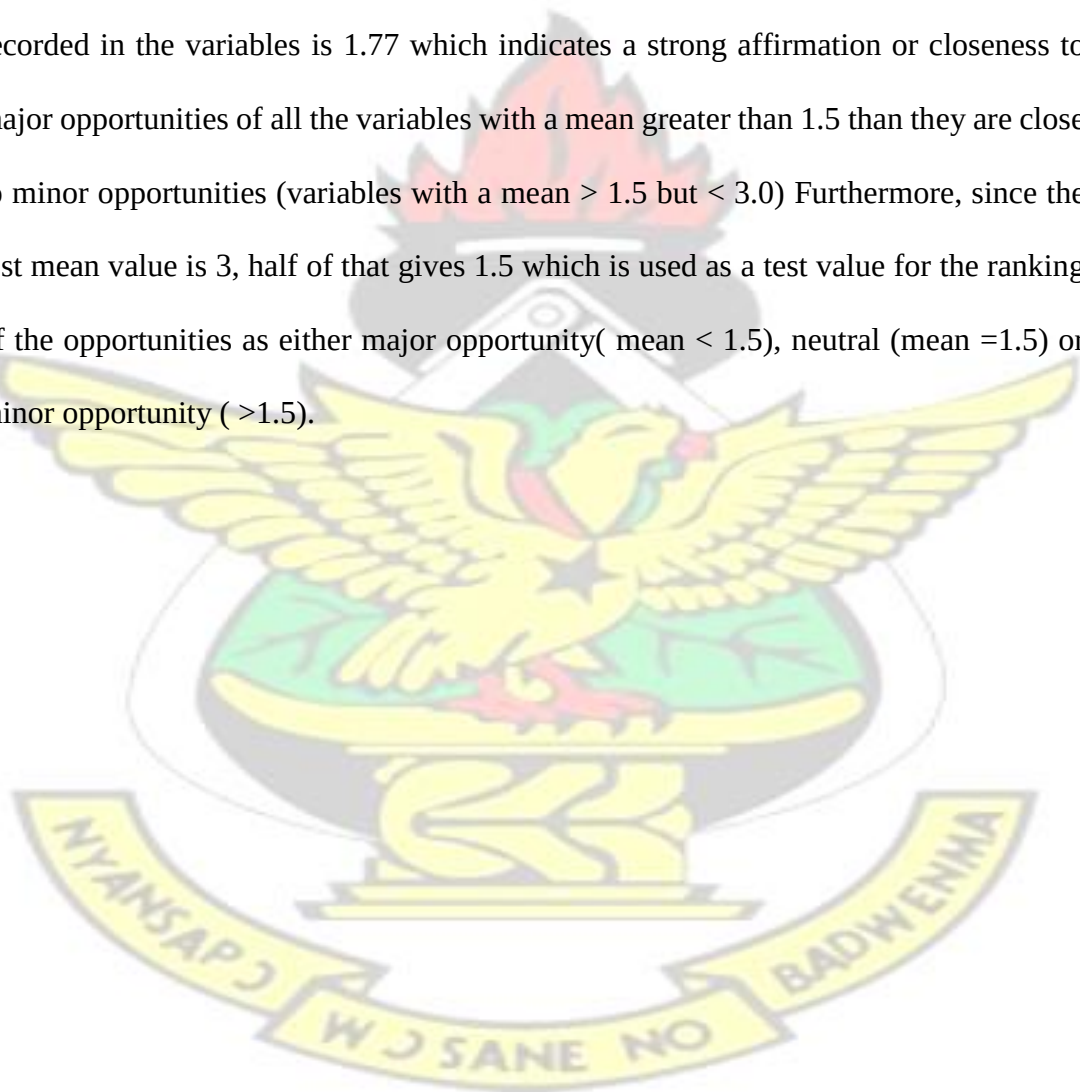
The components are described as resource deficiency weaknesses (component 1), performance related weaknesses (component 2), effect related weaknesses (component 3), human resource related weaknesses (component 4), business expansion weaknesses (component 5) and overall effect weaknesses (component 6)





#### **4.7 OPPORTUNITIES OF INDIGENOUS BUILDING CONTRACTORS IN NORTHERN GHANA**

Using a test value of 3, a mean ranking analysis of the means of the 14 variables in Table 4.9 vis-à-vis the test mean accepts all the 20 variables as opportunities because all the variables have a mean less than three(3). There is a total agreement that all the variables are good opportunities that can be explored by building contractors in northern Ghana for enhanced growth and improved performance. The highest mean recorded in the variables is 1.77 which indicates a strong affirmation or closeness to major opportunities of all the variables with a mean greater than 1.5 than they are close to minor opportunities (variables with a mean  $> 1.5$  but  $< 3.0$ ) Furthermore, since the test mean value is 3, half of that gives 1.5 which is used as a test value for the ranking of the opportunities as either major opportunity( mean  $< 1.5$ ), neutral (mean  $=1.5$ ) or minor opportunity (  $>1.5$ ).



**Table 4.9 One Sample Statistics of Opportunities**

|                                                 | N  | Mean | Std. Deviation | Interpretation    |
|-------------------------------------------------|----|------|----------------|-------------------|
| Establishment of a quarry                       | 30 | 1.13 | .346           | Major Opportunity |
| Sand winning                                    | 30 | 1.49 | .861           | Major Opportunity |
| Training of locals in artisanship               | 30 | 1.77 | .858           | Minor Opportunity |
| Training of employees in software usage         | 30 | 1.47 | .629           | Major Opportunity |
| Investment into real estate development         | 30 | 1.49 | 1.042          | Major Opportunity |
| Designing and building of residential buildings | 30 | 1.33 | .479           | Major Opportunity |
| Officially renting out equipment                | 30 | 1.63 | .615           | Minor Opportunity |
| Building with local materials                   | 30 | 1.51 | .861           | Minor Opportunity |
| Belonging to a northern network of contractors  | 30 | 1.53 | .860           | Minor Opportunity |
| Choosing an industry standard as a benchmark    | 30 | 1.53 | .860           | Minor Opportunity |
| International partnership                       | 30 | 1.53 | .860           | Minor Opportunity |
| Establishment of R & D department               | 30 | 1.23 | .504           | Major Opportunity |
| Training and retraining of employees            | 30 | 1.37 | .490           | Major Opportunity |
| Employment of experienced staff                 | 30 | 1.53 | .507           | Minor Opportunity |

Therefore, all the variables are confirmed as opportunities of indigenous building contractors in Northern Ghana

**Major Opportunities:** Establishment of a quarry, sand winning, training of employees in software usage, investment into real estate development, designing and building of residential buildings, establishment of R & D department, and training and retraining of employees.

**Minor Opportunities:** The highest mean among this list is 1.77 (training of locals in artisanship). The others in descending order of means and closeness to major strengths are: officially renting out equipment( mean of 1.63), belonging to northern network of contractors, choosing and industry standard as a benchmark, international partnership, and employment of experienced staff ( all with a mean each of 1.53), and building with local materials ( mean of 1.51). It is evident that, though all these factors are classified as minor opportunities because of the test value of 1.5, any allowable misclose to the rejection criterion of + or – would have qualified most of these as major strengths. For example, without referring to the means, merely classifying investment into real estate development ( mean of 1.49) as a major opportunity and building with local materials( mean of 1.51) as a minor opportunity lends credence to the fact that building with local materials is too close to being a major opportunity and could be classified as such.

All the 14 accepted opportunities in Table 4.9 had communalities of 1.00, indicating their suitability for the study for factor analysis. The 14 opportunities were further reduced to common factor patterns. The principal component analysis with Varimax rotation and Kaiser Normalization were used to determine which opportunities are empirically significant. Factor retention was by the eigenvalue  $\geq 1.0$  criteria, indicating that factors with variance greater than one was included in the factor extraction.

Factor analysis had as input all the 14 opportunities of indigenous building contractors in Northern Ghana and placed them under four (4) components as found in Table 4.10

**Component 1:** Sand winning, training of locals in artisanship, building with local materials, belonging to a network of northern contractors, choosing an industry standard as a benchmark, international partnership, establishment of research and development department. These are described as **resource development opportunities**.

**Component 2:** Training of employees in software usage, designing and construction of residential buildings, employment of experienced staff. These are described as **employee capacity opportunities**.

**Component 3:** Establishment of a quarry and investment into real estate. These are described as **related diversification opportunities**.

**Component 4:** Officially renting out equipment, training and retraining of employees. These are described as **resource optimization opportunities**.



**Table 4.10 Rotated Component Matrix of Opportunities**

|                                                 | Component |       |      |      |
|-------------------------------------------------|-----------|-------|------|------|
|                                                 | 1         | 2     | 3    | 4    |
| Establishment of a quarry                       |           |       | .857 |      |
| Sand winning                                    | .748      | -.404 |      |      |
| Training of locals in artisanship               | .852      |       |      |      |
| Training of employees in software usage         |           | .846  |      |      |
| Investment into real estate development         | .626      |       | .717 |      |
| Designing and building of residential buildings |           | .545  |      |      |
| Officially renting out equipment                |           |       |      | .864 |
| Building with local materials                   | .877      |       |      |      |
| Belonging to a northern network of contractors  | .864      |       |      |      |
| Choosing an industry standard as a benchmark    | .878      |       |      |      |
| International partnership                       | .876      |       |      |      |
| Establishment of R & D department               | .538      |       |      |      |
| Training and retraining of employees            |           |       |      | .737 |
| Employment of experienced staff                 |           | .864  |      |      |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

b. Four (4) components extracted.

**Table 4.11 KMO and Bartlett's Test of Opportunities**

|                                                  |                    |         |
|--------------------------------------------------|--------------------|---------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. |                    | .634    |
| Bartlett's Test of Sphericity                    | Approx. Chi-Square | 269.763 |
|                                                  | df                 | 91      |
|                                                  | Sig.               | .000    |



**Table 4.12 Total Variance of Opportunities Explained**

| Component | Initial Eigenvalues |               |              | Extraction Sums of Squared Loadings |               |              | Rotation Sums of Squared Loadings |               |              |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|---------------|--------------|
|           | Total               | % of Variance | Cumulative % | Total                               | % of Variance | Cumulative % | Total                             | % of Variance | Cumulative % |
| 1         | 5.365               | 38.324        | 38.324       | 5.365                               | 38.324        | 38.324       | 5.055                             | 36.110        | 36.110       |
| 2         | 2.360               | 16.857        | 55.180       | 2.360                               | 16.857        | 55.180       | 2.157                             | 15.411        | 51.520       |
| 3         | 1.511               | 10.794        | 65.974       | 1.511                               | 10.794        | 65.974       | 1.892                             | 13.512        | 65.032       |
| 4         | 1.364               | 9.742         | 75.716       | 1.364                               | 9.742         | 75.716       | 1.496                             | 10.684        | 75.716       |
| 5         | .926                | 6.616         | 82.333       |                                     |               |              |                                   |               |              |
| 6         | .752                | 5.368         | 87.700       |                                     |               |              |                                   |               |              |
| 7         | .487                | 3.482         | 91.182       |                                     |               |              |                                   |               |              |
| 8         | .324                | 2.313         | 93.496       |                                     |               |              |                                   |               |              |
| 9         | .275                | 1.962         | 95.458       |                                     |               |              |                                   |               |              |
| 10        | .218                | 1.557         | 97.015       |                                     |               |              |                                   |               |              |
| 11        | .164                | 1.172         | 98.187       |                                     |               |              |                                   |               |              |
| 12        | .147                | 1.050         | 99.237       |                                     |               |              |                                   |               |              |
| 13        | .072                | .516          | 99.753       |                                     |               |              |                                   |               |              |
| 14        | .035                | .247          | 100.000      |                                     |               |              |                                   |               |              |

Extraction Method: Principal  
Component Analysis.



## 4.8 THREATS OF INDIGENOUS BUILDING CONTRACTORS IN NORTHERN GHANA

Using a test value of 3, a mean ranking analysis of the means of the 9 variables in Table 4.13 in analogy with the test mean accepts all the 9 variables as threats because all the variables have a mean less than three (3). The highest mean recorded in the variables is 2.57 for Ghanaians increasing appetite for foreign taste and the lowest mean is 1.40 for unfavorable government policies. Furthermore, since the test mean value is 3, half of that gives 1.5 which is used as a test value for the ranking of the threats as either major threats (mean < 1.5), neutral (mean = 1.5) or minor threats (> 1.5).

**Table 4.13 One Sample Statistics of Threats**

|                                                  | N  | Mean | Std. Deviation | Interpretation |
|--------------------------------------------------|----|------|----------------|----------------|
| Existence of more competent Ghanaian firms       | 30 | 2.17 | 1.234          | Minor Threat   |
| National and International bidding procurement   | 30 | 1.90 | .607           | Minor Threat   |
| Bribery and corruption in the award of contracts | 30 | 2.23 | .898           | Minor Threat   |
| Global competition                               | 30 | 2.20 | .997           | Minor Threat   |
| High interest rates on loans                     | 30 | 1.83 | .531           | Minor Threat   |
| Ghanaians increasing appetite for foreign taste  | 30 | 2.57 | 1.135          | Minor Threat   |
| Poor microeconomic indicators                    | 30 | 2.20 | .887           | Minor Threat   |
| Instability in the country                       | 30 | 1.49 | 1.167          | Major Threat   |
| Unfavourable government policies                 | 30 | 1.40 | .675           | Major Threat   |

All the variables are confirmed as threats to indigenous building contractors in Northern Ghana. However, their interpretation is found below.

**Major Threats:** Instability in the country and unfavorable government policies.

**Minor Threats:** Existence of more competent Ghanaian firms, national and international bidding, bribery and corruption in the award of contracts, global competition, high interest rates on loan facilities, Ghanaians increasing appetite for foreign taste, and poor microeconomic indicators.

All the 9 accepted threats in Table 4.13 had communalities of 1.00, indicating their suitability for the study for factor analysis. The 9 threats were further reduced to common factor patterns. The principal component analysis with Varimax rotation and Kaiser Normalization were used to determine which threats are empirically significant. Factor retention was by the eigenvalue  $\geq 1.0$  criteria, indicating that factors with variance greater than one was included in the factor extraction.

Factor analysis had as input all the 9 threats of indigenous building contractors in Northern Ghana and placed them under three (3) components as found in Table 4.14

**Component 1:** National and international bidding procurement, high interest rates on loans, Ghanaians increasing appetite for foreign taste, instability in the country. These are described as **political, economic and social threats**.

**Component 2:** Bribery and corruption in the award of contracts, and global competition. These are described as **tendering and procurement threats**.

**Component 3:** Existence of more competent Ghanaian firms, poor micro-economic indicators, unfavorable government policies. These are described as **national threats**.

**Table 4.14 Rotated Component Matrix of Threats**

|                                                  | Component |      |      |
|--------------------------------------------------|-----------|------|------|
|                                                  | 1         | 2    | 3    |
| Existence of more competent Ghanaian firms       | .412      |      | .618 |
| Nat. and International bidding procurement       | .629      |      |      |
| Bribery and corruption in the award of contracts |           | .893 |      |
| Global competition                               |           | .821 |      |
| High interest rates on loans                     | .669      |      |      |
| Ghanaians increasing appetite for foreign taste  | .667      |      |      |
| Poor microeconomic indicators                    |           |      | .651 |
| Instability in the country                       | -.628     | .539 |      |
| Unfavourable government policies                 | -.404     |      | .785 |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

b. 3 components extracted.

**Table 4.15 KMO and Bartlett's Test of Threats**

|                                                     |        |
|-----------------------------------------------------|--------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy.    | .475   |
| Bartlett's Test of Sphericity    Approx. Chi-Square | 64.029 |
| df                                                  | 36     |
| Sig.                                                | .003   |

**Table 4.16 Total Variance of Threats Explained**

| Component | Initial Eigenvalues |               |              | Extraction Sums of Squared Loadings |               |              | Rotation Sums of Squared Loadings |               |              |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|---------------|--------------|
|           | Total               | % of Variance | Cumulative % | Total                               | % of Variance | Cumulative % | Total                             | % of Variance | Cumulative % |
| 1         | 2.163               | 24.032        | 24.032       | 2.163                               | 24.032        | 24.032       | 2.050                             | 22.782        | 22.782       |
| 2         | 1.868               | 20.760        | 44.792       | 1.868                               | 20.760        | 44.792       | 1.878                             | 20.869        | 43.651       |
| 3         | 1.592               | 17.689        | 62.481       | 1.592                               | 17.689        | 62.481       | 1.695                             | 18.829        | 62.481       |
| 4         | .978                | 10.872        | 73.352       |                                     |               |              |                                   |               |              |
| 5         | .741                | 8.238         | 81.591       |                                     |               |              |                                   |               |              |
| 6         | .714                | 7.937         | 89.528       |                                     |               |              |                                   |               |              |
| 7         | .439                | 4.875         | 94.403       |                                     |               |              |                                   |               |              |
| 8         | .351                | 3.896         | 98.299       |                                     |               |              |                                   |               |              |
| 9         | .153                | 1.701         | 100.000      |                                     |               |              |                                   |               |              |

Extraction Method: Principal Component Analysis.

## CHAPTER FIVE

### CONCLUSION AND RECOMMENDATIONS

#### 5.1 INTRODUCTION

The aim of this study is to explore through a SWOT analysis the opportunities of Indigenous Building Contractors in Northern Ghana for improved performance and enhanced growth.

The study employed a field survey through the administration of questionnaires to 30 indigenous building contractors in Northern Ghana. These contractors were determined through non-probability sampling. Specifically, the purposive sampling method was used for the selection of the contractors with the help of pre-selection criteria. The data collected was analyzed through descriptive analysis, mean score, and factor analysis by SPSS 16.0. The stated aim of the research was achieved through the

1. Identification of the strengths and weaknesses of indigenous building contractors in Northern Ghana
2. Identification of the opportunities and threats
3. Recommendation of strategic opportunistic steps to improve performance and enhance growth of indigenous building contractors in Northern Ghana.

**Strengths** are viewed as characteristics of an organization that will allow it to take advantage of the opportunities that are recognized. **Weaknesses** are seen as characteristics of an organization that stand in the way of an organization's ability to take advantage of its recognized opportunities. **An opportunity** is a favorable solution to a problem, not the problem itself. Opportunities are valuable occasions to improve organizational performance in seeking its goals.



**Threats** are indications that something dangerous, harmful or unpleasant will happen and they impede circumstances in a firm.

## **5.2 FINDINGS**

The identified strengths, weaknesses, opportunities and threats of the indigenous building contractors in Northern Ghana are elaborated below.

### **5.2.1 Strengths of Indigenous Building Contractors in Northern Ghana**

Using the one sample test, the results revealed and accepted the following as the strengths of indigenous building contractors in Northern Ghana. Out of 18 variables identified from literature and experience, 13 were accepted as strengths and 5 rejected.

#### **Major Strengths**

Clemency of weather, availability of land and client's relations. These were highly ranked with a mean score less than 1.5.

#### **Minor Strengths**

Low overheads, cheap labor, low living expenses, quality of products and services, experience, production efficiency, IT utilization, procurement management, organizational structure and diversified array of projects. Through the mean analysis, these had means greater than the test value of 1.5 and were classified as minor strengths.

When all the accepted strengths were subjected to factor analysis for data reduction, four(4) components were identified. These are

Component 1: Company internal related strengths

Component 2: Environmental related strengths

Component 3: Financial related strengths

Component 4: Climatic related strengths

### **5.2.2 Weaknesses of Indigenous Building Contractors in Northern Ghana**

Using a test value of 3, a mean ranking analysis of the means of the 24 variables in Table 4.6 vis-à-vis the test mean accepts 20 variables as weaknesses and rejects 4 variables. The accepted weaknesses are as follows

**Major Weaknesses:** Cost overruns, delays, research and development activities, training and retraining of staff and partnership.

**Minor weaknesses:** Poor supervision, poor finishes, improper documentation and records keeping, inadequate financial resources, corrupt employees, lack of proper planning and scheduling, improper managerial economics, high employee turnover, low profit margins, inexperienced employees, lack of required plant and equipment, poor health and safety practices, joint ventures with overseas firms, lack of innovation, and poor risks identification and management.

Factor analysis was used to reduce the accepted weaknesses into 6 components namely:

Component 1: Resource deficiency related weaknesses

Component 2: Performance related weaknesses

Component 3: Effect related weaknesses

Component 4: Human resource related weaknesses

Component 5: Business expansion related weaknesses

Component 6: Overall outcome related weaknesses.

### 5.2.3 Opportunities of Indigenous Building Contractors in Northern Ghana

Using a test value of 3, a mean ranking analysis of the means of the 14 variables in Table 4.9 vis-à-vis the test mean accepts all the 20 variables as opportunities because all the variables have a mean less than three(3). There is a total agreement that all the variables are good opportunities that can be explored by building contractors in northern Ghana for enhanced growth and improved performance. The highest mean recorded in the variables is 1.77 which indicates a strong affirmation or closeness to major opportunities of all the variables with a mean greater than 1.5 than they are close to minor opportunities (variables with a mean  $> 1.5$  but  $< 3.0$ ).

**Major Opportunities:** Establishment of a quarry, sand winning, training of employees in software usage, investment into real estate development, designing and building of residential buildings, establishment of R & D department, and training and retraining of employees.

**Minor Opportunities:** The highest mean among this list is 1.77 (training of locals in artisanship). The others in descending order of means and closeness to major opportunities are: officially renting out equipment( mean of 1.63), belonging to northern network of contractors, choosing and industry standard as a benchmark, international partnership, and employment of experienced staff ( all with a mean each of 1.53), and building with local materials ( mean of 1.51). It is evident that, though all these factors are classified as minor opportunities because of the test value of 1.5, any allowable misclose to the rejection criterion of + or – would have qualified most of these as major opportunities. For example, without referring to the means, merely classifying investment into real estate development ( mean of 1.49) as a major

opportunity and building with local materials( mean of 1.51) as a minor opportunity lends credence to the fact that building with local materials is too close to being a major opportunity and could be classified as such.

When all the opportunities were subjected to factor analysis for data reduction, four (4) components were identified. These are

Component 1: Resource development related opportunities

Component 2: Employee capacity related opportunities

Component 3: Related diversification opportunities

Component 4: Resource related opportunities

#### **5.2.4 Threats of Indigenous Building Contractors in Northern Ghana**

Using a test value of 3, a mean ranking analysis of the means of the 9 variables in Table 4.13 in analogy with the test mean accepts all the 9 variables as threats because all the variables have a mean less than three (3). The highest mean recorded in the variables is 2.57 for Ghanaians increasing appetite for foreign taste and the lowest mean is 1.40 for unfavorable government policies. Furthermore, since the test mean value is 3, half of that gives 1.5 which is used as a test value for the ranking of the threats as either major threats( mean < 1.5), neutral (mean =1.5) or minor threats ( >1.5).

The accepted threats are classified as:

**Major Threats:** Instability in the country and unfavorable government policies.

**Minor Threats:** Existence of more competent Ghanaian firms, national and international bidding, bribery and corruption in the award of contracts, global competition, high interest rates on loan facilities, Ghanaians increasing appetite for foreign taste, and poor microeconomic indicators.



Three (3) components were extracted through the factor analysis as follows

Component 1: Political, economic, and social related threats

Component 2: Tendering and procurement threats

Component 3: National related threats

### **5.3 CONCLUSION**

This study has extracted the strengths, weaknesses, opportunities and threats of indigenous building contractors in Northern Ghana and has resulted in an enhanced understanding of the true standing of these contractors. When the recommendations to contractors are implemented, risk will be reduced and performance improved significantly. The generic strategies suggested in this research can suitably be put into practice depending upon the best matching of a company's strengths, weaknesses, opportunities, and threats. Not only those but successfully overcoming a firm's weaknesses and threats, improving on strengths and maximizing a firm's opportunities will aid in achieving Total Quality Management (TQM), cost-effectiveness and timeliness of construction projects.

### **5.4 RECOMMENDATIONS**

Based on the findings of this study, the following recommendations are made:

#### **5.4.1 Recommendation to Contractors**

Contractors should conduct a SWOT analysis of their companies regularly to reduce risk by overcoming or mitigating the identified weaknesses and threats, and to improve performance by optimizing the strengths and opportunities identified.

Contractors should strive to achieve project objectives of cost, time and quality since they are the basic good indices of best performance which will meet or exceed client



expectation and company objectives. This will require proper planning and scheduling, right resources and management, and good management practices.

#### **5.4.2 Strategic Opportunistic Steps to Improve Performance and Enhance**

##### **Growth**

An opportunity is a favorable solution to a problem, not the problem itself. Opportunities are valuable occasions to improve organizational performance in seeking its goals. If it is fruitful, it opens the way for additional opportunities because an improved condition contains the seeds for further improvement, more options and future opportunities. While opportunities may be everywhere, they are not always apparent, and, once missed, they are gone.

**1. ESTABLISHMENT OF A QUARRY:** This will serve as a source of supply of coarse aggregate (chippings) for construction activities and for commercial sales. This is a long term investment and may be seen as capital intensive but it is a convenient, reliable and cost efficient way to expedite construction activities, make savings and an additional or alternate source of revenue to the company.

Added to those, during construction recession where contracts are not forthcoming and most firms mostly retrench or lay off workers as a way of cutting down cost or some loyal employees become idle and there is a high turnover, a fully operational quarry could keep these firms in business. Construction firms operating a quarry in addition is much more lucrative since a lot of money is spent on buying chippings from sub-contractors who sometimes delay in delivery. Also, it is sustainable than purely relying on construction. This point is evident in the fact that, most foreign companies have their own quarry and some other construction firms in Ghana.

Considering the scope or setting of the research, there are much reserves of natural resources at strategic locations which can be exploited. Acquisition of a concession from the traditional heads is also easy and cheaper as compared to doing so in the southern part of Ghana.

Pwalugu located in the Talensi District of the Upper East Region is the main location for quarry activities in the 3 regions of the North especially for Upper East and Northern Region. Gurube is also another location that mainly serves the upper west region. A view of the rocks in Pwalugu is shown in plate 1 of appendix 3. It is also recommended that a convenient way to crush is through the procurement of a mobile crusher. A typical screen crusher from one of the contractors is shown in plate 2 of appendix 3.

## **2. TECHNICAL TRAINING FOR STUDENTS AND THE YOUTH**

One of the main strengths of the construction firms is its professional diversity; many different professionals working in a team to achieve an aim. These professionals include Managers, engineers (Civil, Geomatic, MEP, structural etc), architect, surveyors, steel benders, masons, carpenters, tillers, operators etc. The work of these people is mostly practical and requires certain tools and equipment which are mostly available for work. Stemming from these vis a-vis the high unemployment rate in Ghana which mostly causes rural urban drift with its attendant problems, most construction firms can embark on unique projects by relying on their pull of professionals, tools, equipment and experience to give practical tutorials to interested youth in a bid to equip them with practical employable skills, experience through the enabling environment of the construction site and activities.

This can generate additional revenue for some construction firms depending on how effective, controlled and impactful such models will be.

Also, this training will be seen as a clear demonstration of corporate social responsibilities and true patriotism. These will inevitably boost the reputation of such firms and acknowledgement for the commitment to solving issues of unemployment, crime etc

**3. INVESTMENT IN REAL ESTATE DEVELOPMENT:** The northern part of Ghana though has a fewer population as compared to the south is blessed with a number of public tertiary educational institutions. Considering the three regions, Upper East has a university in Navrongo, a training college, Nursing training school and accommodation for students is a major problem. Since hostel facilities and residential apartments for rent is a lucrative venture, any construction firm that ventures into real estate area will mean that they will build at the least cost since cost management concepts will be used to cut down cost while still meeting the function.

**4. MINING FINE AGGREGATE FROM THE SAND PIT:** Making savings on the procurement of fine aggregate (sand) for moulding blocks, building, concreting, screeding, plastering, rendering etc by not buying from the sub-contractor but by going to the sand pit with a truck and a backacter to mine and haul. This is very cost effective especially considering the fact that the northern sector has fewer settlements and there are many sand or laterite pits which can be used.

**5. PARTNERSHIP:** Some construction firms in the northern part of Ghana cannot win certain contracts since they do not have the capacity to undertake such projects. Some of these contractors in northern Ghana can go into partnership with bigger companies in the southern part of Ghana and even with foreign companies. This partnership will surely be based on a win-win situation and will increase the chance of winning contracts and completion within time.

Also, this may serve as a good synergy for human resource development, further training of employees and plant and equipment support.

**6. CONSTRUCTION SOFTWARE:** There are many softwares and computer application used by construction firms to ensure the success and effectiveness of the works. E.g Microsoft suite of applications, Microsoft Project (MS project), AutoCAD, ArchiCAD, Building Information modeling ( BIM), Primavera etc. These softwares upon knowing their functions and capabilities are just amazing and incredible and no contractor whether big or small who has ever known these will stay away from using them.

Learning these is not too difficult, one only needs to be enthusiastic, committed and get the right people or materials and learn. There is also information online (notes and videos) as to how these are used.

Most contractors in the north do most things manually and are not able to plan and track project costs, profit margins, delays, risks, etc of their projects.

**7. DESIGN AND BUILD RESIDENTIAL BUILDINGS:** There is a lot of potential and prospects of making a lot of money frequently through opening up for residential buildings construction. The current trend in Ghana is that, many people put up residential buildings and sometimes have to travel to the southern part of Ghana to bring small contractors to execute that. In the northern part, most of the unprofessional contractors do shoddy and poor quality job which does not fully meet the needs and expectations of the client. This poor performance may be as a result of their unprofessional nature, poor planning, ignorance of better and modern techniques of doing things right, inability to give quality and professional advice to the client. The contractor stands a better chance of submitting good estimates, assurance of a better



job, winning of contract and good finish than these unprofessional contractors who may not even know how to interpret drawings.

Little drops of water make a mighty ocean; in view of this, many residential contract sums coming together will equate the contract sum of a particular big project.

**8. A SYNERGY OR OFFICIAL ASSOCIATION OR NETWORK FOR ALL CONTRACTORS IN THE NORTH:** Unity lies in strength. This body will be used as a conduit to push for reforms, seek support from government and other agencies, help members to grow and many other benefits.

Also, the group can organize training and empowerment sessions for all contractors on how to successfully run a company and best practices, tools, equipment, techniques, processes, technology, software, innovation in the construction industry etc. This makes things easier and cheaper since it is a group organization as compared to if it were an individual company organizing such sessions. E.g The Department of Building Technology, KNUST could be invited to train and organize short courses for the group which will form and inform them on construction site management, Resource management, managerial economics, construction law, operation research, planning and scheduling, computer applications etc all in the view of increasing productivity, ensuring best practices and success in business. Most of the contractors in the north are business men who mostly have no or little background in construction but because they have the resources, venture into such businesses and mostly do not employ qualified staff because of cost implications.

**9. USE OF LOCAL AND NATURAL BUILDING MATERIALS TO BUILD BUT WITH INNOVATION AND STYLE.** E.g laterite, mud, thatch roof, sirigu art and craft designs etc. The use of these local styles of building if done carefully and



strategically with innovation and style may even receive more patronage than the modern way of building because of sustainability, comfort, uniqueness.

Many refrain from using these local materials which are available free or at cheaper prices because of the perception that they do not last and are not durable. This may be a fallacy and depends on how the materials were being used and the type of innovation and technology that was used. A clear example or embellishment to refute the wrong notion about mud buildings is the Our Lady of Seven Sorrows Basilica in Navrongo; this church was built in 1906 with mud and roofed with aluzinc but is still strong and nice like any modern building put up with cement. This confirms the fact that, these local methods of building need to be given more research and a critical look since it has the ability to meet the housing needs of people at a cheaper cost.

Also, there exist many people in the hinterlands, villages and even cities in the north who are homeless or are crowded in the rooms where they live. An exploration and development of this sector by the northern contractors will be a further in their cap and great milestone in improving on the housing deficit in Ghana since houses will be built and the poor folks can afford and be comfortable in them.

Also, Ghana and in particular, the northern part of Ghana is noted with these type of buildings and most people who are living in modern homes now once lived in one type of local house or the other. In order to preserve our heritage, tradition, promote sustainability and improve tourism. The northern contractors need to use innovation, technology, lean thinking, value engineering and a SWOT analysis of the present way of building local houses in order to improve on the quality, aesthetics and durability of such local houses and put up modern local houses at a cheaper price. Sirigu in the Upper

East Region is noted for their special designs of local buildings as found in plates 5, 6, and 7 of appendix 5.

A brief description of the style, innovation and sustainable features of the Our lady of Seven Sorrows Basilica are as follows. The basilica is wholly built and plastered with mud. Dimensionally, it has a length of 60m, width of 14m and a height of 13m. Originally, the basilica had a flat roof to resemble the local buildings but was changed later to a pitched roof with corrugated iron sheets. The flooring of the basilica is done with gravel and a mixture of dawadawa and cowdung. The zenith of the building is 13m from the ground level. The interior portion is divided into a main nave and 2 aisles. The lower part of the interior walls have special local designs on them. Each aisle has 10 columns; with adjoining columns growing out into the shape of an arc with a wall on top like a roof beam. This highlights the moldable qualities of mud and its flexibility for different designs. To the right of the entrance porch is a small room leading to the stair tower and another to the left of the entrance where there is a baptistery. The basilica has 4 main entrances; one big and 2 small ones for the congregation and another small one at the sacristy with an entrance and exit to the basilica from the sacristy. It has 25 windows to enhance ventilation. Though, the basilica has been maintained severally, it has not changed significantly. The exterior view of the Basilica is shown in plate 3 of appendix 4 and a picture of the stone built grotto is found in plate 4 of appendix 4.

## **10. RESEARCH AND DEVELOPMENT ACTIVITIES**

Research and development (R&D) is the vital spark for the construction industry especially for the larger construction firms. The following are proposed stratagems for the enhancement of the current state of R & D in the construction industry.

- ❖ The establishment of efficient planning, communication and coordination systems to improve information exchange, knowledge, skills and expertise transfer for economic benefits
- ❖ Critical attention must be given to aspects such as emerging technologies, resource optimization, technological integration, innovative and sustainable construction in order to improve performance and enhance growth.
- ❖ Dedication of essential resources and time for R&D with the aim of exploring, investigating and interrogating sustainable competitive advantages both locally and globally.
- ❖ Development of specific technologies, processes, procedures, products and services to serve the prospective client and meet or exceed expectations.
- ❖ The development of a long term strategic plan and effective strategic planning and management.
- ❖ Initiate and foster a strong bond and chemistry among the various construction – associated R & D institutions, universities, research associations and other related departments, ministries and agencies.
- ❖ Develop a business intelligence gathering and knowledge management unit geared towards facilitating the work of the R & D department for its effectiveness and efficiency.

## **11. TRAINING/RETRAINING**

Training and retraining of employees is very important to successfully implement high quality standards. Trained and motivated staff who understand the specifics of a firm's business are sustainable competitive advantage to the business. This is because,

innovation is hard to be imitated by competitors and innovation comes from employees.

The strategies below are proposed

- ❖ Every new employee should be officially inducted and a company workers manual given as a source of guide and information about the culture, systems, processes, procedures and practices of the firm.
- ❖ Training of new employees on the specifics of their job and the organizational culture required for success. This will avoid mistakes, waste, incompetence, save cost, time and enhance quality work.
- ❖ Retraining of existing employees, refresher courses and cross training for them based on their needs assessment or outcome of their appraisal. This will help employees unleash their full potential and produce multi-talented employees which is an important competitive advantage to a firm.
- ❖ Explore and maximize online training to gain skills, techniques and knowledge required for competence, good delivery and effectiveness. Google and Youtube are the most common sources where books, potable documents, video tutorials, pictures etc can be downloaded. This is a more economical and convenient way of learning that is yet to be fully explored by Ghanaians.
- ❖ Continuous training and further studies for employees to ensure they have full exposure and understand existing and future tasks, skills and expectations needed for good results.

## **12. HUMAN RESOURCES**

The construction industry products and services chiefly depend on human resources rather than sophisticated automation systems and technologies like in the manufacturing sector. The ability of sophisticated technologies to work efficiently



depends on human resources. Human resources are therefore the most important and valuable assets of the construction industry.

Ghanaians are far behind in terms of the competence, effectiveness, reliability and performance of their human resources as compared to their competitors. The following are proposed to change the status quo.

- ❖ Make the management of human resources a strategic and prior function by changing human resource focus from merely filling vacant positions to strategically addressing workforce needs and gaps. People with the right attitude and expertise should be the ones to be employed into a firm in order to achieve targeted goals.
- ❖ Employee retention must be a deliberate strategy towards the acquisition of a competitive advantage over competitors. Hard working, loyal, dedicated, talented and promising employees can be offered scholarships for further training but must be bonded officially. This will make employees feel motivated, part of the business and happy to work.
- ❖ All human resource procedures, labour laws, employee welfare etc must be followed to avoid employee agitations, dissatisfaction and strike actions which affect the results and reputation of a firm. There should be fairness, equality, common purpose and justice for all.
- ❖ Every employee must have a clear and proper job description with clear terms and conditions which should be adhered strictly by both parties. This will avoid ambiguities, role conflict and conflict of interest which normally bring troubles and low morale to work places.
- ❖ Rules, regulations, conventions and laws concerning the age limits, sponsorship of employees and their dependents, salary structure, bonuses, and allowances



must be revised to be based on qualification, experience, performance, and innovation rather than irrelevant factors such as nationality, sectionalism and favoritism.

### **13. INNOVATION IN SERVICES**

There is the need for construction firms to be innovative and proactive since the business mostly relies on these as their competitive advantage over other firms. Innovation requires much time and commitment giving rise to failure and frustration. Therefore, there should be consistency and the ability to see success as a joy and failure, a postponed success. Though the financial involvement is always high for the innovation process, its final and overall benefits far offset the cost. The following strategies are proposed.

- ❖ R & D must be integrated into the construction setup and be given resources, space and push to operate and achieve results.
- ❖ Intelligence gathering to know the strengths, weaknesses, opportunities and threats of competitors and compare to the firm's SWOT analysis so that products and services will be designed to fill such gaps and needs which become a competitive advantage.
- ❖ All the business functions such as management, administration, finance, procurement, purchasing, health and safety, marketing, corporate services, security etc must come together as a team and contribute to the formulation of innovative processes which will be acceptable, realistic, achievable and optimally successful.
- ❖ The time span until innovations are copied by imitators is becoming shorter and shorter in the competitive environment. Therefore, care should be taken to

ensure that innovation in products and services are path-dependently being backed by core competencies that cannot easily be imitated so as to be always strategically ahead of competitors, and reap sufficient and benefits from investments. In order to minimize risk of failure, innovation should be based on long term objectives and strategies, adequately compatible and most guided by company size, value chains and availability of resources already existing to quickly realize new and changing needs, initiated by market and not by transitory technological developments, and concentrate on the linkages within the value systems which will be more difficult to imitate.

#### **14. STRATEGIC PLANNING**

Strategic planning is a formal process designed to interpret the firm's environment that aims at preparing for the distant future. The following strategies are proposed so as to gain competitive advantage in the new era of hyper-competition.:

- ❖ Take into consideration the evolving opportunities, resources, and objectives to achieve long-run profitability, growth and expansion.
- ❖ Companies must have business concept statements and business plans which strategically outline the path the business will chart and the expected results.
- ❖ Strategic planning must be broken down into phases such as initiation, formulation, implementation and assessment.
- ❖ Keep investigating and rationalizing business plan and operational strategies, policies, and procedures through frequent SWOT analysis, PEST analysis and Porter's five factors. Align strategies to keep gaining competitive advantage in terms of cost, leadership, differentiation, and focus/niche strategies.

- ❖ Effectively protect corporate information from been imitated and to maintain differentiation strategies in terms of the firm's valuable assets.
- ❖ Avoid overconfidence:- Always strive for the best and for perfection no matter how accomplished and compliant a company is. Avoid been too content and either push for improvement.
- ❖ Effective communication of strategic plan to every level of the organization to meet the shared objectives through a culture of team work.

#### **5.4.2 Recommendation for Future Research**

Future research is recommended into the use of SWOT analysis of contractors for strategic planning and management.

Also, research into Political, environmental, social and technological (PEST) analysis and Porter's five factors for construction companies of a particular grade or class is recommended. This will give companies a better understanding of all these analysis and how they are all together going to be used to improve performance and enhance growth.

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# KNUST



## APPENDIX 1: QUESTIONNAIRE LETTER OF INTRODUCTION



**KWAME NKUMAH UNIVERSITY OF SCIENCE AND  
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Kumasi-Ghana Tel: +233-3220-62770

10<sup>th</sup> July, 2016

Dear Sir/ Madam,

### **INVITATION TO PARTICIPATE IN A RESEARCH STUDY**

I am Ishmael Wepia Kabange, an MSc. Construction Management student of the Building Technology Department in Kwame Nkrumah University of Science and Technology, Kumasi. Your participation in this study will be in the form of answering a questionnaire and a short interview on a research study titled: **“SWOT ANALYSIS OF INDIGENOUS BUILDING CONTRACTORS IN NORTHERN GHANA”**

This questionnaire seeks to identify the strengths, weaknesses, opportunities and threats of indigenous building Contractors in the 3 regions of the North; Upper East, Upper West, Northern and explore the opportunities identified.

You are kindly required to respond to the questions by ticking (✓) the right option and/or writing the appropriate answer(s) in the spaces provided for each question. Confidentiality of information provided is highly assured. The results of this study will be made available to all interested companies to help improve performance and enhance growth.

Great thanks and appreciation for your acceptance and cooperation in completing this questionnaire and granting us an interview.

Yours faithfully,

-----  
Ishmael Wepia Kabange (MSc. Construction Management Student)

Mobile: 0202192383 Email: [ishmaelkabange@yahoo.com](mailto:ishmaelkabange@yahoo.com)

## APPENDIX 2:QUESTIONNAIRE

### SECTION A: Respondent's profile and company's details

#### 1. Gender?

- a) Male ☐
- b) Female ☐

#### 2. What is your position or designation in the company?

- a) Chief Executive Officer or Managing Director (MD) ☐
- b) Project Manager ☐
- c) Civil Engineer ☐
- d) Quantity Surveyor ☐
- e) Geomatic Engineer / Land Surveyor ☐
- f) MEP Engineer ☐
- g) Administrator ☐
- h) Supervisor ☐
- i) If other, please specify -----

#### 3. What is your highest academic qualification?

- a) HND. ☐
- b) BSc. ☐
- c) MSc. ☐
- d) MPhil ☐
- e) PhD. ☐
- f) MBA ☐
- g) If other, please specify -----

**4. What is your professional qualification?**

- a) Fellow ☐
- b) Member ☐
- c) Corporate Member ☐
- d) Technician ☐
- e) If other, please specify -----

**5. How many years of professional experience do you have in construction?**

- a) 1-5 years ☐
- b) 6-10 years ☐
- c) 11-15 years ☐
- d) 16-20 years ☐
- e) above 20 years ☐

**6. What is the name of your company/firm?**

-----

**7. Under which category of Incorporation of business does your company fall?**

- a) Sole proprietorship ☐ b) Limited Liability ☐ c) U ☐ limited Company ☐

**8. What is your company's grade/level?**

- a) D1KI ☐ b) D2K2 ☐
- c) D3K3 ☐ d) D4K4 ☐
- e) If other, please specify -----

**9. How many building projects have you undertaken in the last five (5) years?**

- a) 1-5 projects ☐
- b) 6-10 projects ☐

- c) 11-15 projects ☐
- d) 16-20 projects ☐
- e) above 20 projects ☐

**10. Which of the following professionals does your company have as permanent employees?**

- a) Project Manager ☐ b) Civil Engineer ☐ c) Quantity Surveyor ☐
- d) Geomatic Engineer / Land Surveyor ☐ e) MEP Engineer ☐ f) Accountant ☐
- g) Store Keeper ☐ h) Architect ☐ i) Supervisors ☐ j) Health and Safety Officer ☐

**11. Please indicate the number of the following equipment/machinery that your company has**

- a) Excavator ☐ b) Backhoe/ Backhoe ☐ c) Truck ☐
- d) Concrete Mixer ☐ e) Crane ☐ f) low bed ☐

**12. Please tick which of the following softwares does your company mostly use**

- a) Microsoft Office suite of applications (Word, Excel, PowerPoint etc) ☐
- b) MS project ☐ c) Primavera ☐ d) AutoCAD ☐ e) ArchiCad ☐
- f) BIM ☐

**13. Has there been a formal or official training for all the employees who use the softwares you have ticked above?**

- a) Yes ☐ b) No ☐

**14. When was the last time your company conducted and documented a SWOT analysis?**

- a. Never ☐ b. This year ☐ c. Last year ☐ d. last 2 years ☐ e. more than 2 years ☐



**15. Does your company have a strategic plan?**

a. Yes ☐ b. No ☐

**16. Which of these practices/principles is/are your company familiar with?**

a. Value Engineering ☐ b. Lean Construction ☐ c. Sustainable Construction ☐

**17. Does your company employ, train, motivate and bond employees in order to ensure retention of employees and growth of the company?**

a. Yes ☐ b. No ☐

**14. Does your company own any quarry to serve as the main source of your coarse aggregate needs in construction?**

a) Yes ☐ b) No ☐

**15. Has your company ever engaged in sand winning?**

a) Yes ☐ b) No ☐

**16. Does your company belong to any association or group of contractors in the Northern Part of Ghana?**

a) Yes ☐ b) No ☐

**If yes, which group or association -----**

**17. Is your company in active partnership with any other bigger construction company in Ghana?**

a) Yes ☐ b) No ☐

**if yes, please provide name(s) of Ghanaian partners**

-----

**18. Does your company have any international partner(s) or allies?**

a) Yes ☐ b) No ☐

**If yes, please provide the name(s) of the international partner(s)**

-----

**19. Has your company ventured into real estate development before?**

a) Yes ☐ b) No ☐

**20. If yes, was it profitable and successful?** a) Yes ☐ b) No ☐

**21. Did your company ever venture in the use of local and natural building materials (mud, thatched roof, etc) to build but with innovation and style?**

a) Yes ☐ b) No ☐

**22. Has your company ever run a model to use the enabling environment of the construction site with diverse professionals to train locals to gain employable skills?**

a) Yes ☐ b) No ☐

If yes, which project and which locality? -----

Considering the fact that people living around construction sites mostly want to benefit from the expertise and equipment of contractors before the project closure

**23. Does your company officially rent out equipment and machinery based on convenience to any person who is interested?**

a) Yes ☐ b) No ☐

**24. Does your company accept or entertain offers from the public to design and build residential apartments for them?**

a) Yes ☐ b) No ☐

**25. Has your company ventured into related diversification e.g road projects**

a) Yes ☐ b) No ☐

**SECTION B: Identification of Strengths, weaknesses, opportunities and threats (SWOT)**

From your experience, using a Scale of 1 = strongly Agree, 2 = Agree, 3 = Neutral 4 = Disagree, 5 = Strongly Disagree please tick (√) accordingly with reference to your company.

| No. |                                                                | 1 | 2 | 3 | 4 | 5 |
|-----|----------------------------------------------------------------|---|---|---|---|---|
|     | <b>STRENGTHS</b>                                               |   |   |   |   |   |
| 1   | Clemency of weather                                            |   |   |   |   |   |
| 2   | Availability of land ( More Space for construction activities) |   |   |   |   |   |
| 3   | Easy to win contracts due to low competition for jobs          |   |   |   |   |   |
| 4   | Low overheads                                                  |   |   |   |   |   |
| 5   | Cheap labor                                                    |   |   |   |   |   |
| 6   | Low living expenses                                            |   |   |   |   |   |
| 7   | Financial Resources                                            |   |   |   |   |   |
| 8   | Plant & Equipment                                              |   |   |   |   |   |
| 9   | Quality of Products/Services                                   |   |   |   |   |   |
| 10  | Experience                                                     |   |   |   |   |   |
| 11  | Strategic Alliances with Local Firms                           |   |   |   |   |   |
| 12  | Production Efficiency                                          |   |   |   |   |   |
| 13  | IT Utilization                                                 |   |   |   |   |   |
| 14  | Procurement Management                                         |   |   |   |   |   |
| 15  | Organizational Structure                                       |   |   |   |   |   |
| 16  | Clients' Relations                                             |   |   |   |   |   |
| 17  | Technological Capability                                       |   |   |   |   |   |
| 18  | Diversified array of projects and expertise                    |   |   |   |   |   |
|     | <b>If others, please specify</b>                               |   |   |   |   |   |
|     |                                                                |   |   |   |   |   |
|     | <b>WEAKNESSES</b>                                              |   |   |   |   |   |
| 1   | Poor supervision                                               |   |   |   |   |   |
| 2   | Poor finishes                                                  |   |   |   |   |   |
| 3   | Poor management of resources                                   |   |   |   |   |   |
| 4   | Improper documentation and effective keeping of records        |   |   |   |   |   |
| 5   | Poor communication                                             |   |   |   |   |   |
| 6   | Inadequate financial resources                                 |   |   |   |   |   |
| 7   | Poor client's relations                                        |   |   |   |   |   |
| 8   | Corrupt employees                                              |   |   |   |   |   |

|    |                                                                                                                                                      |  |  |  |  |  |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|
| 9  | Lack of proper planning and scheduling                                                                                                               |  |  |  |  |  |
| 10 | Improper managerial economics                                                                                                                        |  |  |  |  |  |
| 11 | High employee turnover (resignations)                                                                                                                |  |  |  |  |  |
| 12 | IT under-utilization                                                                                                                                 |  |  |  |  |  |
| 13 | Cost overruns                                                                                                                                        |  |  |  |  |  |
| 14 | Delays                                                                                                                                               |  |  |  |  |  |
| 15 | Low profit margins                                                                                                                                   |  |  |  |  |  |
| 16 | Inexperienced employees                                                                                                                              |  |  |  |  |  |
| 17 | Lack of required Plant & Equipment                                                                                                                   |  |  |  |  |  |
| 18 | Poor health and safety practices                                                                                                                     |  |  |  |  |  |
| 19 | Research and Development (R&D) Activities                                                                                                            |  |  |  |  |  |
| 20 | Training/Retraining of Staff                                                                                                                         |  |  |  |  |  |
| 21 | Joint Ventures with Overseas Firms                                                                                                                   |  |  |  |  |  |
| 22 | Partnership with Benchmarked Ghanaian Construction firms                                                                                             |  |  |  |  |  |
| 23 | Lack of innovation                                                                                                                                   |  |  |  |  |  |
| 24 | Poor risks identification and management                                                                                                             |  |  |  |  |  |
|    | <b>If others, please specify</b>                                                                                                                     |  |  |  |  |  |
|    |                                                                                                                                                      |  |  |  |  |  |
|    | <b>OPPORTUNITIES</b>                                                                                                                                 |  |  |  |  |  |
| 1  | Establishment of a quarry to serve as the main source of the coarse aggregate needs in construction and for commercial purposes                      |  |  |  |  |  |
| 2  | Sand winning( Mining sand from pits which are many and mostly close to construction sites instead of buying from a sand winning contractor)          |  |  |  |  |  |
| 3  | running a model using the enabling environment of the construction site with diverse professionals to train locals to gain employable skills         |  |  |  |  |  |
| 4  | Investment in the training of employees in softwares e.g Word, Excel, PowerPoint, MS project, Primavera, AutoCAD, ArchiCad etc to augment their work |  |  |  |  |  |
| 5  | Investment into real estate development                                                                                                              |  |  |  |  |  |
| 6  | Designing and building of residential buildings                                                                                                      |  |  |  |  |  |
| 7  | officially renting out equipment and machinery based on convenience to any person who is interested                                                  |  |  |  |  |  |
| 8  | Use of local and natural building materials (mud, thatched roof etc) to build but with                                                               |  |  |  |  |  |

|    |                                                                                                                |  |  |  |  |  |
|----|----------------------------------------------------------------------------------------------------------------|--|--|--|--|--|
|    | innovation and style to reduce Ghana's housing deficit and enhance affordability                               |  |  |  |  |  |
| 9  | Forming or belonging to an association of Northern Contractors or any official network of building contractors |  |  |  |  |  |
| 10 | Partnership with a bigger construction firms in the south and using them as a mentor or benchmark              |  |  |  |  |  |
| 11 | International partnership                                                                                      |  |  |  |  |  |
| 12 | Establishment of Research and Development Dept.                                                                |  |  |  |  |  |
| 13 | Training and retraining for all employees                                                                      |  |  |  |  |  |
| 14 | Employment of competent and experienced staff                                                                  |  |  |  |  |  |
|    | <b>If others, please specify</b>                                                                               |  |  |  |  |  |
|    |                                                                                                                |  |  |  |  |  |
|    | <b>THREATS</b>                                                                                                 |  |  |  |  |  |
| 1  | Existence of more competent Ghanaian firms                                                                     |  |  |  |  |  |
| 2  | National and International competitive bidding procurement                                                     |  |  |  |  |  |
| 3  | Bribery and corruption in the award of contracts                                                               |  |  |  |  |  |
| 4  | Global competition                                                                                             |  |  |  |  |  |
| 5  | High Interest rates on loan facilities                                                                         |  |  |  |  |  |
| 6  | Ghanaians increasing appetite for foreign taste                                                                |  |  |  |  |  |
| 7  | Poor microeconomic indicators                                                                                  |  |  |  |  |  |
| 8  | Instability in the country                                                                                     |  |  |  |  |  |
| 9  | Unfavorable government policies                                                                                |  |  |  |  |  |
|    | <b>If others, please specify</b>                                                                               |  |  |  |  |  |
|    |                                                                                                                |  |  |  |  |  |

**THANK YOU!**

**ANY OTHER COMMENTS (OPTIONAL)**



### **APPENDIX 3: TOPOGRAPHY OF THE TALENSI ROCKS AND MOBILE CRUSHER**



**PLATE 1:** Topography of The Talensi District Rocks Which Serve As The Main Place For Quarry Activities In Northern Ghana



**PLATE 2:** Sample Mobile Crusher (Screen)

**APPENDIX 4: EXTERIOR VIEW OF NAVRONGO BASILICA AND  
GROTTO**



**PLATE 3:** Picture As At 10/08/16 Of Our Lady Of Seven Sorrows Basilica Locally  
Built With Mud Since 1906.



**PLATE 4:** Grotto Assembled With Stones, Navrongo



## APPENDIX 5: DESIGN OF LOCAL BUILDINGS IN SIRIGU



**PLATE 5:** Sirigu Traditional Architecture, Pottery and Wall Designing Of Buildings.



**PLATE 6:** Some Members of The Sirigu Women Organization Of Pottery And Art (Swopa) In Wall Painting Action



**PLATE 7:** Local Architecture And Sustainable Features Of Local Buildings

