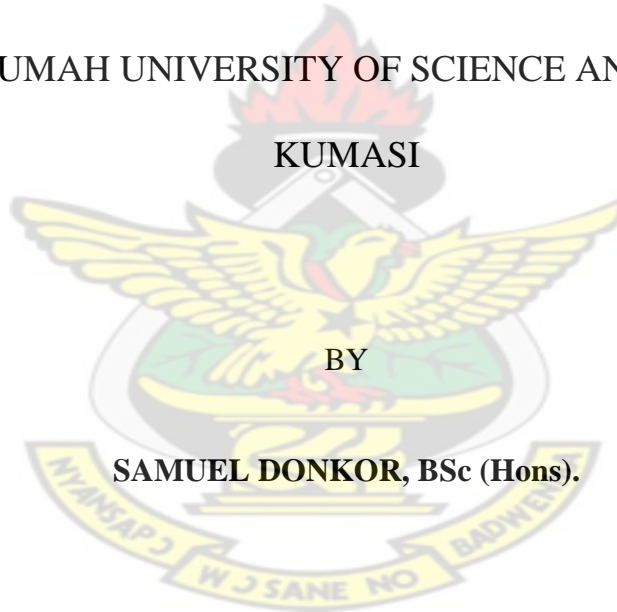**DETERMINANTS OF BUSINESS FAILURE: THE PERSPECTIVE OF SMES BUILDING CONTRACTORS IN THE GHANAIAN CONSTRUCTION INDUSTRY**

A THESIS PRESENTED TO

THE DEPARTMENT OF BUILDING TECHNOLOGY

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KUMASI

BY

SAMUEL DONKOR, BSc (Hons).

IN PARTIAL FUFILMENT OF THE REQUIREMENTS FOR THE MASTER

OF SCIENCE DEGREE IN CONSTRUCTION MANAGEMENT

MAY, 2011

DECLARATION

This is to certify that this work or any part thereof has not been previously submitted in any form to the University or to any other body whether for the purpose of assessment, publication or for any other purpose. I confirm that except for any express acknowledgements, reference cited in the work, the original work is the result of my own efforts.

Signature………………………… Date………………………………

Certified by:

Supervisor: DR. DE-GRAFT OWUSU-MANU

Signature………………………… Date………………………………

The Head of Department: PROFESSOR JOSHUA AYARKWA

Signature………………………… Date……………………………

ABSTRACT

Organizations have to be successful in their businesses in order to survive in competitive business environments in the 21st century. However, the construction industry has unique characteristics that distinguish it from other sectors of the economy. It is fragmented, very sensitive to the economic cycles and political environment, and has a significantly high rate of business failure. Business failure, collapse and bankruptcy are common terms in the industry due to the many risks inherent in how the industry operates. Throughout the world, the relative ease of entry gives rise to a large number of contracting firms competing in the market exposing many of them to business failure, Ghana is no exception. The objectives of this paper are to report on a research study which aims at identifying the determinants of business failure of SMEs building contractors in the Ghanaian construction industry and investigating their severity from the contractor's point of view and strategic measures to address this contending issue. The research begins by identifying determinants of business failure of building contractors through critical review of pertinent literature and to develop severity index and also establish strategic measures to address this contending issue in the Ghanaian context. The results obtained from the literature review in the first phase provided the framework and the basis for the development of the survey questionnaire which was used to collect data from the field. Subsequently the data was analysed using descriptive statistics, severity index development of determinants of business failure, rank correlation analysis and one sample t-test. The descriptive statistics and the test of hypotheses largely confirmed the variables which were identified in the literature. The development of the severity indices identified the most severe determinants of business failure as; suspension of projects of previous government, delay in collecting debts from new political heads, financial demands from political heads, non-payment of interest on delayed payments, assigning incompetent project leader at the site, lack of access to capital,

undervaluing of work done, change in government policies, low profit margin due to competition, delay in collecting payments, frauds/pilfering, lack of material control systems, poor monitoring and control, poor estimation practices, awarding contracts to incompetent political party members, poor tendering/selection procedure, high and unstable inflation and national slump in the economy. The research also identified that of the five thematic areas of business failure; political factors were most severe, followed by financial, managerial, business environment and business growth in that order. A hypothesis that "D2/K2, D3/K3 and D4/K4 classes of contractors generally agree to the overall severity of rank of failures" was tested and shown to hold true. In the case of strategic measures to address business failure by the contractors themselves and other stakeholders in the construction industry, one sample t-test of the variables also identified and established that; competent site engineer, proper material control systems, easy access to capital, flexible interest rate, ensuring regular and accurate valuation and record keeping system as the most critical factors that would impact on business survival of SMEs contractors in the Ghanaian context. It is anticipated that lessons drawn from the research will serve as early warning signal to SMEs and even large contractors in the running of their businesses and also ensure that proper measures are put in place to address issues which are self imposing. The government and other stakeholders in the industry are also expected to take a cue from the research to ensure that these contractors have the necessary leverage to survive in this risky and competitive industry for them to contribute to the reduction in the infrastructural deficit of the country.

ACKNOWLEDGEMENTS

I am grateful to God Almighty for giving me good health and strength to embark on this academic exercise successfully. I am also thankful to my supervisor Dr. De-Graft Owusu-Manu whose directions, critique and mentorship has helped me tremendously to enable me produce this thesis. The cordial relationship encouraged me to discuss my opinions freely and helped to boost my academic confidence. Your quick responses to my submissions are worthy of notice and appreciation.
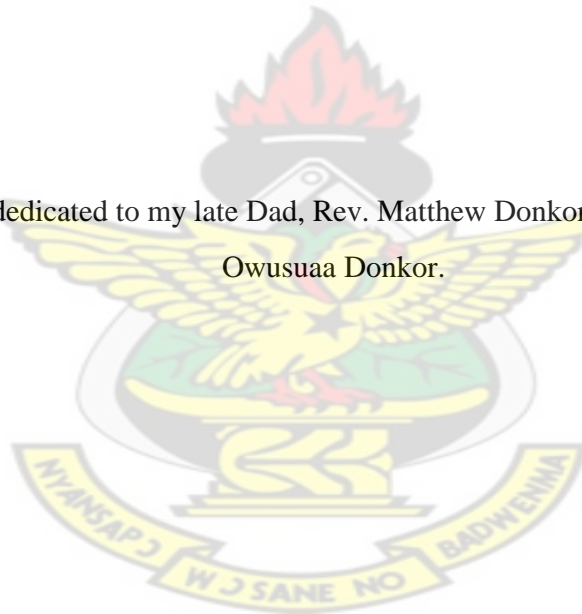
I would also like to thank the entire lecturers of the Department of Building Technology for their supervision, constructive criticisms, useful suggestions, and encouragements. To Mrs. Patience Acquah and Prince Boateng who graciously assisted me in the questionnaire distribution and collection, I say God bless you. I would not have made it without you.

Finally, and most importantly, I am most grateful for the continuous love and support that my family has always given me, during my studies. To my wife, Mrs. Francisca Fosu Donkor and my lovely daughters, I say thank you.

DEDICATION

This Dissertation is dedicated to my late Dad, Rev. Matthew Donkor and my daughter, Brendell Owusuaa Donkor.

TABLE OF CONTENTS

Content   **Page**

List of Tables

KNUST

List of Figures

CHAPTER ONE

INTRODUCTION TO THE STUDY

1.0 INTRODUCTION

This chapter introduces the topic in terms of the background and the problem context. The research questions and the main aim of the study are stated, which is followed by specific research objectives. Whilst a summary of the research methodology is presented, the relevance of the study in the context of Ghana's development agenda is also provided.

1.1 BACKGROUND TO THE STUDY

In a global context, the built environment, and for that matter the construction industry is known to constitute more than half of the national capital investment, account for the consumption of more than half of all the raw material taken and, consumes between 40% and 50% of a country's energy (Gyadu-Asiedu, 2009; Du Plessis, 2002, Ofori, 2000). Many studies and reports have concluded on the huge socio-economic significance of the construction industry to many economies, particularly, on the fact that the industry contributes about 50 per cent of all investments in capital goods in many countries (Hillebrandt, 1997; Zawdie and Langford, 2000). Accordingly, studies have shown that developing countries alone invest over $200 billion a year in new construction and infrastructure provision, representing 4 percent of their national output: a fifth of their total investment (World Bank, 1994).

Aside the industry playing a unique role of driving the activities of other sectors such as transportation, manufacturing, mining and agriculture, it also stimulates the growth of the economy in terms of contribution to gross domestic product (GDP). This assertion has been

affirmed by many studies, including the late work by Hillebrandt (1985) and recent work by Owusu-Manu (2008). For instance, GDP contribution of the Ghanaian construction industry for the past one decade or so has shown some consistency in terms of income earned and numbers employed, with annual GDP contribution of 8.2%, placing fifth amongst sixteen economic sectors in Ghana (Owusu-Manu, 2008; Ghana Statistical Service, 2007). Again, aside the enormous economic contribution of the construction industry, it also has unique characteristics that sharply distinguish it from other sectors of the economy. Typically, from the perspective of Gyadu-Asiedu (2009), the construction industry of any country could be seen as having two main sets of features, viewed from the lenses of the peculiarity of the industry; and the peculiarities of each country's defined socio-economic level, technological level, culture, institutional and legal frameworks.

Positioned within these unique features of the industry, and without deviating from existing construction business typologies in other countries, Gareth (2009) classified construction firms in terms of: first tier (i.e. large construction firms-generally employing over 50 permanent staff and able to bid for contracts over $3.5milion US dollars in value); second tier (Medium sized contractors - generally employing 10 to 50 permanent staff and bidding for contracts up to $3.5milion US dollars); third tier (i.e. small general builders and specialist contractors, sub-contractors generally employing less than 10 staff).

One key feature that distinguishes the construction industry from others is the relative ease of entry, giving rise to a large number of construction firms competing fiercely in a competitive fragmented market (Enshassi et al., 2006). Records on the number of new construction firms entering the construction market are not readily available, but there are indications that more than 50 percent of new contractors in the USA alone fail within the first five years of operation

(Grosskopf, 2005). This situation may be even worse in the context of developing countries where there are many noted deficiencies in the construction industry. Reporting on the performance of the Ghanaian construction industry, Westring (1997) and Anvuur and Kumaraswamy (2006) concluded on the poor nature of the industry which is saddled with several problems ranging from contract administration, through complex and lengthy payment procedure, delayed payments, etc.

Also, Edum-Fotwe et al., (1996) and Kale and Arditi, 1999) both noted that construction companies are particularly vulnerable to business failure and bankruptcy due to the fragmented nature of the industry, excessive competition, relatively low entry barrier, high uncertainty and risk involved, and unpredictable fluctuations in construction volume. Contributing to this debate, Olomolaiye et al. (1998) and Enshassi et al. (2006) attested that the industry is becoming increasingly more complex with businesses competing against limited resources. Notwithstanding, these fundamentally factors coupled with others have implications of the survival of construction firms and increases the probability of a contractor's business failure (Al-Barrak, 1993). Business failure mostly appears in a critical situation as a consequence of a complex process and is rarely dependent on a single factor (Arditi et al. 2000). Undeniably, the risk of business failure exists in every industry, but for construction businesses to avert business failure risk, and remain competitive, the conventional proposition indicates that firms must develop a set of strategic strength areas that are important to the environment in which they operate (Koota, 2003). It was against this backdrop that this research was initiated with the aim to explore and identify the causes of contractor's business failure in the SMEs sector and investigate the severity of these causes from the contractor's viewpoint in the Ghanaian construction industry, whilst addressing contending problems.

1.2   STATEMENT OF THE PROBLEM

Organizations have to be successful in their businesses in order to survive in competitive business environments in the 21st century. It is well-recognized that the construction industry is changing constantly with the developments of, and application of new business methods and technologies (Koota, 2003). Unfortunately, an undesirable business performance result is one of the main problems affecting construction industries everywhere, and mostly developing countries (Gyadu-Asiedu, 2009), leading to reported high incidence of business failure (Grosskopf, 2005). Anchored on this premise, construction companies have to consider the critical factors to prevent business failure and continue to survive in the industry.

In the context of developed countries, studies on failure of businesses have received heightened interest in recent time including those pioneered by Arditi, Koksal and Kale (2000), Davidson and Maguire (2003), and Balcaen and Ooghe (2006). Whilst many of these academic inquiries developed business failure prediction models, others explored the causes of business failure, and how organizations can leverage their resources and competencies in ensuring favourable and competitive results.

Despite the increasing attention on business failure and related studies, yet, to date, there has been little, if any, research in Ghana aimed at exploring the determinants of business failure, and promoting improvements in business performance. It is therefore timely and necessary to research into the determinants of business failure in the perspective of SMEs building contractors and investigates the degree of severity of these factors from the contractor's viewpoint.

1.3 RESEARCH QUESTIONS

The following research questions are generated based on the identified theoretical gaps, to fulfil the stated aims and objectives of the study;

- What are the determinants of business failure of SMEs building contractors in the Ghanaian construction industry?

- What steps can be taken to mitigate the severity of these factors with the ultimate aim of addressing business failure?

1.4 RESEARCH AIM AND OBJECTIVES OF THE STUDY

The overall aim of this study is to explore the determinants of business failure of SMEs building contractors with the view of identifying appropriate measures and strategies that can address business failure in the construction industry of Ghana from the contractor's viewpoint. In order to achieve the stated aim, the following specific objectives were set:

- To conduct extensive literature survey on business failure, and to establish a conceptual basis and definition of business failure;

- To identify the determinants of business failure of SMEs building contractors in the context of the Ghanaian construction industry;

- To develop a severity index based on the identified determinants of business failure, to serve as early warning signal;

- To verify if each of the financial class of contractors in the SME sector share the same point of view about the severity of rank of failure and,

- To identify and establish appropriate measures and strategies to address business failure in the context of the Ghanaian construction industry.

1.5 LIMITATION OF THE STUDY

The study is limited to SMEs building and civil contractors who are qualified and registered with the Ministry of Water Resources, Works and Housing. Eyiah and Cook (2003) identified and categorized contractors in the financial classes 2, 3 and 4 in the small and medium enterprises (SMEs) sector in Ghana due to the fact that they possess similar characteristics in terms of managing their businesses and would be used for the basis of this research. Over seventy percent of Ghanaian contractors tend to operate officially in the Greater Accra region and Ashanti region (Ahadzie, 2007) and therefore contractors in these two areas would be considered for the study.

1.6 RESEARCH METHODOLOGY

The research methodology was undertaken in two stages. The first stage involved data collection as follows:

- Data was collected by reviewing related literatures, and gathering information through site visits, interviews, and discussions with different grade of contractors.

The second stage also involved;

- Data analysis and identification of the most relevant factors and sub factors influencing contractor's business failure

- As a result of the information gathered, the questionnaire was formulated and distributed to the various financial classes of contractors in the small and medium enterprise (SMEs) sector. The objective was to identify the most severe determinants of contractor's business failure in Ghana and formed the basis of developing a severity index to serve as early warning signal. The questionnaire was reviewed to test its content validity. The test helped to make any relevant changes or introduce some minor amendments to better suit

the local market conditions prior to sending out the questionnaire to the target research population.

The target population were all contractors of the second, third and forth categories for building and civil work that have valid registration by the Ministry of Water Resources, Works and Housing, Ghana. The questionnaires were sent out to the sampled contractors to ask their contribution in ranking the identified factors in terms of severity using an ordinal scale and from the result, severity index were developed and strategic measures established to address this contending issue. The ordinal scale used were; 1 = very low influence, 2 = low influence, 3 = moderate influence, 4 = high influence, and 5 = very high influence.

Severity index were also developed for each of the financial classes of contractors in the SMEs sector and ranked to verify if each of the classes agreed with the overall severity index using Spearman's ranked correlation. The correlation values obtained were hypothetically tested using t-test to prove whether the correlation values were the true reflection of the population's perception or vice versa.

1.7 SIGNIFICANCE OF THE STUDY

The numbers of competitors in the construction sector are fiercely higher than most economic sectors (Enshassi et al., 2006; Al-Barrak, 1993; McIntyre, 2007). As a result of this severe competition, many small and medium scale construction enterprises in developing countries fall out of business within the first five years of establishment (Grosskopf, 2005; Al-Barrak, 1993). Halim et al. (2010) also indicated that failure in construction was a global phenomenon making Ghana no exception. Therefore, a study into the causes of construction business failure is imperative, particularly, at a time when many firms the world over are struggling to cope with the ongoing economic recovery process since the worst global financial crises that inevitably

20

smacked many businesses in 2008 (Karantinos, 2009). Identification of these factors and most severe ones would assist policy makers and other stakeholders institute steps to mitigate these risk factors that result in the business failures of SMEs building contractors.

The mitigating measures identified in this study can be adopted and incorporated in the Public Procurement Act and other policies to help develop SMEs building contractors' businesses to gradually grow to become large firms. Measures identified can also be adopted by the contractors to improve and mitigate the rate of failure in areas where it is their own technical and managerial ineptitude resulting in these high risks. It would also create the awareness of the inherent risks in the construction business. While the study is unique to Ghana, there is also the potential that many contractors of the construction industry in developing countries will find the findings useful towards the advancement of improved contractor's business practices and also provide firsthand information on these determinants of failures and manage them effectively.

1.8 DISSERTATION ORGANISATION

A recap of what has been covered should help when placing the contributions into perspective. The dissertation is divided into five (5) independent but interrelated chapters. Chapter One contains a general introduction and background to the research. The problem is well presented and the need for the research is justified. The research aim, objectives, and scope are presented, the research questions are formulated. Chapter Two broadly contains the literature review.

The review was given an extended coverage of earlier works. The challenge of the review was the establishment of the conceptual underpinnings regarding contractor's business failure determinants in the Ghanaian construction industry. Chapter Three is dedicated to provide in-depth discussions on the methodology adopted for the study. Chapter Four presents the

empirical analysis of data from the field survey that answered all the research objectives and questions. Chapter Five wraps up the research by reviewing the main contributions of the research to knowledge. A provision is made for summary of the research results. Policy recommendations are also outlined. Finally, avenues for further research are identified.

| General Introduction, Background of the Study, Problem Statement, Research Questions, Research Aim, Objectives and Limitations of the Study | → | Chapter One |

| Literature Review; Introduction, Working Definition of Business Failure, Critical Review of Previous Findings, Overview of SMEs Sector, and other discussions on Success factors, Operational Practices and Business Models of Contractors | → | Chapter Two |

| Methodology adopted for the study | → | Chapter Three |

| Empirical analysis of data from the field | → | Chapter Four |

| Contributions to Knowledge, Summary of Results, Policy Recommendations, Avenues for Further Research | → | Chapter Five |

Figure 1.1 - Flow diagram of research process

1.9 SUMMARY OF CHAPTER

As noted in the previous sections this chapter has discussed the general introduction and background to the research. The problem statement was also presented and the need for the research justified. The chapter also introduced the research aim, objectives, and the limitation of the study. To arrive at the objectives of the study the research questions were formulated and a summary of the methodology adopted for the study was also presented in the chapter. Chapter one was concluded with discussions on the significance of the study and the organization of the research.

The next chapter which begins the literature review discusses working definitions of business failure, critical review of previous findings of proponents in the industry, general overview of SMEs building contractors in the industry and the Ghanaian situation and further discussions on success factors, business models and operational practices of building contractors as well as general background discussions on the subject.
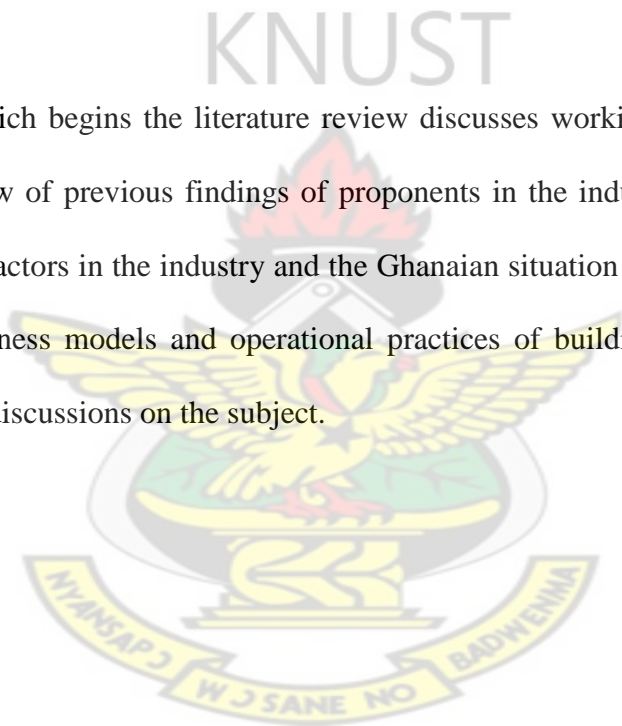
CHAPTER TWO

LITERATURE REVIEW

2.0   INTRODUCTION

In furtherance to chapter one, this chapter provides a critical review of pertinent literature on definition of business failure, previous findings of business failure in the industry, a general overview of the SMEs sector and the Ghanaian situation, critical success factors discussions, business models relevance to business success and operational practices of contractors in the construction industry.

The chapter begins with establishment of working definitions of business failure. This is then followed by general and previous researches in the area of business failure in the industry, critical success factors discussions, business model relevance to business success and finally operational practices of contractors. A widely cited works of Dun and Bradstreet corporation (1986); Altman (1968); Enshassi, et al (2006); Arslan, et al (2006); Kirvrat and Arslan (2008); Davidson and Maguire (2003); Schaufelberger (2003); Kangari (1988); Osama (1997); Ganaway (2006); Wong, et al (2010); and other influential papers and books informed the review which provides the conceptual/theoretical basis of this research.

2.1   TOWARDS A WORKING DEFINITION OF BUSINESS FAILURE

There are many definitions of failure. Bankruptcy which is a legally declared inability or impairment of ability of an individual or organization to pay creditors is widely used in failure definitions (Balcaen and Ooghe 2006). The free encyclopedia defined failure as the state or

condition of not meeting a desirable or intended objective, and may be viewed as the opposite of success. Frederikslust (1978) in defining failure said that it is the inability of a firm to pay its obligations when they are due. In recent years, there has been an increase in success/failure studies, especially in the subject of project management (Hyvari 2006). Hall (1982), and Morris and Hough (1987) explained failure at the project level in construction.

According to Dun and Bradstreet's Annual Business Failure Records (1986), which provide historical data on business activities in USA, a business failure is defined as a business that: (a) ceases operation following assignment or bankruptcy, (b) ceases operation with losses to creditors after such actions as foreclosure or attachment, (c) voluntarily withdraws, leaving unpaid debts, and (d) is involved in court actions such as receivership, reorganization of arrangement or voluntarily comprising with creditors (cited in Enshassi et al., 2006). In this light, Dimitras et al (1996) stated that failure can be defined in many ways, depending on the specific interest or condition of the firm under examination. According to a general definition, failure is the situation that the firm cannot pay lenders, preferred stock shareholders, suppliers, etc, or a bill is overdrawn, or the firm is bankrupt according to the law (cited in Halim et al. 2010).

Altman (1968) on the other hand defined failure from an economic viewpoint and said that a company is considered to have failed if the realized rate of return on invested capital, with allowances for risk considerations, is significantly and continually lower than prevailing rates on similar investments. Another criterion given was insufficient revenues to cover costs and situations where the average return on an investment is below the firm's cost of capital.

25

Failure in the construction industry is a global phenomenon (Halim et al. 2010). A recent study by Strischek and Mclntyre (2008) also highlighted a huge number of business failures in the U.S.A construction industry. It revealed that the number of contractors for the period of 2004-2006 dropped from 850,029 in 2004 to only 649,602 in 2006, which is a decrease of almost 24 percent. These numbers cover various types of construction works including buildings (non-single-family), heavy/highways, industrial buildings /warehouses, hotels/motels and multifamily home construction, and specialty trade contractors. Construction companies have a higher failure rate than other types of companies

Russell (1991) claimed that contractor failure occurs when a contractor is unable to perform his contractual duties, thus requiring the facility owner to invoke the contract's nonperformance clause. Al-Barrak (1993) defined contractor's business failure as when a business ceases operation following assignments due to the inability to continue construction. Finally, according to Paz (2006), most contractors fail because they grow too rapidly, outpacing their management and financial resources.

2.2   CRITICAL REVIEW OF PREVIOUS FINDINGS OF BUSINESS FAILURE IN THE CONSTRUCTION INDUSTRY

Business failure in construction does not have much written about it. It has been stated that "unlike the study of how to succeed in business, the study of business failure has not been given much attention" (Kangari, 1988). Business failure mostly appears in a critical situation as a consequence of a complex process and is rarely dependent on a single factor (Arditi et al, 2000). It is also said that failure in construction industry is a global phenomenon (Halim et al., 2010). Few studies have been done by proponents in this area at the various levels in the construction

26

industry, some at the industrial level, company level, project level etc and identified various factors as the causes of failure in the industry. The following subsections discuss the details of the findings.

2.2.1 Causes of Business Failure at the Industrial Level

Dun and Bradstreet Corporation (1986) identified the major causes of business failures in the construction industry as; economic factors, inexperience, poor sales, expense, customer, fraud and neglect, asset and capital, and disaster. They found the most significant failure cause as economic factors. Within the economic factors category, there were five subcategories that were bad profit, high interest rates, loss of market, no customer spending and no future.

Schleifer (1989) also identified 10 causes as the bane of the construction industry. The first five of the identified factors are related to business strategies and the second five are related to accounting considerations. The factors were; increasing project size, expanding into unfamiliar locations, replacing key personnel, moving into new construction, not maturing in management as business expands, using poor accounting systems, evaluating project profit incorrectly or not in time, not controlling equipment costs, not billing or collecting effectively and jumping between computerized accounting systems. Kale and Arditi (1999) on the other hand studied age-dependent failures in construction organizations and found out that the risk of failure increases initially with increasing age reaches a peak point and decreases thereafter as companies grow older.

2.2.2 Determinants of Business Failure at Company Level

Beyond the industrial level proponents of business failure in the industry have also done studies in the industry at the company level and (Wong et al., 2010) said company failure is not only extremely disruptive to an industry but may also cause significant rippling effects in an economy. In finding solutions to the bane of companies in the industry prompted Arditi *et al*. (2000) to research into this area. The research found budgetary and macroeconomic issues as the main reasons for construction company failure in the United States of America (USA). The findings indicated that over 80% of the failures were caused by five factors, namely insufficient profits (27%), industry weakness (23%), heavy operating expenses (18%), insufficient capital (8%) and burdensome institutional debt (6%). All these factors, except for industry weakness, are budgetary issues and should therefore be handled by companies that are cognizant of the effects of these factors on their survivability. Argenti (1976) in his book 'corporate collapse' summarized what was written in failure. He concluded six main causes as a result of what written about the subject of company failure follows; top management, accounting information, change, accounting manipulation, rapid expansion, economic cycle.

In an article called 'Causes of company failure' Hartigan (1973) and cited in Al-Hallaq (2003) listed seven main causes of failure and are as follows;

- *Lack of capital* was indicated as the first cause of company failure and explained the difficulties companies go through before they can access funds to finance projects,
- *Under costing* as the second ranked factor of company failure; The study indicated that often there is no costing system put in place at all by the companies and even where there is, such things as interest on loans or depreciation are forgotten,

- *Thirdly, lack of control*; The research explained that most owners prefer to be active themselves rather than check up on other people's activities,

- Fourthly, *lack of advice*; it was indicated that owners are reluctant to ask for advice from bankers, accountants, solicitors and so on and therefore results in company failure,

- Fifthly, *the government*; a great many bankrupts blame the government whose fiscal and monetary policies affects the companies,

- *Trade fluctuations* were next in ranking; it was indicated that companies are often caught out by the business cycle, by mergers and by technological change,

- Finally, *fraud*; this cause by the study is increasing.

A recent study at this level has also been done by Kivrak and Arslan (2008). In that study they examined the critical factors causing the failure of construction companies through a survey conducted among 40 small to medium-sized Turkish construction companies. The research identified lack of business experience and country's economic conditions as the most influential factors to company failure. A scrutiny of the sub-factors related to the lack of business experience confirmed that, difficulties with cash flow and poor relationship with the client drove the contractors' failure. In addition, preparing an accurate and realistic bid proposal with the profit margin being carefully determined is highly critical (Arslan *et al*.,2006). However, due to high competition, companies are usually forced to reduce their profit in order to win the bid and this would increase the default risk substantially. Kangari (1988) found that more than half of business failures in construction at company level were due to unrealistic profit margin.

2.2.3 Previous Findings of Business Failure at Project Level

A number of scholars have studied this failure at project level, rather than company level (Hall, 1982; Morris and Hough, 1987). Grant Thornton's report "2005 Surety Credit Survey for Construction Contractors at the project level cited low profit margins, followed by slow collections and insufficient capital as the major causes of financial difficulties among contractors.

Surety company executives also have named onerous contracts, unreasonable owners, bad or incomplete plans, tight completion schedules, consequential damages, delay damages, and hold-harmless obligations, higher materials prices, and a shortage of qualified and skilled workers as factors that add risk and can ultimately lead to financial difficulties and default.

2.2.4 Previous Findings Based on Contractor's Viewpoint

Further studies have been done based on the contractors' view point who is a key stakeholder in the industry. In the light of this, Enshassi, et al (2006) in their research, also identified main factors that cause business failure based on contractors' view point in Palestine. The research identified delay in collecting debt from clients (donors), border closure, heavy dependence on bank loans and payment of high interest on these loans, lack of capital, absence of industry regulations, low profit margin due to high competition, awarding contracts by client to the lowest bidder, and lack of experience in contract management.

Osama (1997) had previously presented a study of the factors that contribute to the failure of construction contractors in Saudi Arabia and found that the most important factors were:

difficulty in acquiring work, bad judgment, lack of experience in the firm's line of work, difficulty with cash flow, lack of managerial experience, and low profit margins.

Other professionals have also undertaken studies of causes of failure in the industry. Davidson and Maguire (2003), based on their accountancy experience, identified ten most common causes for contractor failures as: (i) growing too fast; (ii) obtaining work in a new geographic region; (iii) dramatic increase in single job size; (iv) obtaining new types of work; (v) high employee turnover; (vi) inadequate capitalisation; (vii) poor estimating and job costing; (viii) poor accounting system; (ix) poor cash flow; and (x) buying useless stuff.

Specialist firms in this industry also experiences business failure as a result of various factors. Schaufelberger (2003) acknowledged this problem and therefore studied business failure at the subcontractor level and found that the primary causes of subcontractor business failure were insufficient capital to work with, excessive debt owed banks and suppliers, lack of managerial maturity in the execution of their work, lack of early warning measures, increase in project scope, poor billing procedures, failure to evaluate project profitability before entering into it, unfamiliarity with new geographical areas, and poor use of accounting systems.

2.2.5 Financial Impact on Business Failure

Studies have also been done in this area and earlier researches on the impact of financial factors to the failure of construction firms identified financial mismanagement, and lack of capital as the main determinants of failure (Kangari, 1988). As mentioned by Peterson (2005), the Surety Information Office, which is an office that collects data on surety bonds in the United States, has identified six broad warning signs that a construction company is in trouble. They are as

31

follows: (1) ineffective financial management system, (2) bank line of credit constantly borrowed to the limit, (3) poor estimating and/or job cost reporting, (4) poor project management, (5) absence of a comprehensive business plan, and (6) communication problems. Four of these six sources of failure are directly related to the financial management of a company.

Strischek and Mclntyre (2008) also illustrated five financial causes of construction failure as mentioned in Grant Thornton's report "2007 Surety Credit Survey for Construction Contractors: The Bond Producers Perspective." They are slow collection, low profit margin, insufficient capital/ excessive debt, misuse of banks' line of credit, and poor estimation. Whereas, Hwee et al. (2002) revealed the important role of cash flow management in the construction industry. Cash flow is the most important factor influencing profitability when a construction project is in progress. For many years, the construction industry has suffered a proportionally high bankruptcy rate than other industries. One of the major causes of bankruptcy is inadequate cash resources.

Sambasivan and Soon (2007) mentioned that construction work involves huge amounts of money, and most of the contractors find it very difficult to bear the heavy daily construction expenses when the payments are delayed. Work progress can be delayed due to late payments of clients. This leads to inadequate cash flow that should otherwise support construction expenses especially that of contractors who are not financially sound. These findings give strong support to the conclusion made by Hwee et al. (2002) above.

A recent study by Yin (2006) claimed that most contractors do not have sufficient capital to finance their undertakings. Contractors generally do not have fixed assets like most manufacturers, and they usually own construction equipment rather than lands or buildings. Unfortunately, banks do not accept these assets as acceptable collateral for loans. Without bank financing, contractors will obviously find it more difficult to undertake their projects. Financial problems faced by contractors are also due to low profit margins from projects. Normally contractors always want to produce good work at the cheapest price because of the open tender system. Although the system is the best way to ensure the completion of any project at the lowest price, it is the most difficult obstacle any contractor would be forced to hurdle in this very competitive world.

As suggested by Edum-Fotwe (1996), construction firms must undertake regular performance evaluation to ensure the adoption of timely and appropriate strategies to sustain the business. Kangari et al. (1992) suggest that understanding the causes and symptoms of business failure will help in identifying early warnings of an impending financial crisis. Cannon and Hillebrandt (1991) emphasized that financial aspect, particularly financial ratio, is a significant analysis that often presents a signal to a company's business (cited from Edum-Fotwe et al. 1996).

2.3   A GENERAL OVERVIEW OF THE SME SECTOR

The issue of what constitutes a small or medium enterprise is a major concern. Different authors have usually given different definitions to this category of business. SMEs have indeed not been spared with the definition problem that is usually associated with concepts which have many components. The definition of firms by size varies among researchers. Some attempt to use the capital assets while others use skill of labour and turnover level. Others define SMEs in terms of

their legal status and method of production. Storey (1994) tries to sum up the danger of using size to define the status of a firm by stating that in some sectors all firms may be regarded as small, whilst in other sectors there are possibly no firms which are small. The Bolton Committee (1971) first formulated an "economic" and "statistical" definition of a small firm. Under the "economic" definition, a firm is said to be small if it meets the following three criteria:

- It has a relatively small share of their market place;

- It is managed by owners or part owners in a personalized way, and not through the   medium of a formalized management structure;

- It is independent, in the sense of not forming part of a large enterprise.

Under the "statistical" definition, the Committee proposed the following criteria:

- The size of the small firm sector and its contribution to GDP, employment, exports, etc.;

- The extent to which the small firm sector's economic contribution has changed over time;

- Applying the statistical definition in a cross-country comparison of the small firms' economic contribution.

The Bolton Committee applied different definitions of the small firm to different sectors. Whereas firms in manufacturing, construction and mining were defined in terms of number of employees (in which case, 200 or less qualified the firm to be a small firm). The European Commission (EC) in 2005 (Cited in Stokes and Wilson, 2006) on the other hand defined SMEs largely in term of the number of employees and turnover as is shown in Table 2.1.

Table 2.1 – SME Thresholds Adopted by EC

Category	Headcount	Turnover
Medium Enterprises	50 – 249	> £50m
Small Enterprises	10 - 49	> £10m
Micro Enterprises	0 – 9	> £2m

The UNIDO also defines SMEs in terms of number of employees by giving different classifications for industrialized and developing countries (see Elaian, 1996). The definition for industrialized countries is given as follows:

- Large - firms with 500 or more workers;

- Medium - firms with 100-499 workers;

- Small - firms with 99 or less workers.

The classification given for developing countries is also as follows:

- Large - firms with 100 or more workers;

- Medium - firms with 20-99 workers;

- Small - firms with 5-19 workers;

- Micro - firms with less than 5 workers.

2.3.1 The Ghanaian Situation

In Ghana, available data from the Registrar General indicates that 90% of companies registered are micro, small and medium enterprises (Mensah, 2004). This target group has been identified as the catalyst for the economic growth of the country as they are a major source of income and employment. Data on this group is however not readily available. The Ministry of Trade and

Industry (MOTI), in 1998 (cited in Mensah, 2004) estimated that the Ghanaian private sector consists of approximately 80,000 registered limited companies and 220,000 registered partnerships. Generally, this target group in Ghana is defined as:

1. Micro enterprises: Those employing up to 5 employees with fixed assets (excluding realty) not exceeding the value of $10,000,

2. Small enterprises: Employ between 6 and 29 employees with fixed assets of $100,000,

3. Medium enterprises: Employ between 30 and 99 employees with fixed assets of up to $1 million.

Data from the Social Security & National Insurance Trust (SSNIT) reflects that, by size classifications, the Ghanaian private sector is highly skewed, with 90% of companies employing less than 20 persons, and a small number of large-scale enterprises.

Eyiah and Cook (2003) in their research on SMEs contractors identified financial class 1 contractors in Ghana (made up mainly of foreign firms) as large contractors. They note that although classes 2, 3 and 4 contractors are different, based on financial capabilities, they possess similar characteristics in terms of managing their businesses hence they could all be categorized as small and medium scale enterprises. This definition is however adopted for this paper.

2.4 CRITICAL SUCCESS FACTORS OF CONSTRUCTION BUSINESSES

One cannot mention business failure without considering success factors of construction businesses. Chan et al. (2002) stated that success is the ultimate goal of every business activity (cited Arslan and Kivrak 2008). Koota (2003) also indicated that it is also highly important for the organizations to be successful in their businesses in order to survive in competitive business

environments such as construction. The construction industry is changing constantly with the developments of new business methods and technologies (cited Arslan and Kivrak 2008). Thus, construction companies have to adopt these applications and develop appropriate strategies to be more competitive in this industry and get success in their businesses.

There has been a lot of extensive research on factors that can positively improve the success rate of contractors and the proponents of these areas have identified diversified success factors for contractors to adopt and practice to be able to survive in this competitive industry. On the basis of that reason, Young and Hall, (1991), and Abidali and Harris, (1995) suggest that contractor's project and financial management ability is a critical success factor. Cromie, (1991) on the other hand state that the ability of a contractor to market himself among the industry role players is a critical success factor (cited in Phaladi and Thwala, 2008). Yussof, (1995) also state that experience and management expertise of the owner is critical success factor.

In addition, Jaafer et al., (2004) state that entrepreneurial characteristics in forms of creativity and need for achievement are critical success factors (Cited in Phaladi and Thwala, 2008). It is also a fact that the ability of a contractor to maintain good relationship with clients, suppliers, and other role players in the construction industry is a critical success factor (Yisa et al., 1996; Day, 1997; Kale, 1999; Winter and Preece, 2000) and cited in Phaladi and Thwala (2008). Upson, (1987) insists on the ability for financial gathering and management as critical success factor for small, medium and large contractors.

In furtherance, Jaafer and Abdul- Aziz, (2005) surveyed 172 small and medium enterprises' (SMEs) contractors in Malaysia and concluded from what they call Resource-Based-View that

37

contractor success lies in project and financial management capability, marketing and supply chain relationship; however, they state that educational background and owner-manager characteristics are not necessarily success factors because competent skill can be employed to run the firm.

Miller, (1962) also examined the views of contractors who emphasized that their survival in this competitive industry depended on the understanding of requirements, progressive in estimating, scheduling, purchasing, organizing, controlling project activities, knowing what has been done and how, and being flexible enough to adjust to changing situations, were all important success factors. Holroyd, (2003) says that success depends on competent skills, adequate resources, proper timing of activity planning and performance, teamwork, effective communication, fair dealing with people, honesty and integrity are essential.

Most recently, Phadali and Thwala, (2008) examined the critical factors that influence the success of small and medium sized contractors identified the following points as the main success factors:

- Business skills: location of business premises is very important, set specific targets for your business, carrying out market research, employ qualified personnel and put them in position according to their skills, know and understand existing skills needed and attend refresher courses on business management skills.

- Management skills: financial management should be emphasized, networking with other people with similar businesses and keeping records of workers to help in evaluation of their performance.

38

- Access to capital: merge with others that have similar businesses, negotiate favourable credit purchases from the supplier, source affordable loans from financial institutions and negotiate advance payments from the clients.

- Good record keeping: financial record should be prioritized and establish a record of books of accounts on a daily basis, weekly, monthly and annual basis.

- Well managed Cash flow: prepare cash flow forecast and budgets, prepare a cost-benefit analysis, lease equipment and other financial assets to improve your cash flow, negotiate outstanding loans through payment procedures and scale down operational costs.

- Family/domestic situation: separate business activities and family obligations and look for alternatives sources of income to cater for family basic need.

- It is therefore necessary for contractors to adhere strictly to these success factors to avoid business failure in the line of duty.

2.5 BUSINESS MODELS AND ITS EFFECTS ON THE SURVIVAL OF BUSINESSES OF SMES CONTRACTORS

Due to a significant socio-economic role of construction industries in developing countries, Dlungwana and Rwelamila (2004) argue for increased effort in the programmes that promote contractor development of small and medium-sized indigenous contractors. They indicated the need for the promotion of implementation of well-structured contractor development models and supportive procurement programmes in order to improve technical and managerial skills, knowledge and competitiveness of contractors. The benefits expected from effective contractor development include global competitiveness, sustainable business growth, good environmental management and socio-economic development of the developing countries.

39

A "Contractor Development Model (CDM)" refers to structured methodology comprising measures designed to help the managers of contractors to develop their technical and managerial skills and thus grow their business enterprises. These models should be located within the procurement programmes of government, in line with the government's procurement policy.

Dlungwana and Rwelamila (2004) said for CDMs to be effective, the following key characteristics should be the features of the model:

- The models should aim to develop contactors' technical and management capacity over a long-term period with a view to encouraging competitiveness and growth of contractors. There must be a clear development path along which contractors' progress.

- The models should integrate development activities of all stakeholders, from government to private sector, such that procurement, training, mentorship and performance assessment activities are well integrated and complementary. In other words, the model should encourage partnering in all aspects of contractor development.

- The models should become an integral part of the entire industry development strategy and be strongly championed.

- The models should be flexible enough to accommodate the varying needs of contractors at different levels of development.

- The models should promote the adoption of industry best practices and be supported by excellent research practices in order to create and share knowledge. Many such models (for example: Dlungwana, *et al*, 2002; Brown, M.G., 1996) incorporate the use of Total Quality Management (TQM), including safety and environmental management.

Key processes on the way in which the typical models function, are centered around the need to focus the development effort on small and medium-sized contractors. These processes include:

- Contractor selection and registration: Since development resources are limited, it is important that only contractors which show good potential to succeed be selected. It is also important that they be selected in a fair and transparent manner. The selection criteria should therefore be objective. An assessment should be conducted on selected contractors to determine their performance capabilities as well as the improvement intervention that will be required. Selected contractors should be properly registered and categorised in terms of their size and performance capabilities with a view to assisting their progression through subsequent higher categories. Some development models make use of performance scores to rate the performance of companies.

- Training and mentoring: Training and mentorship needs are identified, based on the results of the assessment exercise, and an appropriate training and mentorship intervention is developed. Training and mentorship revolves around the contractor's business management skills and knowledge, such as tendering and marketing, thus affording SMEs an opportunity to gain basic capability or, more importantly, a competitive edge in comparison to their counterparts. The benefits that construction industries reap for developing their contractors include, among others, sustainable, competitive enterprises that deliver better products and create growth and employment.

- Continuous contractor assessment and grading: Another fundamental process in developing contractors includes a continuous cycle of contractors' performance assessment and improvement. This process serves as a feedback mechanism to monitor the development process on a continuous basis. Continuous grading validates the changing status of contractors as performance improves or deteriorates.

The implementation of development models requires serious commitment, planning and resource allocation by the managers of government agencies, to enable confident entrepreneurs to grow their businesses and create sustainable employment. Without such support, the models cannot effectively address the challenges faced by SME contractors in the construction industries. Appropriate support institutions, such as research organisations, also play a critical role in facilitating learning through knowledge creation and sharing. Ultimately, an integrated contractor development approach that places development models and the cultural values of organisations and industries at the centre of the development effort, will yield tangible improvement in the economies of developing countries.

2.6 OPERATIONAL PRACTICES OF SMEs CONSTRUCTION BUSINESS

Running a profitable construction firm is a difficult business. Faced with an unprecedented number of external pressures such as eroding profit margins, higher owner expectations, rapidly changing technology, and a dwindling workforce, only contractors who follow best practices will achieve a higher return on investment and reduce their risk (Roper and McLin, 2005).

Ganaway (2006) in his book (Construction Business Management-A guide to Contracting Business Success) identified the under listed practices as basic tools for the construction company to succeed or reduce risk of failure.

2.5.1 Leadership (Setting the course)

For the contractor to succeed in his course of work he must set the course and said that as a leader you must visualize and communicate an objective with so much passion and influence

that people around you internalize it and deal with it as their own. Instead of being driven by their leader, they follow, yet they are the source of the leader's power.

Former top military leader and US Secretary of State Colin Powell said, "leadership is the art of accomplishing more than the science of management says is possible" (Ganaway, 2006). Backed by your enthusiasm, passion, vision, and credibility, a crisply defined mission in which you specify goals, how you plan for them to be accomplished, what each employee do, and the rewards at stake can create in your employees an obsession to complete project on schedule. The contractor's goal becomes the employees' goal, his success their success, and their contribution is likely to far exceed the ordinary.

2.6.2 Human Resource Management

One critical function of a contractor is to identify, hire, and groom the firm's future talent for key positions within the company and, some day, even the contractor's own. Of course, in the early stages of the business the contractor may fill all of the key roles. No matter how small the business is, or how large it is grown, the success will depend a lot of the contractor's skills in bringing the right people on board, and how both relate to each other. This applies to the employees, subcontractors, the lawyers, accountants, and other professionals brought into the team, and even customers.

2.6.3 Management Practices

Ganaway (2006) indicated that contractors who have small construction firms, have the twin but separate responsibilities of owner and manager. As owner, you decide the goals and objectives for the business. As manager your job is to carry them out by organizing, planning, controlling,

directing, and communicating. Several times each year, the contractor must stand back from his desk and objectively compare his performance as manager against the objectives previously set as owner. You may be satisfied with the results you see or you may find them not what you had expected. If the latter is the case, you as manager must dig out and "report" the reasons for your less-than-expected performance. Then as the owner must decide what internal changes are required and then as the manager must now accomplish.

He then bet that the marginal or failing performance of many privately held firms could be traced to the neglect of the owner to acknowledge and act on the dual responsibilities of owner and manager. What is not looked at with a discerning eye probably will not reveal its opportunities for improvement until it is too late.

2.6.4   Managing risk

Ganaway (2006) indicated in his book that the first step in managing risk is knowing where it lies. Some areas of contractor risks are obvious: estimators make mistakes, contractors' payment applications are delayed, owners don't pay on time, contractors cannot or do not reduce fixed overhead fast enough in rough times etc. It rains for two months while the job is coming out of the ground. Subcontractors don't perform as required, or go broke. Suppliers don't meet schedules. The cost of certain materials spikes unexpectedly. Jobsite accidents occur. The insurance company denies a claim. Owners dispute claims for change orders. A key employee quits. Non-documented site conditions present themselves mid-project. Owners file for bankruptcy. Contractors' cash runs short. Suppliers cut off credit and on and on.

The bottom line about risk is that you must identify your various exposures, decide the potential impact of each, and do what you can do to manage it both internally and externally. For those exposures that cannot be eliminated, you must develop plans that can be implemented quickly if required to minimize the impact on your company.

2.6.5 Coordinating resources

Ganaway (2006) indicated the need to establish and maintain the basic elements required to carry on the business. He said that a contractor may delegate some of these functions to key employees, but others require handling by him, the owner, especially in a small company, and always in the beginning. Those that a contractor should handle himself include controlling the finances; maintaining banking relationships, including working capital and line of credit if necessary; securing business and project insurance coverage; providing office space and business equipment; implementing certain business and field operating procedures including the handling of bank statements, cash receipts, and payment of invoices; coordinating marketing and business development; selecting outside professionals (lawyers, insurance agent); and hiring key employees.

2.6.6 Contractor's Availability

Ganaway (2006) said that contractor's employees, subcontractors, suppliers, bankers, and customers see him as the "rock" of the firm in which they place their trust. Seeing him on jobsites and in the office, hearing him on the phone, knowing that he is available when they need him-all these help keep their security index steady. He indicated that the contractor's work ethic, involvement, and dedication set the tone for everyone around him.

2.6.7   Marketing Practices

He indicated that marketing and business development does not apply only to the big guys in the industry. A marketing program is needed to make a company known to contractor's potential customers and give them reasons to do business with you. And even if you intend to stay small, you have to stir the pot of potential customers. Start your marketing effort by knowing what construction market you're going to pursue, and learn it inside out.

Specialization allows you to more quickly become known for the work you do. Build your marketing program around your strengths. Your conversations, correspondence, and marketing materials all should succinctly convey to your prospective customer that "this is the contractor who can give me exactly what I need.'' As a specialist, you know who your potential customer is and you can reach him without the cost of marketing widely-i.e., to owners who don't fit your pattern.

2.6.8   Budgetary Control

Ganaway (2006) said if the proposal a contractor submit to the project owner is within his budget and otherwise meets his criteria, you're off to a good start. It's usually after this point that budget problems can begin to wear down the good relationship. Costly change orders, even when completely justified, may throw the owner outside his internally approved budget. In the case of corporate chain stores, the owner's construction representative is expected to complete the project within the budget, and big change orders may indicate that he wasn't thorough in putting the bid documents together-an impression he doesn't want to be conveyed to his employer. Or if you're working with a chain store franchisee and change orders cause his costs to exceed his construction loan and reserves, he may unexpectedly need to go into his own

pocket for the additional funds and this does not sit well with franchisees. In either case, the owner will look for places to throw blame for the cost overrun and you're going to get some or all of it-deserved or not. And it's likely to carry over to the next time this owner is selecting a contractor.

2.6.9 Schedule

Today's clients are acutely aware of the time value of money and demand optimum construction duration in order to get a return on their investment at the earliest date. The keys to optimizing schedules are an organized project owner whose staff and custom materials suppliers can meet tight schedules; an experienced, skilled, streamlined contractor with motivated project managers and superintendents; cooperative and capable materials and equipment vendors; and experienced subcontractors who are willing and able to perform tightly-scheduled work.

2.6.10 Purchasing

How you purchase, receive, and care for construction materials directly affects job profitability. Effective procedures and forms are needed to buy at the best prices, receive orders as specified, and check delivery tickets against orders. Upon receipt of the materials, a responsible employee of your company must check the delivery to be sure it matches the original quantities and specifications, and effectively deal with any discrepancies as necessary to maintain the schedule and preserve your rights for adjustment by the vendor or shipper.

Delivery receipts should be examined on front and back for any language that transfers undue responsibility to the contractor. Proper education and training of your employees are required to reduce the possibility that you become saddled with liability for which you are not responsible.

Whenever possible, suitable terms should be negotiated with each vendor and included in a written agreement or purchase order that takes precedence over field delivery tickets and other documents. Jobsite employees do not always have the time or expertise to recognize such transfers of risk to you.

As Harris and McCaffer, (2001) said, the buying department should only be responsible for obtaining all materials quotations and purchases for both the tender and contract stages as this can enhance the profit margin of the company.

2.6.11   Material Management/Controls

Companies must ensure that materials are always available to the site in the required quantity, at the proper time and also ensure their efficient management bearing in mind the minimum feasible cost to satisfy production needs and company objectives (Manteau, 1985).

2.6.12   Financial Control Practices

a.   Working capital

The United States Small Business Administration (SBA) says lack of adequate working capital is one of the top causes of small business failure. In addition to having enough cash for day-to-day operations, you need reserves that will enable you to survive the tough times and establish a line of credit to provide funds for temporary needs (but don't use loans to support a losing operation). Establish relationships with more than one bank. You will probab1y use one more than another, but if you ever need the second bank, you will be ahead by having established some history there.

b. Banking and finance

Money may be the root of all evil, as some say, but lack of it is undoubtedly the cause of many doomed construction projects, bankrupt contractors, and failed owners. Indeed, the United States of America Small Business Administration (SBA) has said that shortage of capital is one of the main reasons for business failure, along with lack of proper management. The steady flow of owner payment as agreed is the lifeblood of a construction project. If the project owner's source of financing doesn't deliver or if for any reason the contractor, subcontractors, or vendors of custom components for the project fail to receive payment for their work as agreed, one or more of those parties may be unwilling or unable to pay those below them in the money chain. Contractors and subcontractors usually have the contractual right to stop work when payment is overdue (even though that may not be the best course of action in a given situation).

c. Projecting cash needs

Theoretically, one should be able to operate a construction business with little cash. After all, you're going to pay your subcontractors and other vendors on a thirty-day basis. And your customers promise to pay you within thirty days, do they not? So all you need is enough cash for miscellaneous expenses and payroll and your construction draw will come just in time to pay the subcontractors and Home Depot, right? What's wrong with that picture? Even with diligent cash management, we all know that things don't work out quite so neatly.

How much cash you need on hand and how much is available from loans depend on many factors. Cash forecast is an attempt to project your cash needs at a time in the future by estimating your cash inflow and outflow. On the outflow side are G&A expenses including payroll, rent, insurance, and taxes; and job costs including payments to subcontractors and

suppliers. Cash inflow usually amounts to owner payments for the construction draws you submit.

d. **Accounting and record keeping**

There is no function more critical to your success in construction than effective management of financial and other records. Only with good accounting and record-keeping policies and procedures can you achieve the following functions: collect the information you need to monitor the performance of current and completed projects, manage payables and receivables, forecast cash needs, improve your estimating function based on historical job cost, tag the best-performing and non-performing employees, know the financial status of your company at any given point in time and archive records that will be required

2.6.13 **Pre-construction meetings**

The benefits of conducting a pre-construction meeting that brings the major subcontractors and suppliers together include the opportunity to clarify construction details, review the schedule, and discuss working arrangements among the various players. Your subcontractors and other vendors become acquainted and learn from each other's questions and comments. The job superintendent may lay out the jobsite rules for all to hear and discuss at once, stress commitment to the schedule, and go over safety rules and accident-reporting procedures.

2.6.14 **Billings/Valuation of work done**

Construction contracts generally provide for periodic payments by project owner to contractor. In commercial construction, payment at monthly intervals based on the estimated percent of completion is common. The construction agreement should specify the conditions the contractor

must meet in order to be paid. For a contractor to receive full benefits of work done his personal quantity surveyor should value the work and submit monthly statements for payment certificates.

2.6.15 **Evaluating employee performance**

In a small firm, you may or may not elect to conduct formal periodic employee reviews. You are likely to be around your employees a lot of the time to observe them firsthand as they perform their duties. To avoid commenting on performance too often, keep a file of minor things that come to mind that you want to mention and wait until the right opportunity presents itself. Address special situations at any time (Ganaway, 2006).

2.7 THE WORKING FRAMEWORK OF DETERMINANTS OF BUSINESS FAILURE OF CONTRACTORS IN THE GHANAIAN CONSTRUCTION INDUSTRY

Critical reviews of business failure in the construction industry have identified five (5) broad thematic areas of concern. Managerial determinants, financial determinants, business environment factors, growth/expansion factors and political determinants have been identified as the broad areas that can cause a contractor's business to fail in the Ghanaian context and would form the basis of questionnaire formulation. These thematic areas have been previously used by Enshassi et al., (2006).

CHAPTER THREE

RESEARCH METHODOLOGY

3.6 INTRODUCTION

Chapter two concluded the discussions on the pertinent literature on the topic and other discussions on success factors, business models and operational practices of building contractors. This chapter however discusses the research methodology adopted for this study to measure the severity indices of the major determinants of business failures of building contractors. The Chapter addresses data collection instruments, methods, and procedures. It provides detailed explanations to each of the methods employed and how the methods adopted were used to address the aims and objectives. It explores the approaches to be implemented in order to bring to bare the core issues as pertaining to the quest to ascertain the responses of building contractors in the Ghanaian construction industry towards the determinants of contractor's business failure and strategic measures to address this contending issue.

The purpose of the methodology and research design is to provide direction in the planning and implementation of the study in a way that is most likely to achieve the intended goal. The methodology is a blueprint for conducting the study (Burns & Grove, 1987). Similarly, Polit and Hungler (1985) refer to it as the process of following the steps, procedures and strategies for gathering and analyzing data in research investigation. These methods describe in detail how the study is to be conducted. According to Burns & Grove (1987), methodology includes design, setting, sample, methodological limitation and data collection and analysis techniques in a

study. It is the know-how of the scientific methods and techniques employed to obtain the valid knowledge. Thus methodology is the way by which we gain knowledge about the world, trying to discover how we can go about the task of finding out what we believe to be true (Christou, et al., 2008).

3.7   RESEARCH STRATEGY

The research strategy can be defined as the way in which the research objectives can be questioned (Naoum, 1998). There are two types of research strategies, namely, 'quantitative research' and 'qualitative research' (Naoum, 1998). Quantitative data, as the term suggests, consist of numerical (quantified) information (Polit & Hungler, 1985). Quantitative research is "objective" in nature. It is selected under the following circumstances:

- When you want to find facts about a concept, a question or an attribute.
- When you want to collect factual evidence and study the relationship between these facts in order to test a particular theory or hypothesis (Naoum, 1998).

Qualitative research is 'subjective' in nature (Naoum, 1998). It emphases meanings, experiences, (often verbally described) description and so on. Qualitative data consists of detailed descriptions of people, events, situations, or observed behavior (Polit & Hungler, 1985). It is used when you have a limited amount of knowledge about the topic (Naoum, 1998). The strategy used in this thesis is the quantitative research because of these well known advantages such as, formal, descriptive, exploratory, and correlated.

3.3   RESEARCH DESIGN AND PROCESS

Burns & Grove (1987) and cited in Al-Hallaq (2003) defined the term design as: "Some consider research design to be the entire strategy for the study, from identifying the problem to

53

find plans for data collection. Other limit design to clearly define structural framework within which the study is implemented". The framework that the researcher creates is the design (Wood & Haber, 1998). The purpose of the research design is to provide the plan for answering research problem (Wood & Haber, 1998). Much research in the social sciences and management spheres involves asking and obtaining answers to questions through conducting surveys of people by using questionnaires, interviews and case studies (Fellow and Liu, 1997). A structured questionnaire with some personal interview will be used together in this research for their advantages (Sawalhi, 2002). The structured questionnaire is probably the most widely used data collection technique for conducting surveys to find out facts, opinions and views (Naoum, 1998).

Research process on the other hand addresses data collection instruments, methods, and procedures. It provides detailed explanations to each of the methods employed and how the methods adopted are used to address the aims, objectives and research questions. This research follows a quantitative strategy and adopts survey questionnaire which is preceded by thorough literature review and interviews. A survey questionnaire is selected because of the need for generalization on the findings across the construction industry. It also enhances the reliability of observations and improves replications because of the inherent standardized measurement and sampling procedures (Oppenheim, 1996).

3.4 DATA COLLECTIONS AND INSTRUMENTATION

3.4.1 Data Sources

The approach for collecting data involves desk survey and field survey. The desk survey which includes reviewing of related literatures, and gathering data through interviews, and discussion with different financial class of contractors forms an essential aspect of the research since it sets the pace for the development of field survey instruments using questionnaires, and interview (Fadhley, 1991). The field survey deals with the collection of the empirical data through survey questionnaires. Having conducted a thorough literature review and positioned the study within its theoretical context; the main survey questionnaire was adopted for the study.

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3.4.2 Questionnaire Design

A closed-ended questionnaire was used for its advantages such as: it is easy to ask and quick to answer, they require no writing by the respondent, and their analysis is straight forward (Naoum, 1998). The factors that cause failure to contractors were defined through a detailed literature review. These factors were translated into questions of simple, easy, unambiguous form and void of technical terms to minimize potential errors from respondents. Questions of similar topics were adopted from previous studies and grouped together to build the main areas of the draft questionnaire. The draft questionnaire was discussed with supervisor who gave a valuable advice and comments. After preliminary approval of supervisor, draft questionnaire was discussed with two of well known contractors to evaluate the content of the questionnaire. Modifications and changes were then incorporated into the questionnaires. A pilot study was conducted which added a very important questions, clarify some questions and change the contents of others. The questionnaire was divided into two main areas: the first was the respondents background/profile and the second was the factors that cause contractor's business failure and strategic measures to address business failure. The resultant factors of contractor's

55

business failure were divided into five main thematic areas as: managerial; financial; business environment, growth/expansion and finally political factors (Enshassi et al., 2006 and Al-Barrak, 1993).

The questionnaires were designed to include only scaled-response questions. A five point response scale was employed to measure the severity of the factors that cause the failure of contractor's business and strategies that can mitigate the effects based on respondent's opinion and experience in the industry.

3.4.3   Contents of the Questionnaire

The quality of the responses and response rate is traditionally affected by the type of questions and the way in which questions are articulated and presented. Anchored on this premise, it was therefore important to ensure that the right questions are asked, well understood and asked in the right way (Wahab, 1996). There are three main sections in the survey questionnaire (see Appendix I). The first part is an introduction to explain the idea and the purpose of the survey. The second part, which is from question 1 to 8, conforms to general information questions including the financial class of the contractors, the type of clients they work with, experience, annual volume of construction works, annual turnover, annual profit, overall asset profile and number of workers of the individual companies. The respondent is requested to choose the most appropriate answer.

The third section of the questionnaires (questions 9 and 10) is categorized into two parts. The first part is a list of sub-factors adopted from previous studies and its suitability to the Ghanaian construction industry in the determinants of business failure. The sub-factors were broadly

56

categorized into five main thematic areas as indicated in section 3.4.2 above (see Appendix I). The second part is strategic measures/success factors to put in place for the survival of contractor's business. Ordinal scale or rating was principally used to rank the various factors outlined. Empirically, respondents were asked to rate the relative influence of these determinants from the contractors' perception when ranking each factor. The rating involved the respondents deciding whether the outlined determinant/factor is "very low influence", "low influence", "moderate influence", "high influence" and "very high influence". Ordinal scale statistically is a ranking or a rating data that normally uses integers in ascending or descending order (Al-Hallaq, 2003). The numbers assigned to the degree of influence, that is, 1, 2, 3, 4 and 5 respectively don't indicate that the interval between scales are equal, nor do they indicate absolute quantities. They are merely numerical labels (Naoum, 1998).

The questions are in a standardized format and sequence. This guarantees that each question is asked the same way in each questionnaire. At the same time, the questionnaire was simple to administer and relatively easy to analyze and compile. Consequently, the frame of the reference is specified for response and this increases the chance for securing answers which are relevant to the inquiry.

3.4.4   Scope of Survey Questionnaire

The research was limited to Accra (the capital city of Ghana) and Kumasi (the second largest city of Ghana) geographically, because of their strategic positions and importance in the annals of Ghana. Given that economic growth is largely skewed towards the capital, more than 60% of the registered building contractors tend to operate officially in the Greater Accra region (Ahadzie, 2007; Ayisi, 2000). The second largest city in Ghana, Kumasi accounts for only 12%

57

whilst the remaining eight regional administrations put together account for the remaining 28% (Ahadzie, 2007). This was evident in the data base of Ministry of Water Resources, Works and Housing of building and civil contractors in Ghana. Another reason for limiting the survey in these regions was embedded in the escalated construction activities in these two cities.

3.4.5   Instrumentation and Sampling

Considering the geographically dispersed nature of contractors in Ghana, the questionnaires were personally administered; with the help of two assistants. As suggested by Bell (1996), Dillman (2000) and Frazer and Lawley (2000), the questionnaires were pre-tested using some contractors in selected construction companies in Kumasi, Ghana. The pretested questionnaires were analyzed and the revised based on the outcome and feedback from the analysis. The revised questionnaires were finally administered. For the study 100 contractors were randomly selected from the database of registered building and civil contractors of MWRWH in the registration category of D2K2-D4K4 within Accra and Kumasi using the formula developed in 1965 by Kish for sampling size determination. The distribution of the 100 questionnaires in Accra and Kumasi are indicated in the Table 3.1 below.

Table 3.1 – Distribution of Questionnaires in Accra and Kumasi

Total Sample (78%)	Accra (60%)	Kumasi (12%)
100	77	23

According to the data base of the MWRWH the percentages of each copies issued out to the three financial classes categorized in the SMEs sector are also indicated in Table 3.2 below.

58

Table 3.2 – Distribution to each Financial Class

D2/K2	D3/K3	D4/K4
45%	35%	20%
45 Copies	35 Copies	20 Copies

Sixty (60) copies of questionnaire were accordingly retrieved from the selected respondents representing a response rate of 60 percent and that was used for the analysis. The relative high response rate of 60 percent achieved was compared to that registered in the study by Owusu and Badu (2009), Eyiah and Cook (2003) and Easterly (1999) which recorded respective response rates of 53.7 percent, 44 percent and 37 percent; suggesting the validity and adequacy of the response rate.

3.5 DATA PREPARATION AND STATISTICAL CONSIDERATION

3.5.1 Data Preparation

Two steps would be accomplished; first, the raw data is gathered and processed to put it into a form suitable for analysis (data sorting) and second; a test methodology is defined for the statistical tool to be employed and the use of the data. After the data have been collected, they were packaged into a suitable format for analysis using standard package for social science and micro soft excel.

3.5.2 Statistical Considerations

The following statistical methods will be used in this report:

1. Cross Tabulation (Questions 2 to 8 crossed tabulated with Question 1 as is indicated on the survey questionnaires);

2. Descriptive Statistics;

3. Development of Severity Index and Rankings (All Respondents, D2/K2 only, D3/K3 only and D4/K4 only Contractors);

4. Rank Correlation Theory (using Spearman's Rank correlation);

5. Hypotheses Testing was determined using t-test (nonparametric testing) of the rank correlations to determine how the individual financial classes of contractors agree to the severity of rankings; and

6. One Sample T-Test.

For questions one to eight, no scoring was used since these consisted of general information related to the respondents companies. The questions 2, 3, 4, 5, 6, 7 and 8 was crossed tabulated with question one.

For the ninth and tenth questions, the severity of the determinants of Contractor's business failure and strategic measures/success factors were considered. Thus, these factors were organized according to their priority. The options given for each are on a five-point scale. Each factor has a severity index used by Al-Barrak (1993) and the severity index is controlled by the equation:

Severity Index (ls) $= \sum_{i=1}^{5} a_i x_i$

Where:

i= 1, 2, 3, 4, 5

The equation contains the constant a_i. This constant attempts to determine quantitative measure as an indicator of comparable responses. This simply means that the respondent keeps in mind a five-point scale while answering. Per this study, severity index is a quantitative measure of how influential a factor is in the determinant of business failure.

The scale value assigned to each response is as follows:

    A. $a_1 = 0/4$ for 'Very low influence'

    B. $a_2 = 1/4$ for ' Low influence'

    C. $a_3 = 2/4$ for 'Moderate influence'

    D. $a_4 = 3/4$ for 'High influence'

    E. $a_5 = 4/4$ for 'Very high influence'

Xi = the variable expressing the frequency of the i-th response, for i = 1, 2, 3, 4, 5 and illustrated

as follows:

    X_1 = the frequency of 'very high influence' response,

    X_2 = the frequency of 'high influence' response,

    X_3 = the frequency of 'moderate influence' response,

    X_4 = the frequency of 'low influence' response,

    X_5 = the frequency of 'very low influence' response.

For illustration, consider the following example:

Consider the determinant, *lack of experience in line of work.* For 60 respondents, the frequencies

of this factor are:

- Very high influence response = 16 = 26.7%

- High influence response = 25 = 41.7%

- Moderate influence response = 15 = 25.0%

- Low influence response = 2 = 3.3%

- Very low influence response = 2 = 3.3%

The severity index is:

$I_s = (4*26.7+3*41.7+25.0*2+3.3*1+0*3.3)/4 = 71$

Accordingly, if all parties answer the first case to be 'very high influence', then the severity index = 100, which means that this factor is the most important factor and the first in the rank. On the other hand, if all answer are 'very low influence', then the severity index is = 0, which means that this factor is not relevant and the last in the rank. Consequently, this would give a scale from 0 to 100.

The determinants of contractor's business failure were organized in descending order according to their severity index. Thus, each class has a list of these factors ranked according to their severity index given three lists attached at appendix II. A fourth list will represent the opinion of all the three classes together and is called a standard list. The success factors are also organized in the same way using one sample t test hypothesis. The agreement between any two classes would be measured quantitatively using the rank correlation theory. The spearman correlations would be used for the research. Hypotheses testing (t-test of rank correlations a nonparametric test) were also undertaken to determine the extent of agreements between the contractors in their rankings of determinants of business failure.

3.6 SUMMARY OF CHAPTER

This chapter demonstrates the way the data would be collected and the approach that was developed which resulted in the final questionnaire. The responses would be collected personally. The data would be analyzed using the following statistical methods:

1. Cross Tabulation (Questions 2 to 8 crossed tabulated with Question 1as is indicated on the survey questionnaires),

2. Descriptive Statistics,

3. Development of Severity Index and Rankings (All Respondents, D2/K2 only, D3/K3 only and D4/K4 only Contractors,

4. Rank Correlation Theory (using Spearman's Rank Correlation),

5. Hypotheses Testing was determined using t-test of the rank correlations to determine how the individual financial classes of contractors agree to the severity of rankings, and

6. One Sample T-Test of the strategic measures/success factors.

The next chapter is devoted to the analysis and discussion of the survey results.

CHAPTER 4

DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 INTRODUCTION

This chapter is the actualization of chapter three (research methodology) and it presents the survey data and discusses the results obtained. The analyses consist of profile of respondents, descriptive statistics, development of severity index of determinants of business failure of SMEs building contractors, Spearman's rank correlation of severity rank of failures of the three distinct categories of contractors, hypothesis testing of rank correlation values and one sample t-test of strategic measures to address business failure.

The Critical review of previous studies identified 18 managerial, 13 financial, 7 business environment, 7 expansion and 6 political determinants of business failure with emphasis on the prevailing conditions in Ghana. 28 variables of strategic measures/success factors to address business failure in the construction industry were also reviewed and adopted. The next step of the research was to confirm and identify highly influential determinants of business failure and strategic measures/success factors to address the failure from responds of sampled building contractors in the small and medium enterprises (SMEs) sector using survey questionnaires.

Hundred (100) questionnaires were distributed to the various targeted contractors and 60 questionnaires representing 60% were returned and used in the analysis accordingly.

4.2 PROFILE OF THE RESPONDENTS

In an attempt to establish a deeper understanding of the background of the respondents, this section describes the characteristics and financial status of the respondent firms that were involved in the survey. Financial status of the firms was critical to this research since financial distress is considered to be the most significant indicators of failure. It may be defined as a low cash-flow state in which the firm incurs losses without being insolvent (Purnanandam, 2008). Eight (8) main characteristics were of paramount interest, mainly; financial class of contractor, type of client they work with, working experience, annual volume of construction work, annual turnover, annual profit, overall asset portfolio and number of permanent workers (Eyiah and Cook, 2003; Public Procurement Act, 2003; Kaplan, 1989; Owusu-Manu, 2008; Stokes and Wilson, 2006; Mensah, 2004) as is indicated on the survey questionnaire. These paramount areas were considered having in mind that the trend of the results would be an indicative of a thriving industry or otherwise.

Questions 2, 3, 4, 5, 6, 7 and 8 are crossed-tabulated with question 1.Cross tabulation involves placing the survey data into tabular form (a two-way table) so that the functional relation of financial class D2/K2, D3/K3 and D4/K4 can be described. The cross tabulation was used to provide a complete set of all two-dimensional relationship between each of the categories of contractors and all the other variables. The results are discussed accordingly.

4.2.1 Type of Client

Clients are very important stakeholders in the construction industry. They employ most of these SMEs building contractors and hence necessary to identify the type of client most of them work

with. The result presented in Table 4.1, illustrates that 48.33% of the total respondents work with both the private and public/government. 44.99% of the contractors work with public/government only and 6.67% work with private clients only. It can therefore be deduced that 93.23% of the responded contractors work with public/government clients. This however illustrate from the result that the public/government of Ghana is the leading employer in the construction sector and this is supported by Eyiah and Cook (2003) when it was identified that government was as a major client in Ghana. In furtherance to this prove, it can also be inferred that any act or omission by the government would have a rippling effect on the activities of SMEs building contractors and their corporate businesses.

Table 4.1 - Type of Client Contractors work with

Financial Class	Frequency/Percentage	Private	Public/Gov.	Both	Total
D2/K2	Frequency Overall percentage Row percentage Column percentage	1 1.67 3.85 25.00	11 18.33 42.31 40.74	14 23.33 53.85 48.28	26 43.33
D3/K3	Frequency Overall percentage Row percentage Column percentage	2 3.33 9.52 50.00	11 18.33 52.38 40.74	8 13.33 38.10 27.59	21 34.99
D4/K4	Frequency Overall percentage Row percentage Column percentage	1 1.67 7.69 40.0	5 8.33 44.19 40.43	7 11.67 23.26 34.48	13 21.67
TOTAL	Frequency Overall percentage	4 6.67	27 44.99	29 48.33	60 100

4.2.2 Experience of Firms

Experience of the respondents is very necessary to the reliability of the outcome of this survey. It was therefore imperative to identify the background experience of the respondents. Table 4.2

depicts that 41.67% of the contractors have 5 - 10 years working experience and 24.99% of them have 10 – 15 years. Only 15% of the contractors have less than 5 years experience in the construction field with 10.01% having experience between 15 to 20 years. It should also be noted that 8.33% of the contractors have more than 20 years experience. The findings indicate that 85% of the respondents have more than 5 years working experience. The long working experience of the respondents would give the results more reliability and consequently, their responses to the problems would also reflect the prevailing situations in the construction industry.

Table 4.2 - Experience of each of the Tested Financial Classes

Financial Class	Frequency/Percentage	< 5 years	5 - 10 years	10 – 15 years	15 – 20 years	>20 years	Total
D2/K2	Frequency	3	10	8	3	2	26
	Overall percentage	5.00	16.67	13.33	5.00	3.33	43.33
	Row percentage	11.54	38.46	30.77	11.54	7.69	
	Column percentage	33.33	40.00	53.33	50.00	40.00	
D3/K3	Frequency	3	8	5	2	3	21
	Overall percentage	5.00	13.33	8.33	3.34	5.00	35.00
	Row percentage	14.29	38.10	23.81	9.52	14.29	
	Column percentage	33.33	32.00	33.33	33.33	60.00	
D4/K4	Frequency	3	7	2	1	0	13
	Overall percentage	5.00	11.67	3.33	1.67	0	21.67
	Row percentage	33.33	53.85	15.38	7.69	0	
	Column percentage	33.33	28.00	13.33	16.67	0	
TOTAL	Frequency	9	25	15	6	5	60
	Overall percentage	15.00	41.67	24.99	10.01	8.33	100

4.2.3 Annual Volume of Construction Works

Annual volume of construction works is the total value of construction works acquired by a contractor in one year and is somewhat an indicative of acquiring more contracts to execute or not (FIDIC Conditions of Contract, 1992; Lapeniene, 2011; www.news.az/articles/economy).

67

The cross tabulation of annual volume of construction works shows that the highest frequency is least of the scales of annual value of construction works which is less than 250 thousand Ghana cedis and in percentage terms, it is 38.34%. Its therefore implies that majority of the respondents across all the categories of contractors' annual volume of construction works do not exceed the threshold of 250 thousand Ghana cedis. The second highest frequency (25.01%) is 500 - 750 thousand Ghana cedis. 18.33% each are within 250 - 500 thousand Ghana cedis and beyond 750 thousand Ghana cedis. In the mid year of 2011, the Minister of Education submitted to Ghana's Parliament budget allocations for the construction of 6-unit classroom blocks nation-wide. The budgets were in the ranges of 254 – 270 thousand Ghana cedis. Positioned within this context, it is clear that 38.34% of SMEs building contractors are not acquiring contracts in the ranges of the budget allotted for the construction of 6-unit classroom block in a calendar year. It also implies that most of them are not securing two or three or four 6-unit classroom block contracts in a year to execute as is always being the trend of contractors in tendering for projects.

Table 4.3 - Annual Volume of Construction Works in Ghana Cedis

Financial Class	Frequency/Percentage	> 750 x 10³	500 – 750 x 10³	250 – 500 x 10³	< 250 x 10³	Total
D2/K2	Frequency	8	7	8	3	26
	Overall percentage	13.33	11.67	13.33	5.00	43.33
	Row percentage	30.77	26.92	30.77	11.54	
	Column percentage	72.73	46.67	72.73	13.04	
D3/K3	Frequency	2	4	2	13	21
	Overall percentage	3.33	6.67	3.33	21.67	34.99
	Row percentage	9.52	19.05	9.52	61.90	
	Column percentage	18.18	26.67	18.18	56.52	
D4/K4	Frequency	1	4	1	7	13
	Overall percentage	1.67	6.67	1.67	11.67	21.68
	Row percentage	7.69	30.77	7.69	53.85	
	Column percentage	9.09	26.67	9.09	30.43	
TOTAL	Frequency	11	15	11	23	60
	Overall percentage	18.33	25.01	18.33	38.34	100

4.2.4 Annual Turnover (Earnings)

Turnover has historically been used to describe firms' financial activity levels, profitability and growth levels; and predominantly as a precursor of firm size, which enables judgment to be made on the extent, to which the firm has generated revenue over the accounting period (Owusu-Manu, 2008). Previous work suggests a modest relation between turnover and firms' performance (Kaplan, 1989). This may suggest a positive relationship between turnover of firms and their activity levels, profitability and business performance. Drawing from the continuing discussion, one may reasonably assume that firms with high turnovers are succeeding in their line of work and those with low turnovers vice versa. Therefore the outcome of the survey on annual turnovers would indicate whether businesses of SMEs building contractors are succeeding or not.

Table 4.4 shows that 65% of all the contractors turnover less than GH¢250 thousand which is the least of the threshold scale. 13.33% of the respondents earn within the threshold of GH¢250–500 thousand and 11.66% of them in the threshold of GH¢500 – 750 thousand. Few contractors of about 10% do turnover beyond the threshold of GH¢750 thousand. This implies that majority of SMEs building contractors are not earning enough to assist in the growth of their business and also increase profit levels. Table 4.3 above indicates that 61.66% of the respondents are acquiring works beyond the threshold of GH¢250 thousand. However on Table 4.4 below, 65% of these same respondents are earning below the threshold of GH¢250 thousand. This scenario supports the assertion above that majority of SMEs building contractors do not turnover enough funds to assist in expansion of their businesses and also increase their profit levels as a result of delay in payments and other consequential factors. Affirmatively, what they earn is way below what they acquire.

69

Table 4.4 - Annual Turnover of the Firms in Ghana Cedis

Financial Class	Frequency/Percentage	> 750 x 10³	500 - 750 x 10³	250 – 500 x 10³	< 250 x 10³	Total
D2/K2	Frequency	4	2	5	15	26
	Overall percentage	6.67	3.33	8.33	25.00	43.33
	Row percentage	15.38	7.69	19.23	57.69	
	Column percentage	66.67	28.57	62.50	38.46	
D3/K3	Frequency	2	3	1	15	21
	Overall percentage	3.33	5.00	1.67	25.00	35.00
	Row percentage	9.52	14.29	4.76	71.43	
	Column percentage	33.33	42.86	12.50	38.46	
D4/K4	Frequency	0	2	2	9	13
	Overall percentage	0.00	3.33	3.33	15.00	21.66
	Row percentage	0.00	15.38	15.38	69.23	
	Column percentage	0.00	28.57	25.00	23.08	
TOTAL	Frequency	6	7	8	39	60
	Overall percentage	10.00	11.66	13.33	65.00	100

4.2.5   Annual Profit

Annual profit is the amount of money a given individual, company or entity makes in a year's time. Annual profit is useful to determine whether a company is making or losing money. Tracking the annual profit of a company or individual over the years can also provide an indication of whether the business is expanding or contracting. It is therefore necessary to look at profit levels of the SMEs building contractors.

The cross tabulation of Table 4.5 indicates that 50% of the respondents including D2/K2 contractors earn less than GH¢25 thousand profit a year with 31.67% earning within the range of GH¢25 – 50 thousand. For the rest of the contractors 11.67% earn within GH¢50 – 75 thousand and 6.67% also earn beyond GH¢75 thousand and they only constitute 4 contractors out of the 60 contractors who responded. Browne (2011) asserts that profit margin indicates how

much money a business makes relative to its cost. McClure (2011) also indicates that firms with low profit margin can get wiped out in turbulent and downturn economies. Considering these assertions and positioning the Ghanaian SMEs building contractor, portray an industry which is stagnant and finds it difficult to expand as a result of low profits. This stands is reflective from the fact that, 50% of the SMEs building contractors earn below paltry sum of GH¢25 thousand which is just 10% of GH¢250 thousand when they have worked within the whole year.

Table 4.5 - Annual Profit of the Firms in Ghana Cedis

Financial Class	Frequency/Percentage	> 75 x 10^3	50 – 75 x 10^3	25 – 50 x 10^3	< 25 x 10^3	Total
D2/K2	Frequency	3	2	9	12	26
	Overall percentage	5.00	3.33	15.00	20.00	43.33
	Row percentage	11.54	7.69	34.62	46.15	
	Column percentage	75.00	28.57	47.37	40.00	
D3/K3	Frequency	0	4	7	10	21
	Overall percentage	0.00	6.67	11.67	16.67	35.00
	Row percentage	0.00	19.05	33.33	47.62	
	Column percentage	0.00	57.14	36.84	33.33	
D4/K4	Frequency	1	1	3	8	13
	Overall percentage	1.67	1.67	5.00	13.33	21.67
	Row percentage	7.69	7.69	23.08	61.54	
	Column percentage	25.00	14.29	15.79	26.67	
TOTAL	Frequency	4	7	19	30	60
	Overall percentage	6.67	11.67	31.67	50.00	100

4.2.6 Overall Asset Profile (Portfolio)

Overall asset profile of a firm has somehow a link with whether the construction firm is expanding or contracting (Sullivan and Sheffrin, 2003). These assets are purchased for continued and long-term use in earning profit in a business. In support of the research it was

therefore imperative to look into the asset portfolio of these contractors whether it's a dwindling business or not.

Results in Table 4.6 indicate that out of the total contractors who responded to the survey, 43.33% of them asset portfolio are within the range of GH¢15 – 150 thousand and 21.67% of the total respondents also have a total asset portfolio which is below the threshold of GH¢15 thousand. For the rest of the respondents, 20.00% and 15.01% were within the threshold of GH¢150 – 1500 thousand and above GH¢1500 thousand respectively.

From the results in Table 4.6, it is an indicative that most contractors are not able to expand their asset portfolio even though they have been in business for years. Table 4.2 above shows that 78.67% of the contractors have worked for within a time period of 5 – 20 years and yet 65% of these same categories of contractors have asset portfolio below GH¢150 thousand with even 21.67% below GH¢15 thousand. These details are not good signs for the construction industry where plant holding is key in evaluating contractors and even upgrading. In section 2.3.1 it was indicated that SMEs that have asset portfolio of below $10,000 (GH¢15 thousand) are micro enterprises and those within the threshold of GH¢15,000 – 150,000 small enterprises by Ministry of Trade and Industry. But looking at the results D2/K2 and D3/K3 contractors who are medium enterprises, a total of 42.31% and 52.38% respectively who are majority of the respondents are still within the threshold of small enterprises' threshold. These results are not encouraging and indicate a stunted industry. The inferences are that most contractors do not acquire enough construction works and profit to assist them re-invest and expand their businesses and assets and this evident in the results.

Table 4.6 - Overall Asset Profile (Portfolio) of the Firms in Ghana Cedis

Financial Class	Frequency/Percentage	> 1,500 x 10³	150 – 1,500 x 10³	15 – 150 x 10³	< 15 x 10³	Total
D2/K2	Frequency	7	7	11	1	26
	Overall percentage	11.67	11.67	18.33	1.67	43.34
	Row percentage	26.92	26.92	42.31	3.85	
	Column percentage	77.78	58.33	42.31	7.69	
D3/K3	Frequency	1	2	11	7	21
	Overall percentage	1.67	3.33	18.33	11.67	35.00
	Row percentage	4.76	9.52	52.38	33.33	
	Column percentage	11.11	16.67	42.31	53.85	
D4/K4	Frequency	1	3	4	5	13
	Overall percentage	1.67	5.00	6.67	8.33	21.67
	Row percentage	7.69	23.08	30.77	38.46	
	Column percentage	11.11	25.00	15.38	38.46	
TOTAL	Frequency	9	12	26	13	60
	Overall percentage	15.01	20.00	43.33	21.67	100

4.2.7 Number of Employed Workers

Number of employed workers was also very important consideration for this research. The number of employed workers has a link with the size of the firm and its shows whether contractors are expanding or not. This assertion is supported by Stoke and Wilson (2006) in the definition of micro, small and medium-size enterprises by headcount of employed workers. The cross tabulation of the number of workers indicates that 11.54% of D2/K2 contractors have more than 250 workers, 0.0% have between 50-249 workers, 80.77% have between 10 – 49 and 3.33% have 9 workers or fewer. D3/K3 contractors on the other hand have 0.00% of workers in the threshold of over 250, 19.05% in between 50 – 249, 52.38% of them employ between 10 – 49 and 28.57% having 9 or less workers. The D4/K4 contractors also have 0.00% of workers above the threshold 250, 7.69% have between 50 – 249, 69.23% have 10 – 49 workers and finally 23.08% have 9 or less workers. Out of the total contractors, 68.33% have 10 – 49

73

employees and 18.33% as having 9 or fewer workers and this is not a sign of a thriving businesses but rather a dwindling one. Stokes and Wilson (2006) defined micro enterprises as having employee of 9 or less, small enterprise as having between 10 – 49 and medium enterprises as between 50 – 249 workers. It is therefore clear from Stokes and Wilson that about 86.66% of the respondents are small or micro enterprises and is not good for the industry. 80.77% of even D2/K2 contractors do not have the capacity to employ more than 49 workers. The implication is that the SMEs sector of the building industry is not expanding to be able to provide the infrastructural need of the country and also assist them employ more and build their capacity into the next level of large firms.

Table 4.7 - Number of Permanent Workers of the Firms

Financial Class	Frequency/Percentage	> 250	50 – 249	10 - 49	0 – 9	Total
D2/K2	Frequency	3	0	21	2	26
	Overall percentage	5.00	0.00	35.00	3.33	43.33
	Row percentage	11.54	0.00	80.77	7.69	
	Column percentage	100.00	0.00	51.22	18.18	
D3/K3	Frequency	0	4	11	6	21
	Overall percentage	0.00	6.67	18.33	10.00	35.00
	Row percentage	0.00	19.05	52.38	28.57	
	Column percentage	0.00	80	26.83	54.55	
D4/K4	Frequency	0	1	9	3	13
	Overall percentage	0.00	1.67	15.00	5.00	21.67
	Row percentage	0.00	7.69	69.23	23.08	
	Column percentage	0.00	20.00	21.95	27.27	
TOTAL	Frequency	3	5	41	11	60
	Overall percentage	5.00	8.34	68.33	18.33	100

4.3 DEVELOPMENT OF SEVERITY INDEX OF DETERMINANTS OF BUSINESS FAILURE

As was indicated in the introduction to this chapter, eighteen (18) managerial, thirteen (13) financial, seven (7) business environment, seven (7) growth/expansion and six (6) political variables were identified as the determinants of business failure of building contractors in the Ghanaian context. The analyses of these variables using descriptive statistics, development of severity index, rank correlation analysis, and test of hypothesis are discussed below.

4.3.1 Descriptive Statistics

Tables 4.8 show the statistical techniques used to analyze the collected data. The purpose of this section is to present the techniques that aid the researcher in interpreting the existing information. Descriptive analysis such as means, standard errors and standard deviations of each of the determinant variables were conducted using statistical package for social sciences and Microsoft excel to help provide a clearer picture of the outcome of the survey. Using a five-point rating scale, a variable was arbitrary considered important if it had a mean of 3.5 or more (Field, 2005) cited in Owusu and Badu (2009) and is used for the analysis. The standard error is the standard deviation of sample means and it is a measure of how representative a sample is likely to be of the population (Field, 2005). A large standard error reflects a lot of variability between means of different samples and a small standard error suggests that most sample means are similar to the population mean and so the sample is likely to be an accurate reflection of the population (Field, 2005). Standard deviations of less than 1.0 signal that, there is little variability in the data collected and consistency in agreement among the respondents. The table is as shown below.

From the tables all the variables that have mean values of 4.00 and above may therefore be considered that they constitute the most severe determinants of business failure of SMEs building contractors in the Ghanaian context. The standard error associated with all the means were relatively closer to zero suggesting that the sample chosen is an accurate reflection of the population. Lastly, the standard deviations of a large majority are less than 1.0 signaling that, there is little variability in the data collected and consistency in agreement among the respondents.

Few of the variables observed showed standard deviation values of more than 1.0. These suggested substantial variability in responses to the factors and consistency in agreement among the respondents with respect to those variables. Unarguably, it may confidently be concluded on the basis of the descriptive statistics alone that the variables identified as the determinants of business failure of SMEs contractors in Ghana through the literature review and discussions with stakeholders reflect the views of the respondents.

Table 4.8 - Statistics of All Contractors on Determinants of Business Failure

Thematic Areas/Sub-factors	Variables	N	Mean		Std. Deviation
		Statistic	Statistic	Std. Error	Statistic
MANAGERIAL					
Lack of experience in line of work	1	60	3.85	.125	.971
Replacement of key personnel	2	60	3.83	.128	.994
Assigning incompetent project leader at site	3	60	4.33	.123	.951
Bad decision in regulating company policy	4	60	3.57	.124	.963
Lack of Labour productivity and improvement	5	60	3.38	.137	1.059
Lack of using project management techniques	6	60	3.25	.134	1.035
Sudden death of company owner	7	60	3.33	.179	1.386
Poor monitoring and control	8	60	3.63	.166	1.288
Poor communication	9	60	3.62	.114	.885
Company organization	10	60	3.55	.117	.910
Bad record keeping	11	60	3.87	.129	.999
Adopting unsuitable Purchasing practices	12	60	3.47	.118	.911
Delayed submissions of claims	13	60	3.20	.130	1.005
Owner absence from the company	14	60	3.47	.135	1.049
Not completing on schedule	15	60	3.32	.135	1.049
Lack of material control systems	16	60	4.07	.123	.954
Frauds/Pilfering	17	60	4.12	.151	1.166
Neglect	18	60	3.48	.151	1.172
FINANCIAL					
Low profit margin due to competition	19	60	4.17	.104	.806
No Cash flow management system	20	60	3.72	.104	.804
Poor estimation practices	21	60	4.08	.117	.907
Undervaluing of work done	22	60	4.20	.140	1.086
Controlling equipment cost and usage	23	60	3.05	.122	.946
Not Evaluating project profit yearly	24	60	3.10	.127	.986
Unfavourable credit purchases from suppliers	25	60	3.40	.109	.848
High and unstable Inflation	26	60	3.98	.125	.965
No Employee benefits and compensation	27	60	2.82	.125	.965
Lack of book keeping systems	28	60	3.70	.122	.944
Lack of access to capital	29	60	4.23	.099	.767
Delay in collecting payments	30	60	4.18	.120	.930
Inadequate payment of fluctuations	31	60	4.03	.126	.974

Table 4.8 - Statistics of All Contractors on Determinants of Business Failure (Cont'd.)

Thematic Areas/Sub-factors	Variables	N	Mean		Std. Deviation
		Statistic	Statistic	Std. Error	Statistic
BUSINESS ENVIRONMENT					
National slump in economy	32	60	3.97	.095	.736
Poor tendering/selection procedure	33	60	4.07	.098	.756
Lack of well structured training programmes	34	60	3.18	.118	.911
Weak construction industry regulations in Ghana	35	60	3.55	.120	.928
Award of contract to lowest bidder	36	60	3.57	.149	1.155
Owner involvement in construction phase	37	60	2.32	.149	1.157
Shrinkage in construction demand	38	60	3.38	.137	1.059
GROWTH					
Expanding into new geographic location	39	60	2.58	.156	1.211
Opening a regional office	40	60	2.25	.118	.914
Increased number of projects	41	60	2.52	.153	1.186
Increased size of projects	42	60	2.68	.167	1.295
Change in the type of work	43	60	2.57	.157	1.212
Lack of managerial development or maturity as the company grow	44	60	3.42	.165	1.279
Change from private to public or vice versa	45	60	2.25	.155	1.202
POLITICAL					
Delay in collecting debts from new political heads	46	60	4.77	.084	.647
Suspension of projects of previous government	47	60	4.77	.080	.621
Change in government policies	48	60	4.23	.099	.767
Financial demands by political heads	49	60	4.47	.087	.676
Awarding contracts to incompetent party folks	50	60	4.08	.120	.926
Nonpayment of interest on delayed payments	51	60	4.35	.085	.659

4.3.2 Development of Severity Index of the determinants

Empirically, respondents were asked to rate the relative influences of these determinants of business failure from the point of view of the contractors' personal experience in the construction industry. The rating involved the contractors to decide whether a provided determinant has "very low influence," "low influence," "moderate influence," "high influence" or "very high influence" on business failure.

As mentioned in the previous chapter (i.e., section 3.4.1), the use of a percentage and a weighted average assigned to each scale would simplify and reduce all numbers to a range from 0 to 100. Consequently, the data will be translated into standard form, with a base of 100, for relative comparisons of the identified factors of business failure and would be discussed accordingly.

4.3.2.1 *Severity Index of Main Thematic Areas*

As mentioned earlier, the main thematic areas of contractor's business failure are managerial, financial, business environment, growth/expansion and political determinants. As illustrated in Table 4.9, the severity index and ranking of each thematic area is indicated below. The results show that political factors are the most severe determinants of business failure out of the five thematic areas and this should be a concern of different governments that come and go in the governance of the state. Enshassi et al. (2006) also identified political factors as the most severe causes of contractors' business failure and indicated that political causes have direct and indirect causes on business failure of contractors.

Government decisions one way or the other affect the growth of building contractors in Ghana and this does not auger well for a lower middle income country where the private sector is the engine of growth and is propagated by every government. Jaselskis and Talukhaba (1998) in their research work on bidding considerations in developing countries

makes it clear that governments in developing countries have a direct influence on construction in both the public and private sector through their behaviour, policies and legislations. As in many other countries, government is the major construction client in Ghana (Eyiah and Cook, 2003). Hence it is impossible to disconnect the impact of government decisions and politics on construction in Ghana.

The least severe of the thematic areas is growth/ expansion factors and is evidently clear from the results in sections 4.2.5 and 4.2.7 that most of the SMEs contractors have very low profit margins due to the very high competitive nature of the industry and find it difficult to expand. As result most of them find themselves in the small and micro levels of the SME sector in Ghana. It is therefore imperative on successive governments to institute direct and indirect policies in place to avert this situation to be able to sustain and improve our infrastructural status as a middle income country.

Table 4.9 – Severity Index of Main Thematic Areas of Business Failure

Main Thematic Area	Severity Index	Ranking
Political Decisions Factors	86	1
Financial Management Practices	68	2
Managerial Inefficiency Factors	67	3
Business Environment Factors	61	4
Growth/Expansion Factors	40	5
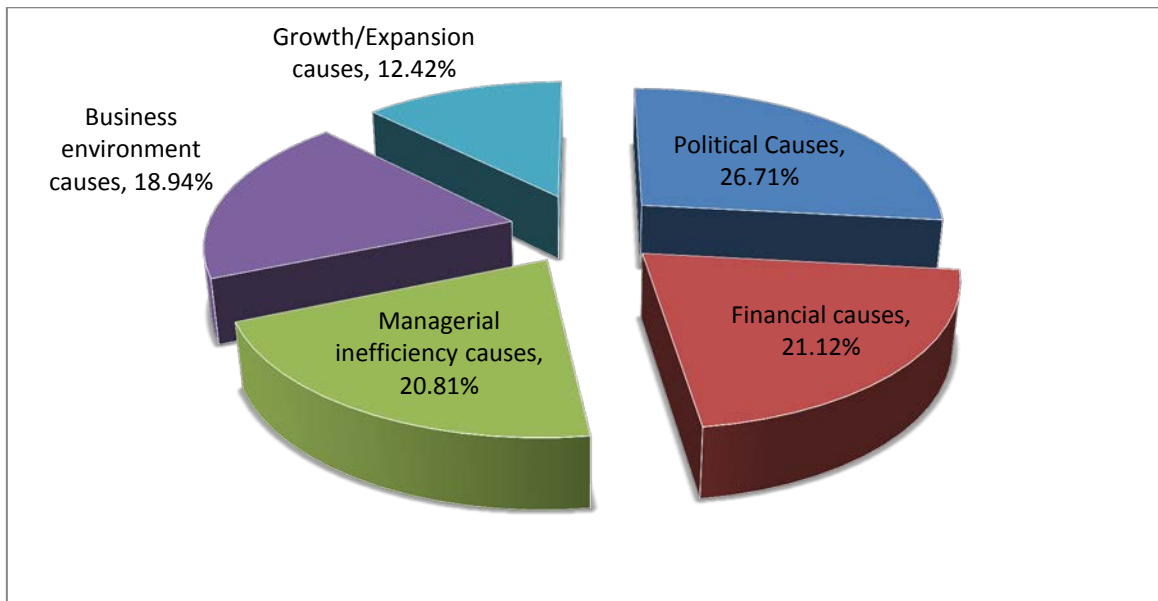
Figure 4.1 – Percentage view of Main Thematic Areas of Business Failure

4.3.2.2 *Severity Index of Managerial Determinants*

The severity index of each of the factors of the managerial determinants is presented in Table 4.10 in a descending order. In Figure 4.1 above, managerial factors have a total influence of 20.81% on the determinants of SMEs building contractor's business failure. It is therefore imperative to consider carefully managerial factors in business executions in the construction industry as was indicated by arditi et al. (2000) in their study that the organizational (managerial) factors represent 17.14% of business failure factors. Table 4.10 however, identified assigning incompetent project leader at the site, fraud/pilfering, lack of material control systems and poor monitoring and control as the most critical factors.

Many researchers (e.g. Enshassi et al., 2006; Al-Barrak, 1997; Hartigan, 1973; Osama, 1997; Harris and McCaffer, 1997) have identified the above factors as critical in the determinant of business and project failure in the construction industry. Arditi et al. (2000) also indicated that business failure is as a result of complex process and does depend on combinations of factors. On the basis of this assertion, it therefore incumbent on contractors to critically take

all necessary steps to address these identified critical determinants in contracts and business management to be able to survive. Lack of using project management techniques on the other hand has the lowest severity index in the same thematic area. This can be inferred that most of the contractors do not ascribe to these management techniques like, planning, controlling, organizing, delegation etc. and therefore are not bothered by this variable.

Table 4.10 - Managerial Determinants of Business Failure

RANKINGS	DETERMINANTS	SEVERITY INDEX
1	Assigning incompetent project leader at the site	84
2	Frauds/Pilfering	79
3	Lack of material control systems	78
4	Poor monitoring and control	77
5	Bad record keeping	73
6	Replacement of key successful personnel	72
7	Lack of experience in line of work (construction)	71
8	Poor communication	66
9	Adopting unsuitable Purchasing practices	63
10	Bad decisions in regulating company policy	62
11	Bad Company organization	62
12	Owner absence from the company	62
13	Neglect	60
14	Sudden death of company owner	59
15	Delayed submissions of claims	59
16	Lack of Labour productivity and improvement	57
17	Not completing on schedule	57
18	Lack of using project management techniques	56

4.3.2.3 Severity Index of Financial Determinants

Financial determinants have a total aggregate of 21.12% influence in the business failure rate as is indicated on Figure 4.1 and should be considered critically by contractors. The severity index of each of the factors of the financial determinants is presented in Table 4.11 in a descending order. Lack of access to capital, undervaluing of work done, low profit margin due to competition, delay in collecting payments, poor estimation practices and high and unstable inflation had the highest severity indexes in that order respectively. This is

supported by many studies. Arditi et al. (2000) and Peterson (2005) identified financial factors as critical in the determinants of construction companies. Lack of control of equipment cost and usage and No employee benefits and compensation are the two lowest severity indexes and this is supported by the research of Al-Hallaq (2003) that small firms do not put into considerations the controlling of equipment cost and usage and employee's benefits and compensation as a priority which may affect the financial situation of the company.

Table 4.11 - Financial Determinants of Business Failure

RANKINGS	DETERMINANTS	SEVERITY INDEX
1	Lack of access to capital	81
2	Undervaluing of work done	81
3	Low profit margin due to competition	80
4	Delay in collecting payments	79
5	Poor estimation practices	76
6	High and unstable Inflation	75
7	Inadequate payment of fluctuations	74
8	Lack of book keeping systems	68
9	No Cash flow management system	67
10	Unfavourable credit purchases from suppliers	59
11	Not Evaluating project profit yearly	52
12	Lack of Control of equipment cost and usage	50
13	No Employee benefits and compensation	44

4.3.2.4 Severity Index of Business Environment Determinants

The severity index of each of the factors of the business environment determinants is presented in Table 4.12 in a descending order. Poor tendering/selection procedure and national slump in economy were critical factors with high severity indexes whiles the other factors had relatively low severity indexes. The result in Figure 4.1 above showed that 18.94% of factors that cause business failure are as a result environmental determinants in the Ghanaian context and this is buttressed by the study of Arditi, Koksal, and Kale (2000). The study identified that environmental factors resulted in 20.01% of company failure.

Table 4.12 - Business Environment Determinants of Business Failure

RANKINGS	DETERMINANTS	SEVERITY INDEX
1	Poor tendering/selection procedure	75
2	National slump in economy	75
3	Weak construction industry regulations in Ghana	65
4	Award of contract to lowest bidder	63
5	Shrinkage in construction demand	60
6	Lack of well structured training programmes	54
7	Owner involvement in construction phase	33

4.3.2.5 *Severity Index of Growth/Expansion Determinants*

Expansion is the normal growth in any business and should be done under very good researching, planning and control (Al-Barrak, 1993). The severity index of each of the factors of growth determinants is presented in Table 4.13. Critical observations of the expansion factors indicate that the determinants have relatively low severity index. This assertion is supported by the fact that, section 4.2.7 proves that most of the respondents are in the bracket of small and micro sector and therefore not bothered by expansion factors. Lack of managerial development or maturity as the company grow is the highest ranked determinant with a severity index of a low level of 58. In other jurisdictions expansion factors are critical and attested by the study of Schleifer (1989) that increasing project size, expanding into unfamiliar locations and moving into new constructions were considered critical factors in business failure.

Table 4.13 - Growth/Expansion Determinants of Business Failure

RANKINGS	DETERMINANTS	SEVERITY INDEX

1	Lack of managerial development or maturity as the company grow	58
2	Increased size of projects	43
3	Expanding into new geographic locations	40
4	Increased number of projects	39
5	Change in the type of work	39
6	Opening a regional office	33
7	Change from private to public or vice versa	30

4.3.2.6   Severity Index of Political Determinants

The severity index of each of the factors of the political determinants is presented in Table 4.14 in a descending order. It is evident from the result that all the six determinants have high severity indexes and therefore are very critical in the determinant of business failure of SMEs building contractors and this is supported by the study of Enshassi et al., (2006) where political factors were ranked as the most severe cause of failure. Suspension of projects of previous government and delay in collecting debt from new political heads are the highest ranked determinants of business failure with severity index of 94 each out of a maximum severity index of 100. Awarding contracts to incompetent party folks is the lowest ranked determinant in the same thematic area with a severity index of 76.

Empirically, section 4.2.1 indicates that 93.23% of the respondents execute government projects and therefore are directly influenced by any decision of the government and therefore consider political factors critical.

Table 4.14 - Political Determinants of Business Failure

RANKINGS	DETERMINANTS	SEVERITY INDEX

1	Suspension of projects of previous government	94
2	Delay in collecting debts from new political heads	94
3	Financial demands by political heads	87
4	Nonpayment of interest on delayed certificate	84
5	Change in government policies	80
6	Awarding contracts to incompetent party folks	76

4.3.2.7 Severity Index of Over-all Determinants of Business Failure

The results are indicated in Table 4.15 below in rank order to serve as early warning signal to building contractors in the SMEs sector. The variables with severity index of 75 and above have very high ratings and therefore are highly influential in the determinants of business failure and this was evident in Al-Barrak (1993). The rest of the variables have moderate to very low influence on business failure. Critical observation of the results indicate that business failure is not dependent on a single factor but as a result combined effect of different influential as is attested by Arditi et al. (2000).

Consistent with Al-Barrak (1993) and Enshassi et al. (2006) and for the purpose of this research, variables that have high ratings of a mean of at least 4.00 and severity index of at least 75 are considered as highly influential determinants of failure. These influential variables are presented in Table 4.15 and further discussed few in the subsequent sub-headings.

4.3.2.7.1 Suspension of Projects of Previous Government

Suspension of projects of previous government is the highest ranked determinant of business failure per the results with a severity index of 94. The impact of this factor on business failure is critical in the wake of the suspended affordable housing projects started by the previous government in 2003 and the new STX housing projected initiated by the new

government presented this year in parliament by the Minister of Water Resources, Works and Housing. The Minister indicated that the over 5000 units suspended affordable houses were at various stages of construction at six sites; namely Borteyman-Nungua, Kpone near Tema, Asokore-Mampong in the Ashanti Region, Tamale in the Northern Region and some parts of the Upper West Region. Political risk analysis has become an increasingly important private sector tool over the past decade, with a growing number of firms relying on political risk analysis to inform their business choices (Philips, 2007). It is therefore incumbent on contractors to ensure that the risks inherent in government projects inform their pricing and when tendering for government projects. It is also imperative to consider the season of the tender invitation and act tactfully in election years. Evidences of suspended projects abound all over the country, at the national level through to the district levels as one drive along the arterial and other minor roads in Ghana. There is therefore the need for pragmatic effort for national policy to avert this situation as a nation that wants to develop.

4.3.2.7.2 Delay in Collecting Debts from New Political Heads

Luger (1997) indicated that many construction firms have suffered financial ruin and bankruptcy because of delays in payment, which are common with government contracts. Kangari (1988) also indicated that most construction companies experiences financial difficulties and bankruptcy during conditions of economic fluctuations and change in politics. It is not farfetched that delay in collecting debts from new political heads is ranked second with severity index of 94. Considering the assertions of Luger (1997) and Kangari (1988) above and per the results, contractors face financial difficulties when there is a change in political head. Contractors should therefore critically examine this political risk during tendering for government contracts to be able to reduce the inherent consequences. .

Table 4.15 – Over-all Determinants of Business Failure of SMEs Building Contractors

RANKINGS	DETERMINANTS	SEVERITY INDEX
1	Suspension of projects of previous government	94
2	Delay in collecting debts from new political heads	94
3	Financial demands by political heads	87
4	Nonpayment of interest on delayed certificate	84
5	Assigning incompetent project leader at the site	84
6	Lack of access to capital	81
7	Undervaluing of work done	81
8	Change in government policies	80
9	Low profit margin due to competition	80
10	Delay in collecting payments	79
11	Frauds/Pilfering	79
12	Lack of material control systems	78
13	Poor monitoring and control	77
14	Poor estimation practices	76
15	Awarding contracts to incompetent party folks	76
16	Poor tendering/selection procedure	75
17	High and unstable Inflation	75
18	National slump in economy	75
19	Inadequate payment of fluctuations	74
20	Bad record keeping	73
21	Replacement of key successful personnel	72
22	Lack of experience in line of work (construction)	71
23	Lack of book keeping systems	68
24	No Cash flow management system	67
25	Poor communication	66
26	Weak construction industry regulations in Ghana	65
27	Award of contract to lowest bidder	63
28	Adopting unsuitable Purchasing practices	63
29	Bad decisions in regulating company policy	62
30	Bad Company organization	62

Table 4.15 – Overall Determinants of Business Failure of SMEs Building Contractors Cont'd

RANKINGS	DETERMINANT	SEVERITY INDEX

31	Owner absence from the company	62
32	Neglect	60
33	Shrinkage in construction demand	60
34	Unfavourable credit purchases from suppliers	59
35	Sudden death of company owner	59
36	Delayed submissions of claims	59
37	Lack of managerial development or maturity as the company grow	58
38	Lack of Labour productivity and improvement	57
39	Not completing on schedule	57
40	Lack of using project management techniques	56
41	Lack of well structured training programmes	54
42	Not Evaluating project profit yearly	52
43	Lack of Control of equipment cost and usage	50
44	No Employee benefits and compensation	44
45	Increased size of projects	43
46	Expanding into new geographic locations	40
47	Increased number of projects	39
48	Change in the type of work	39
49	Owner involvement in construction phase	33
50	Opening a regional office	33
51	Change from private to public or vice versa	30

4.3.2.7.3   *Financial Demands by Political Heads*

The survey result indicates that financial demand by political heads (also known as kickback) during tendering and sometimes after award of contract is the third ranked determinant of business failure. Laryea (2010) indicated that the total kickback amount is generally expressed around 10% and indicated that one main problem identified with kick backs is that it affects work quality. Where kickbacks have been paid, contractors tend to use low quality materials to recoup the amount lost. However Contractors who want to maintain standard and save their integrity and respect would execute the works to the required specifications and this would reduce their profit margin and sometimes even obtain zero profit. The business environment is driven by politics and the practice is frustrating and affects contractors' cash flows and businesses (Laryea, 2010).

4.3.2.7.4   *Assigning Incompetent Project Leader at the Site*

Assigning incompetent project leader at the site is a critical factor in the determinant of contractor's business failure per the results. It is therefore very necessary for contractors to ensure that project leaders assigned to site are competent. The act of assigning competent project leader at the site could save money and time and reduce the risk of failure. The size of a construction company determines the project leader (Al-Barrak, 1993). The project leader could be a project manager, project engineer, resident engineer or a site engineer. Project leader should be qualified for the job because that person is the vehicle for reaching project goals. A successful project results when the personality and the leadership ability of the project manager is matched with the right project team in the proper project situation (Cori, 1987).

4.3.2.7.5 *Lack of Access to Capital*

Cook and Nixson (2000) observed that, notwithstanding the recognition of the role of SMEs in the development process in many developing countries, SMEs development is always constrained by the limited availability of financial resources to meet a variety of operational and investment needs. Lack of access to capital is ranked sixth on the severity index and therefore critical in the determinant of business failure of SMEs building contractors. The main reason for this situation is that contractors tend to experience unusually long payment delays which make it difficult for banks to calculate when monies will be repaid (Laryea, 2010). Most Ghanaian contractors fall within the SME bracket and always have to access credit to finance projects (Laryea, 2010). However, one important problem that SMEs often face is access to capital (Lader, 1996 and cited in Abor and Quartey, 2010). Lack of adequate financial resources places significant constraints on SME development.

A World Bank study found that about 90% of small enterprises in developing countries surveyed stated that credit was a major constraint to new investment (Parker *et al.*, 1995).

Levy (1993) also found that there is limited access to financial resources available to smaller enterprises compared to larger organisations and the consequences for their growth and development. The role of finance has been viewed as a critical element for the development of SMEs (Cook and Nixson, 2000). A large portion of the SME sector do not have access to adequate and appropriate forms of credit and equity, or indeed to financial services more generally (Parker *et al.*, 1995). It is therefore evidently clear that Ghana's SME building contractors are not exceptions from this critical constraint and from the results this factor is also major determinant of business failure among the SMEs building contractors. There should therefore be strategic and pragmatic systems instituted by government and other policy makers towards providing alternative financing schemes to SMEs building contractors in Ghana.

4.3.2.7.6 *Undervaluing of Work done*

From the results undervaluing of work done is also a critical factor of failure of SMEs businesses and its seventh on the severity index ranking. Schleifer (1990) indicated that ineffective billing (undervaluing) and collecting procedures can directly or indirectly put a contractor out of business. Undervaluing is a situation where the value of work measured is not up to the actual work executed at the site by the contractor. Most SMEs contractors find it difficult employing quantity surveyors (QS) on full time or part time to do joint valuing of work done with the consultant's QS to avoid undervaluing or discrepancies. The conditions of contract attached to the Public Procurement Act, 2003 (Act 663) stipulates that the contractor shall submit to the Project Manager monthly statements of the estimated value of work executed and shall be checked by the consultant and certify the amount to be paid to the contractor. This obligation is however most times executed by the Consultant's representative. Contractors should therefore ensure that measurement of work executed at the site is jointly executed to avert problem.

4.3.2.7.7 Change in Government Policies

The results in Table 4.15 indicate that change in government policies has a high influence in the failure of contractors businesses. It's a situation where a new government has a different policy direction concerning infrastructural development of the country from the previous government. When this scenario happens the new government abandons the existing policy and pursues its own policy. Structural evidence is the change from affordable housing to STX, Ghana housing projects to provide thirty thousand houses to the police and security services as was presented to parliament middle of this year by the Minister of WRWH. It can therefore be inferred from Luger (1997) that contractors who have invested capital in these affordable houses would eventually suffer financially and rippling effects on their businesses.

4.3.2.7.8 Low Profit Margin due to Competition

Profit is the amount of money in excess of contractor costs which contractor desires as a return for building a project. The profit has relation with risk and uncertainty. As the risk increases in the business, the higher potential profit is. Given the risk and uncertainty that surround construction industry, the potential margin of profit of the industry is very small compared to other industries (Adrian, 1982) and cited in Al-Barrak (1993). The survey results show that the low profit margin due to competition is very important determinant of failure.

Al-Barrak (1993) indicated that the increase in the number of small contractors and unrealistic pricing of others could cause failures. Competitions have become part of the construction industry and therefore led to contractors putting low profit margins on tenders (Enshassi et al., 2006). Contractors must strategies to execute the project at the lowest cost

by adopting latest technical methods in construction to avoid failure. Low profit margins are frequently a precursor to contractor failure. Dun and Bradstreet Corporation (1986) found out that more than 50% of construction failure are due to bad profit and cited in Kangari (1988). Undoubtedly, preparing accurate and realistic bid proposal with the profit margin carefully and tactically determined is highly critical (Arslan et al., 2006).

4.3.2.7.9 Delay in Collecting Payments

Delay in collecting payments is also a major factor of business failure as is indicated by the result and. It is a critical factor in project and company failure in the construction industry (Abidali and Harris, 1995; Laryea, 2010; Kangari, 1988; Enshassi et al., 2006). It is a national problem and affects contractors' development and cash flow management (Laryea, 2010). The Public Procurement Act, 2003 (Act 663) conditions of contracts for small and medium works stipulate 28 days for honouring payment certificates but in reality it is not the case for government projects. Failure of clients to pay within the time lines put the contractors in uncomfortable.

Cash flow is very important for a every contractor and difficulty in acquiring cash is critical to business failure (Osama, 1997). Therefore, certifications and collecting effectively are the ways to acquire cash flow. It is important to submit the certificates to the client on time and adding charges to late honouring of payment would encourage customers to pay on time. Ineffective billing and collecting procedures can directly or indirectly put a Contractor out of business (Schleifer, 1990).

4.3.2.7.10 Frauds/Pilfering

Frauds or pilfering per the result is a critical factor in the determinants of business failure of SMEs building contractors in Ghana and is ranked eleventh. Fraud is a critical determinant

of business failure and it affects most contractors' development (Hartigan, 1993). Company which do not plan, organize, direct, and control their activities would have high degree of fraud (Al-Barrak, 1993). Frauds can happen from various departments in the business circle. In order to avert this problem, contractors should use the theory which states that responsibility is equal the accountability (Al-Barrak, 1993). The accountability must be tough to warn employees. Contractors should therefore ensure that there are control and inspection policies in place to reduce the rampant pilfering of construction inputs. Hartigan (1973) and cited in Enshassi et. al (2006) identified fraud as a critical factor to cause business failure in the construction industry.

4.3.2.7.11 *Lack of Material Control Systems*

Lack of material control systems is one of the major factors of business failure as per the result and is ranked twelfth on the severity index. Lack of material control systems result in a lot of financial loss to the contractor through pilfering, breakages, wastages, short delivery, remedial work, inaccurate site measurement of work done and this is supported by Hartigan (1973). Materials resource usually represent over half the total direct cost of most building jobs (Manteau, 1885) and lack of its control can result in business failure with other factors as have been indicated by the result.

4.3.2.7.12 *Awarding Contracts to Incompetent Party Folks*

This factor is a critical determinant of business failure in Ghana and is ranked fifteenth. The result is an evident that government upon government do award contracts to incompetent party folks resulting in so much tension at district, municipal and metropolitan level and even sometimes at ministerial and governmental levels. Laryea (2010) identified that each government that comes into power tries to propel its own set of contractors because they realise that contractors are a very good source of raising money for financing political

campaigns. Most projects handled by these party folks are most often than not left uncompleted. This assertion is supported by the fact that many private sector entities delivering works to government establishments try to limit their losses by cutting corners or abandoning the work altogether [Westring 1997]. Competent contractors who are not party folks who should have been given the contracts find it difficult acquiring jobs and can result in business failure.

4.3.2.7.13 High and Unstable Inflation

The results also show high and unstable inflation as having high influence on business failure among SMEs building contractors in Ghana and its ranked seventeenth. Inflation is a persistent rise over time in the average level of prices in the economy (www.bankofcanada.ca, 2010). Prices tend to fluctuate when demand for goods and services exceeds the economy's capacity to supply those goods and services. Conversely, an excess supply of goods and services tends to put downward pressure on prices. Inflation reduces the purchasing power of money over time. High and unstable inflation can be costly. It undermines the economy's ability to generate long lasting gains in output, incomes, and employment. It creates uncertainty for consumers, businesses, and investors, and erodes the value of incomes and savings. Construction is capital intensive venture (Sambasivan and Soon, 2007) and in situation of these inflationary pressures its affect contractors' purchasing power and for prolong period can result in failure. For contractors to recoup full benefits of their investment, they should ensure that projects are completed within the possible scheduled date.

4.3.2.7.14 National Slump in Economy

The country's economy is very important in assisting building contractors to run their businesses in a stable environment. A slump in the national economy is per the result is

critical in the determinant of business failure. The industry's fortunes tend to fluctuate with the general economy, and it has a cyclical nature and quick response to the changes in the economy (Olomolaiye et al., 1998). Money runs in circle and the government is part of the circle. If the government does not have money, they will not offer new projects and contractors will run out of work. Usually, government projects are large and require some special specifications, so it costs a lot of money.

Most investments need construction, for example commercial buildings, factories, warehouses, offices, hospitals and compounds. On the other hand, when depression starts, people would keep their money to see to what level the depression would last and it affects business (Al-Barrak, 1993). Thus contractors should always read the economic trends to update their information about the economic situation in the country.

4.3.3 Rank Correlation Analysis (Severity Rank of Failures Of D2/K2, D3/K3 And D4/K4 SMEs Contractors)

The next stage of the analysis was to establish whether empirically, there are relationships existing among the three different financial classes of contractors in the severity of rank of failure (Al-Barrak, 1993). Spearman's rank correlation (r) is therefore suitable statistical tool and used to find the relationship existing among the different classes (i.e. D2/K2, D3/K3 and D4/K4) and the degree of this relationship. The Spearman's rank correlation is used to identify and compare how well any two categories of contractors agree with the overall severity index developed while ignoring the third category.

Table 4.16 shows the calculations used to find the agreement between any two parties and the severity index rankings of the individual financial classes are shown in tables attached at appendix II. For example, the agreement between D2/K2 and D3/K3 contractors is 95%

when D4/K4 contractors are not considered. This confirms that there is a substantial correlation between the two parties.

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Table 4.16 – Spearman's Rank Correlation

Thematic Areas of Business Failure	Rankings			Difference Between (d/d²)					
	D2/K2	D3/K3	D4/K4	d_{23}	d_{24}	d_{23}	d_{23}^2	d_{24}^2	d_{34}^2
MANAGERIAL DETERMINANTS	13	8	16	5	3	8	25	9	64
	12	15	8	3	4	7	9	16	49
	7	5	3	2	4	2	4	16	4
	16	10	24	6	8	14	36	64	196
	18	18	23	0	5	5	0	25	25
	22	19	21	3	1	2	9	1	4
	26	13	17	13	9	4	169	81	16
	9	7	10	2	1	3	4	1	9
	15	19	12	4	3	7	16	9	49
	14	16	20	2	6	4	4	36	16
	11	9	11	2	0	2	4	0	4
	20	20	12	0	8	8	0	64	64
	21	9	17	12	1	-8	144	1	64
	19	19	22	0	3	3	0	9	9
	18	22	20	4	2	2	16	4	4
	10	11	5	1	5	6	1	25	36
	11	5	7	6	4	2	36	16	4
	19	19	18	0	1	1	0	1	1

FINANCIAL DETERMINANTS	7	10	5	3	2	5	9	4	25
	11	15	16	4	5	1	16	25	1
	9	6	13	3	4	7	9	16	49
	9	6	6	3	3	0	9	9	0
	25	21	26	4	1	5	16	1	25
	24	22	21	2	3	1	4	9	1
	17	18	21	1	4	3	1	16	9
	7	16	8	9	1	8	81	1	64
	23	25	27	2	4	2	4	16	4
	11	17	14	6	3	3	36	9	9
	4	11	6	7	2	5	49	4	25
	5	9	9	4	4	0	16	16	0
	7	11	13	4	6	2	16	36	4
BUSINESS ENVIRONMENT	8	15	7	9	1	8	81	1	64
	9	11	10	1	1	1	1	1	1
	22	23	20	1	2	3	1	4	9
	12	20	15	8	3	5	64	9	25
	15	14	19	1	4	5	1	16	25
	32	26	28	6	4	2	36	16	4
	20	21	15	1	5	6	1	25	36
GROWTH/EXPANSION	30	24	26	6	4	2	36	16	4
	32	30	26	2	6	4	4	36	16
	29	29	24	0	5	5	0	25	25
	27	27	22	0	5	5	0	25	25
	28	28	27	0	1	1	0	1	1
	19	16	25	3	6	9	9	36	81
	31	27	29	4	2	2	16	4	4
POLITICAL	1	2	1	1	0	1	1	0	1
	2	1	2	1	0	1	1	0	1
	6	7	9	1	3	2	1	9	4
	4	3	4	1	0	1	1	0	1
	10	4	15	6	5	11	36	25	121
	3	5	8	2	5	3	4	25	9

$\sum d_{23}^2 = 1037 \qquad \sum d_{24}^2 = 814 \qquad \sum d_{34}^2 = 1291$

$6\sum d_{23}^2 / (n^2 - n) = 6222/132600 = 0.047$

$6\sum d_{24}^2 / (n^2 - n) = 4884/132600 = 0.037$

$6\sum d_{34}^2 / (n^2 - n) = 7746/132600 = 0.058$

Spearman's Rank Correlation Coefficient

$r_{23} = 1 - 6\sum d_{23}^2 / (n^3 - n) = 0.953$

$r_{24} = 1 - 6\sum d_{24}^2 / (n^3 - n) = 0.963$

$$r_{34} = 1 - 6\sum d_{34}{}^2 \big/ (n^3 - n) = 0.942$$

Where:

$$r_s = 1 - 6\sum d_{34}{}^2 \big/ (n^3 - n) \qquad\qquad n = 51 \text{ variables}$$

Therefore using the rank correlation coefficient, the agreement is shown on figure 4.1.
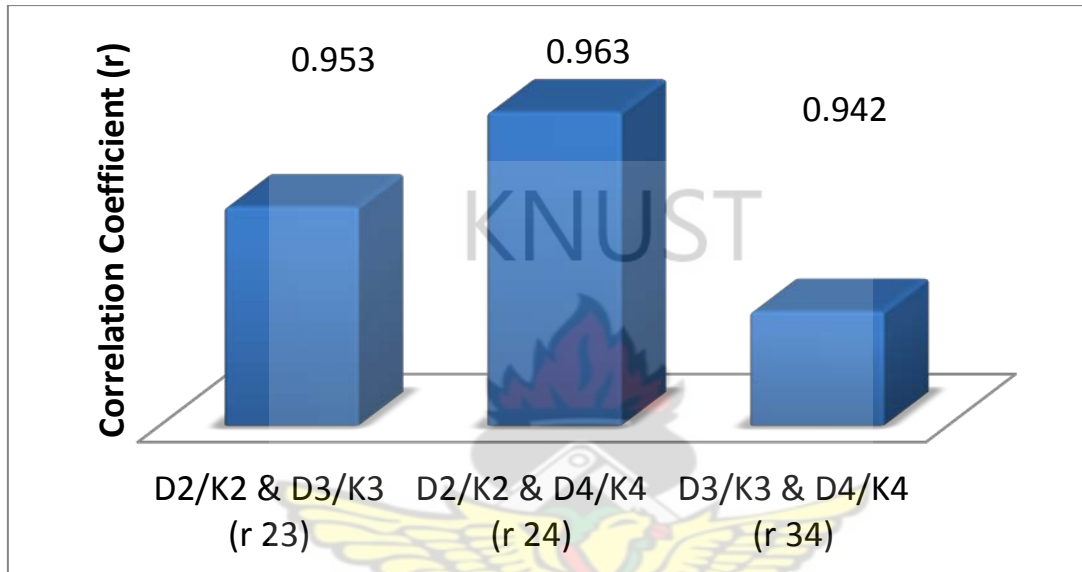
Figure 4.2 – The Agreement between each Two Financial classes

The spearman correlation results on figure 4.2 shows that the higher agreement is between the D2/K2 and the D4/K4 contractors ($r_{24} = 0.963$). The agreement between D2/K2 and D3/K3 is ($r_{23} = 0.953$) while the agreement between D3/K3 and D4/K4 is ($r_{34} = 0.942$). The results show that there is almost a perfect correlation between all the three financial classes since all the values are closer to one (1). It is therefore clear that all the three categories of contractors agree on the severity of rank of business failure.

4.3.4   Test of Hypothesis

The researcher wants to test the hypothesis in class two, class three, and class four contractors to see if they generally agree on the severity of rank of failures. The analysis of the results of determinants of business failure of SMEs building contractors in Ghana have

largely indicated that the three classes of contractors (D2/K2, D3/K3 and D4/K4) agreed with the severity of rankings. However, it is possible that these observations might be due to chance, rather than being the true reflection of the entire population. It was therefore necessary to test the correlations between the individual financial classes of contractors with an appropriate statistical method to see if they generally agree on the severity of rank of failure. The t-test is suitable in this study (a non-parametric test).

Test of the correlation

This section tests the agreement between the financial classes and the difference in their responses. The null hypothesis, Ho in section one (1) below is tested by comparing the calculated value of t-test with the critical test value and the results is given in section four (4) below.

1. *Ho*: On the severity rank of failures, the parties differ in their responses with a correlation of zero among them. [*i.e.*, t calculated was less than or equal to t critical]
   Ha: — On the severity rank of failures, the parties agree in their responses [*i.e.*, t calculated was greater than the t critical]

   Significant level
   $\alpha = 0.05$

2. The calculated value of $t = r * (n-1)^{1/2}$

Where:

   r = the spearman correlation values found in Table 4.13

   n = the number of observations (the number of failure determinants in this study). It is

      taken as infinity (∞) to include any number of variables.

The t results are shown in Table 4.17 after substituting the r values present on Figure 4.1.

3. The critical test value, $t_{0.05, \infty} = 1.645$

4. Decision

In this case, the calculated values for t_{23}, t_{24} and t_{34} (see Table 4.17) are greater than the critical value (1.645). Therefore, the null hypothesis is rejected and it is concluded that the parties/financial classes agree on the severity index ranking of business failure and these parties are reliable in their responses.

Table 4.17 – T-Values for Testing Ho

Correlation	Calculated Values
D2/K2 and D3/K3	t_{23} = 6.74
D2/K2 and D4/K4	t_{24} = 6.81
D3/K3 and D4/K4	t_{34} = 6.66

4.4 ESTABLISHMENT OF STRATEGIC MEASURES TO ADDRESS BUSINESS FAILURE

As was also noted in the introduction to this chapter, twenty-eight (28) variables were identified as the strategic measures in addressing business failure of building contractors in the Ghanaian context. The analyses of these variables using descriptive statistics and one sample t-test are discussed below.

4.4.1 Descriptive Statistics

It's an indicative from the results in Table 4.18 that most of the variables have mean values of 3.5 and above and may therefore be considered that they constitute the most severe strategic measures in addressing business failure of SMEs building contractors in the Ghanaian context. The standard error associated with all the means were relatively closer to zero suggesting that the sample chosen is an accurate reflection of the population.

Lastly, the standard deviations of a large majority are less than 1.0 signalling that, there is little variability in the data collected and consistency in agreement among the respondents.

Few of the variables (i.e. RECORD, POLICY, CAPITAL, FAMILY, GRADE, TAX, PACE and ASSETS) observed showed standard deviation values of more than 1.0. These suggested substantial variability in responses to the factors and consistency in agreement among the respondents with respect to those variables.

It may however confidently be concluded on the basis of the descriptive statistics alone that the variables identified as the strategic measures to address business failure of SMEs contractors in Ghana through the literature review and discussions with stakeholders reflect the views of the respondents.

Table 4.18 - Statistics of All Contractors on Strategic Measures of Business Survival

	N	Mean	Std. Deviation

Success Factors	Statistic	Statistic	Std. Error	Statistic
Proper material control system (PROPER)	60	4.33	.105	.817
Well kept book keeping system (BOOK)	60	3.90	.116	.896
Record keeping system (RECORD)	60	4.02	.138	1.066
Effective purchases practices (EFFECT)	60	3.72	.124	.958
Successive plan policy (POLICY)	60	3.12	.139	1.075
Training & mentorship programs (PROGRAMS)	60	3.20	.118	.917
Easy access to capital (ACCESS)	60	4.28	.112	.865
Flexible interest rate (RATE)	60	4.20	.116	.898
Effective networking & social capital (CAPITAL)	60	3.50	.138	1.066
Proper contractor selection & registration (SELECT)	60	3.60	.109	.848
Separation of business act. From family matters (FAMILY)	60	3.83	.139	1.076
Effective industry regulations (INDUSTRY)	60	3.32	.097	.748
Transparent & effective tendering system (TENDER)	60	3.57	.112	.871
Continuous contractor assessment & grading (GRADE)	60	3.08	.133	1.030
Competent site engineer (ENGINEER)	60	4.48	.094	.725
Ensuring regular & accurate valuation (VALUATION)	60	4.22	.114	.885
Effective risk mgt. Practices (RISK)	60	3.38	.126	.976
Well managed cash flow practices (CASH)	60	3.70	.120	.926
Compensation and bonuses packages (BONUSES)	60	3.03	.109	.843
Proper financial practices (FINANCE)	60	3.78	.098	.761
Good management team (TEAM)	60	3.70	.124	.962
Controlled overheads & recurrent exp. (OVERHEADS)	60	3.27	.116	.899
Adequate capital structure (STRUCTURE)	60	3.42	.126	.979
Reasonable tax systems and tax holiday (TAX)	60	2.97	.130	1.008
Implementation of dividend policy (DIVIDEND)	60	2.55	.129	.999
Business expansion at gradual pace (PACE)	60	3.17	.137	1.060
Adequate balance of assets & liabilities (ASSETS)	60	3.05	.133	1.032
Reduce liabilities (REDUCE)	60	2.78	.117	.904

4.4.2 The Test Statistics: One Sample T-Test

According to Ahadzie (2007) and Field (2005), in their work used the one sample t-test to establish whether a sample mean is significantly deviant from a hypothesised mean. From these authors, the hypothesis for a single sample t–test is typically set as follows: *H_o: $U=U_o$;*

and H$_A$: U<, >U$_o$. Explaining the variables, H$_o$ denoting the null hypothesis, H$_A$ denotes the alternative hypothesis and U$_o$ denotes the hypothesized or population mean. Conforming to the traditional interpretation ascribed to a typical one-sample t-test and consistent with the inclination of Field (2005); the mean of the test group and degree of freedom for the test approximate the sample size; the t-value gives an indication of the strength of the test; and the p-value indicates the probability value that the test is significant. Ahadzie (2007) by linking one sample t-test to the central limit theorem further explained that normal distribution can be assumed when the sample size is more than 30. Similarly, Field (2005) also argues that with a sample size of more than 50, the sampling distribution will almost always approach normal distribution albeit considering the size of the sampling frame.

Supported by Ahadzie (2007), Field (2005) and Hair et al (1998), the central limit theorem were invoked to support the view that the sample size of at least 60 out of a population of 100 is relatively adequate to draw statistical inferences. Furthermore, while the scaling adopted is ordinal, here it is assumed to be interval scaling given the equal spacing of the scale (Hair et al., 1998). Subsequently, a statistical t-test of the mean was carried out to determine whether the population considered a specific attribute to be important or otherwise. The mean ranking of each attribute was also tabulated to help provide a clearer picture of the consensus reached by the respondents. A summary of the test results of the variables are shown in Table 4.19 with the various interpretations ascribed to it.

Table 4.19 – Results of t-test showing one-sample statistics

Success Factors	Test Value = 3			
	Mean	Df	Sig. (2-tailed)	Ranking
Competent site supervisor/engineer (ENGINEER)	4.48	59	.000	1
Proper material control systems (PROPER)	4.33	59	.000	2
Easy access to capital (ACCESS)	4.28	59	.000	3

Ensuring regular and accurate valuation (VALUATION)	4.22	59	.000	4
Flexible interest rate (RATE)	4.20	59	.000	5
Record keeping system (RECORD)	4.02	59	.000	6
Well kept book keeping system (BOOK)	3.90	59	.000	7
Separation of business act. From family matters (FAMILY)	3.83	59	.000	8
Proper financial practices (FINANCE)	3.78	59	.000	9
Effective purchases practices (EFFECT)	3.72	59	.000	10
Well managed cash flow practices (CASH)	3.70	59	.000	11
Good management team (TEAM)	3.70	59	.000	12
Proper contractor selection and registration (SELECT)	3.60	59	.000	13
Transparent and effective tendering systems (TENDER)	3.57	59	.000	14
Effective networking and social capital (CAPITAL)	3.50	59	.001	15
Adequate capital structure (STRUCTURE)	3.42	59	.002	16
Effective risk management practices (RISK)	3.38	59	.003	17
Effective industry regulations (INDUSTRY)	3.32	59	.002	18
Controlled overheads and recurrent expenditure (OVERHEADS)	3.27	59	.025	19
Training and mentorship programs (PROGRAMS)	*3.20	59	.096	20
Business expansion at a gradual pace (PACE)	*3.17	59	.228	21
Successive plan policy (POLICY)	*3.12	59	.404	22
Continuous contractor assessment and grading (GRADE)	*3.08	59	.533	23
Adequate balance of assets and liabilities (ASSETS)	*3.05	59	.709	24
Compensation and bonuses packages (BONUSES)	*3.03	59	.760	25
Reasonable tax systems and tax holidays (TAX)	*2.97	59	.799	26
Reduce liabilities (REDUCE)	*2.78	59	.068	27
Implementation of dividend policy (DIVIDEND)	*2.55	59	.758	28

4.4.3 Strategic Measures in Addressing Business Failure

This section tried to identify and establish appropriate measures and strategies to address business failure. Success or failure of the firms is widespread concern to policy makers, industry participants, investors, managers, and governments (O'Leary, 1998) and therefore all stakeholders in the construction industry have part to play to ensure that SMEs building contractors businesses survive to help in the infrastructural and human resource development

of the industry which would eventually impact on the nation, Ghana. Using one sample t-test, the variables were ranked in order of its impact on business survival.

The mean for each attribute including the associated standard deviation and standard error are presented in Table 4.18. For each attribute, the null hypothesis was that the attribute was unimportant (H_o: $U = U_o$) and the alternative hypothesis was that the attribute was important (H_A: $U > U_o$), where Uo is explained as the test mean. Thus, Uo represent the critical rating above which the attribute is considered important. Given that the rating scale adopted ascribed higher ratings of 4 and 5 to important (high influence) and very important (very high influence) attributes, U_o was fixed at an appropriate level of 3.0. The significance level was also set at 95% in accordance with conventional levels. That is, based on the five-point rating scale, an attribute was deemed critical or important if it had a mean of 3.0 or more. Where two or more criteria have the same mean, the one with the lowest standard deviation was assigned the highest importance ranking (Field, 2005). From the test results all variables with p-value of less than 0.05 are considered significant. The variables with asterisks in Table 4.19 are not significant and therefore the null hypothesis failed to be rejected.

The results on Table 4.19 identified competent site engineer, proper material control systems, easy access to capital, flexible interest rate, ensuring regular and accurate valuation, proper record keeping as the high influential factors that would have strong impact on business survival of SMEs building contractors in the Ghanaian context and would be discussed accordingly.

4.4.3.1 Competent Site Supervisor/Engineer

The conditions to which building contractors are required to operate are always highly demanding and competitive (Odusami et al., 2007). Companies need to develop strategies to

survive in a competitive environment and meet ever increasing client expectations. Ward (1979) observed that clients are requiring ever-higher quality services from contractors and therefore contractors are required to employ site engineer with the required competencies to meet client expectations. Site engineers perform technical, organisational and supervisory role on construction projects, including setting out buildings, drains, sewers and structures involved in construction operations. Site engineers apply designs and plans to mark out the site and can be involved in projects ranging from small scale to multi-million Ghana cedis ventures.

A site engineer works as part of the site management team liaising with and working alongside architects, engineers, construction managers, supervisors, planners, surveyors and subcontractors. They share responsibility for site security, health and safety, and the organisation and supervision of material and human resources. Site engineers are the eyes, the nose and the ears of the project from the inception to the completion and therefore if they provide excellent work, would save the project a lot financially.

4.4.3.2 Proper Material Control Systems

Proper material control system is the second most critical measure to address contractor's business failure and to ensure survival as is indicated in Table 4.19. Material control system starts at or even before the design stage. Designers of buildings should consider their client's real needs and resources and ensure that they are correctly briefed. Every attempt should be made to avoid variations at later stages. Avoidance of all kinds of waste must ever be in the designer's mind from the conception of the building through to the end of its life (Manteau, 1985). The design should allow for the effective handling and convenient maneuvering of materials and components of preferred sizes during construction.

Proper material control systems ensure materials availability to the site in the required quantity, at the proper time, considering the minimum feasible cost to satisfy production needs and corporate objectives (Manteau, 1985, Warszawski, 1996). At the construction stage the contractor should ensure that material control systems are put in place to control the flow or storage of input, facilities, service and information efficiently and effectively from the point of supply to the point of consumption in the conformity of the companies' objective. For continuous survival of contractors' businesses, they should ensure these systems are put in place to also avoid material wastages, breakages, pilfering, double handling and so forth to save the contractor substantial amount of money since the expenditure on materials as stated previously, usually represent over half the total direct cost of most building jobs (Manteau, 1985, Harris and McCaffer, 2001).

4.4.3.3 *Easy access to Capital*

Easy access to capital is the third ranked critical factor for business survival per the result in Table 4.19. A solid capital base is an important requirement for the success of a company (Warszawski, 1996). In many cases, obtaining capital is made more difficult by a lack of credit worthiness. Financial backing, however, can be found through risk capital by which a third party invests in the company only after carefully considering the company's concept. This increases its capital funding. The acceptable risks taken here are offset by the chances of higher than average profits. The advantage of risk capital is that no guarantees need be given and that, in general, the investor brings into the company additional know-how and useful contacts.

Many small business owners indicate that one major obstacle to entry or expansion of their small business is the availability of sufficient intermediate and long-term capital to support their working capital and fixed assets requirements. Phadali and Thwala (2008) identified access to capital as a success factor and advised SMEs contractors to merge with others that have similar businesses, negotiate favourable credit purchases from the supplier, source affordable loans from financial institutions and negotiate advance payments from the clients.

4.4.3.4 Ensuring Regular and Accurate Valuation

Ensuring regular and accurate valuation of work executed is critical to the success of SMEs building contractors and is ranked fourth in Table 4.19. Contractors should ensure that they adhere to the tenet of the conditions of contract (Public Procurement Act, 2003) concerning the valuation statement clause 42.1. If the conditions stipulate monthly valuation, contractors should stick to it so that they would be sure of regular cash flow. Contractors should ensure that they are not cash trap before they prepare valuation for certification. Contractors should also ensure that they employ QS on full time or on part time bases to do the site measurement with or without the consultant QS to avoid undervaluing of work done so that they would not be short changed.

4.4.3.5 Flexible Interest Rate

The result on Table 4.19 indicates that flexible interest rate is critical factor for business survival and is ranked fifth. In the case of a flexible interest rate, lenders often tie the loan's interest to the current bank of Ghana (BoG) lending rates, also known as the prime lending rate. This is the interest rate charged by BoG to major banks and other lending institutions. The prime lending rate is regularly adjusted by the Governor of the BoG, based on economic factors such as inflation or high unemployment. Lenders can legally charge borrowers an

interest rate which is a few points above the prime lending rate at the time of the initial loan. The interest on the loan can also be adjusted, if the rate changes.

A flexible interest rate can be beneficial when the economy is healthy, but can be more costly if the rates are raised suddenly. The government should therefore ensure that it does things that would bring down the lending rate so that banks would have the confidence to give the contractors flexible interest rates for loans borrowed. The government and its agencies should also ensure that contractors are paid regularly to settles loans borrowed for banks to have confidence in them.

4.4.3.6 Record Keeping System

The construction industry is a multi-disciplinary, multi-national and multi-billion economy involving large numbers of actors working concurrently at different locations and using heterogeneous technologies. In the construction phase of a project, a large number of disciplines require different pieces of information at various times. The result is a huge quantity of complex information that is often managed insufficiently. Sharing information is critical for the success of construction projects (Nielsen and Sayar, 2001). It is therefore imperative that the system put in place ensures the accurate records preservation for evidential purposes, easily updated, timely availability and control of access to them by only authorised personnel. This would eventually assist contractors in easy access to proper and accurate information in claims assessment and fully recovering the expense incurred (Scott, 1992).

Building contractors should therefore ensure proper filing system of every correspondence on each project acquired by their firm to be able to reproduce them when the need arises as was indicated by Phadali and Thwala (2008) that good record keeping is a critical success factor for SMEs contractors.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.0 INTRODUCTION

This dissertation focused on exploring the determinants of business failure of SMEs building contractors with the view of identifying appropriate measures and strategies that can address business failure in the Ghanaian construction industry from the contractor's viewpoint. The main introduction to the study was covered in Chapter One. Chapter Two discussed the previous findings of causes of business failure and success factors in the Ghanaian construction industry and the context within which the research was conducted. In Chapter three, methodological issues were considered and appropriate research approaches were selected and justified. The research process was conducted through the use of survey questionnaires. Chapter four presented analysis and provided detailed discussions on the

results. In this last chapter, the research is brought to a close by summarising the issues addressed throughout the study. The chapter follows the structure below: a summary of how the key objectives were satisfied is elucidated and discussions on the achievement of the research objectives are provided to highlight the contributions of the research. The chapter concludes with recommendations for further research that can be conducted based on the conclusions and limitations of the study.

5.1 REFLECTIONS AND ACHIEVING OF RESEARCH OBJECTIVES

As a recap on what was earlier noted in Section 1.4 of this dissertation, the overall aim of this study is to explore the determinants of business failure of SMEs building contractors with the view of identifying appropriate measures and strategies that can address business failure in the construction industry of Ghana from the contractor's viewpoint. In order to achieve the stated aim, five specific objectives were set in the same section. Objective 1 and 2 was achieved mainly through literature reviews. Literature review and survey questionnaires were conducted to achieve Objectives 3, 4 and 5.

5.1.1 Objective 1:

The objective was to conduct extensive literature survey on business failure, and to establish a conceptual basis and definition of business failure. To this effect, business failure literature in the construction industry was reviewed to establish conceptual basis of the research and working definition of business failure. The review observed that business failure in the construction industry is a global phenomenon and Ghana is not excluded. Upon critical review of varied definitions propounded by proponents of business failure in the construction industry, contractor's business failure is when a business ceases operation following assignments due to inability to continue construction.

5.1.2 Objective 2:

To identify the determinants of business failure of SMEs building contractors in the context of the Ghanaian construction industry. The literature review revealed that business failure mostly appears in a critical situation as a consequence of a complex process and is rarely dependent on a single factor. There have been studies done by proponents in this area at the various levels in the construction industry, some at the industrial level, company level and project level. The review also identified that very few studies have been done about contractor's business failure based on the contractor's viewpoint and financial impact on business failure in the industry and identified various factors as the causes of failure in the industry. The literature survey also revealed that there is no study carried out on business failure in the industry specific to the Ghanaian context.

In furtherance to the reviews, 51 determinants/sub-factors were identified in the Ghanaian context and considered in this study. The determinants were listed under 5 broad thematic areas as 18 managerial determinants, 13 financial determinants, 7 business environment factors, 7 growth/expansion factors and 6 political determinants and formed the basis of questionnaire formulation. The reviews also revealed that the building contractors in the SMEs sector in Ghana are the financial class two, three and four categorized as D2/K2, D3/K3 and D4/K4.

5.1.3 Objective 3:

To develop a severity index based on the identified determinants of business failure, to serve as early warning signal. To this effect, the SMEs building contractors were allowed to rank the identified determinants of business failure from a scale of 1 to 5. The identification and development of the severity of determinants of failure was a major result of this research. Per the results, the 5 thematic areas of business failure were ranked

according to their severity in the determinant of failure and were as follows: political determinants, financial determinants, managerial determinants, business environment determinants and growth/expansion determinants in that order.

The result showed that the following political determinants were highly influential in the cause of business failure; suspension of projects of previous government, delay in collecting debts from new political heads, financial demands by political heads, nonpayment of interest on delayed certificate, change in government policies and awarding contracts to incompetent party folks. Secondly the following were identified as highly influential under financial determinants; Lack of access to capital, undervaluing of work done, low profit margin due to competition, delay in collecting payments, poor estimation practices and high and unstable inflation.

Assigning incompetent project leader at the site, fraud/pilfering, lack of material control systems and poor monitoring and control were also identified as highly influential in the managerial determinants of failure. Under business environment, poor tendering/selection procedure and national slump in the economy were also identified as highly influential. The findings above assert to the fact that the construction industry has characteristics that sharply distinguish it from other sectors of the economy. It is fragmented, very sensitive to economic cycles, and highly competitive because of the large number of firms and relative ease of entry. It is basically due to these unique characteristics that the rate of construction business failure has become very high.

Strikingly the result showed that none of the growth factors were highly influential in the determinant of business failure in the Ghanaian context. The inference can be that most contractors in the SMEs sector are not expanding and therefore do not consider these factors

critical and this is evident in sections 4.2.5 and 4.2.6. 50% of the contractors are earning less than GHS25 thousand profit annually and 65% having asset portfolio of less than GHS150 thousand.

As was stated earlier contractor's business failure is not as a result of only one factor but rather a combination of these influential factors. To serve as early warning signal to the SMEs building contractors and even others in decision making these factors were ranked in order of severity as follows:

- *Suspension of Projects of Previous Government*

- *Delay in Collecting Debts from New Political Heads*

- *Financial Demands by Political Heads*

- *Nonpayment of Interest on Delayed Certificate*

- *Assigning Incompetent Project Leader at the Site*

- *Lack of Access to Capital*
- *Undervaluing of Work done*

- *Change in Government Policies*

- *Low Profit Margin due to Competition*

- *Delay in Collecting Payments*

- *Frauds/Pilfering*

- *Lack of Material Control Systems*

- *Poor Monitoring and Control*

- *Poor Estimation Practices*

- *Awarding Contracts to Incompetent Party Folks*

- *Poor Tendering/Selection Procedure*

- *High and Unstable Inflation*

- *National Slump in Economy*

As the highly influence determinants of business failure of SMEs building contractors.

5.1.4 Objective 4:

- **To verify if each of the financial class of contractors in the SME sector share the same point of view about the severity of rank of failure.** The next stage of the analysis was to establish whether empirically, there are relationships existing among the three different financial classes of contractors in the severity of rank of failure. The Findings obtained from Spearman's rank correlation test between the financial classes indicated a very strong positive relationship between:

- D2/K2 and D3/K3 classes of contractors

- D2/K2 and D4/K4 classes of contractors

- D3/K3 and D4/K4 classes of contractors

The very strong positive relationship between the classes indicated that they agreed on the severity of rank of business failure. Hypothetically, the test of correlation at 5% significant level concluded that the financial classes of building contractors generally agreed on the severity of rank of failure and therefore were reliable in their responses.

5.1.5 Objective 5:

To identify and establish appropriate measures and strategies to address business failure in the context of the Ghanaian construction industry. The final objective was set

to prescribe some strategic measures or success factors to address business failure in the Ghanaian context. To this effect, it was hypothesized that "the attribute was unimportant (H_o: $U = U_o$) and the alternative hypothesis was that the attribute was important (H_A: $U > U_o$). As earlier mentioned the rationale of this set of hypothesis was to identify specific factors that would have strong impact on the business survival of SMEs building contractors in the Ghanaian context. The test identified most of the factors as significant and should be considered seriously in the running of contractors' businesses. The result however identified these under listed factors as highly influential to address business failure:

- Competent site engineer/supervisor

- Proper material control systems

- Easy access to capital

- Flexible interest rate

- Ensuring regular and accurate valuation and

- Proper record keeping

5.2 RECOMMENDATIONS AND POLICY IMPLICATIONS

The following recommendations are therefore prescribed as measures and strategies to stakeholders in attempt to address business failure of building contractors in the Ghanaian construction industry.

5.2.1 Recommendations to the contractors

The following under listed recommendations are to be considered by contractors in the set up of their business activities to reduce and avoid the risks of failure;

- Contractors should be able to access funds from other sources other than banks where the cost of capital is low.

- Contractors should ensure that they cost political risks and factor it in the estimation of tender.

- Contractors should ensure that almost always they have a team leader at the site who understands the rudiments of construction to be able to interpret the design and its execution in accordance to specification

- Contractors should form partnerships and pull their resources together to be able to tender for large projects to help them grow and develop.

- Contractors should ensure that they put proper monitoring and control measures in place from the inception to completion in the execution of projects.

- Contractors should ensure that they employ quantity surveyors on part time or full time basis to undertake site measurements of value of work done to be able to recoup the full benefits of their investment.

5.2.2 Recommendations to Policy Makers and Other Bodies

- The Public Procurement Act (Act 663) should incorporate the principle check and balances during tendering and evaluation of tender to avoid the situation of evaluation panel or consultant interfering with a tender document to change the rightful winner of tender.

- Tenders must be awarded to accurate estimated cost and not necessarily to the lowest bidder whose figure in reality cannot execute the project.

- There should be legislative instrument to ensure that all successive governments would always take all necessary steps to continue outstanding projects started by a previous government within the first year of assumption of office to ensure continuation of our development agenda as a nation.

- Policy makers should ensure that the contractors in the industry develop and therefore there should be organized programmes for continuous assessment and grading of contractors.

- Association of Ghana Industry should conduct continuous training programs with co-operation with KNUST to improve managerial and financial practices to explain the internal and external factors affecting the construction industry.

- There should be conscious efforts by policy makers to build the capacities of domestic contractors to be able to compete with their foreign counterparts.

5.3 DIRECTIONS FOR FUTURE RESEARCH

There are a number of research opportunities to explore in the future based on this study. The following recommendations are therefore made for future research:

- Future research to explore the impact of Ghanaian politics on business failure of contractors in the construction industry.

- Determinants of financial impact on business failure of road contractors in Ghana.

- A model to predict the business failure of contractors in the Ghanaian construction industry.

- Environmental determinants of business failure: The perspective of building contractors in Ghana.

- Factors hindering the growth and development of building contractors in the Ghanaian construction industry.

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APPENDIX I

SURVEY QUESTIONNAIRES

KNUST

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI
COLLEGE OF ARCHITECTURE AND PLANNING
Department of Building Technology
(MSc. Construction Management)

Survey Questionnaires

(Please respond to the questionnaires by ticking appropriately)

Research Topic

Determinants of Business Failure: The Perspective of Small-Medium Size Building Contractors in the Ghanaian Construction Industry

By

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Supervisor

DR. DE-GRAFT OWUSU-MANU

Abstract

There have been growing concerns of frustrations and failures of contractors businesses. The causes of these failures are varied and need to be researched into, hence this study. The purpose of the questionnaire is to enable achievement of the following research objectives: To identify the determinants of building contractor's business failure in the context of the Ghanaian construction industry; To develop a severity index based on the identified determinants of business failure, to serve as early warning signal; and To identify and establish appropriate measures and strategies to address business failure in the context of the Ghanaian construction industry. In view of this, I would be very grateful if you could please answer the questions that follow.

SECTION A – BACKROUND

1. Indicate the class of your firm according to the Ministry of Water Resources, Works and Housing classification of one of the following:

a) D2/K2   [   ]
b) D3/K3   [   ]
c) D4/K4   [   ]

2. Please indicate which client your firm works for in one of the following:

a) Private   [   ]
b) Public/Government   [   ]
c) Both   [   ]

3. How many years has your firm been incorporated (operating) in Ghana?

a) Less than 5   years   [ ]
b) 5   to   10   years   [ ]
c) 10   to   15   years   [ ]
d) 15   to   20   years   [ ]
e) Over   20   years   [ ]

4. Please indicate the average annual volume of construction works of your firm in GH¢:

a) Over   750   thousand   [ ]
b) 500 - 750   thousand   [ ]
c) 250 - 500   thousand   [ ]
d) Under 250   thousand   [ ]

5. Please indicate the average annual turnover (earnings) of your firm in one of the following in GH¢:

a) Over   750   thousand   [ ]
b) 500 - 750   thousand   [ ]
c) 250 - 500   thousand   [ ]
d) Under 250   thousand   [ ]

6. Please indicate the average annual profit of your firm in GH¢:

a) Over   75   thousand   [ ]
b) 50   -   75   thousand   [ ]
c) 25   -   50   thousand   [ ]
d) Under 25   thousand   [ ]

7. Please indicate the overall asset profile (portfolio) of your firm in one of the following in GH¢:

a) Over 1,500   thousand   [ ]
b) 150 - 1,500   thousand   [ ]
c) 15 -   150   thousand   [ ]
d) Under   15   thousand   [ ]

8. Indicate the average number of workers in your firm in one of the following:

a) Over   250 workers   [ ]
b) 50   -   249 workers   [ ]
c) 10   -   49 workers   [ ]
d) 0   -   9   workers   [ ]
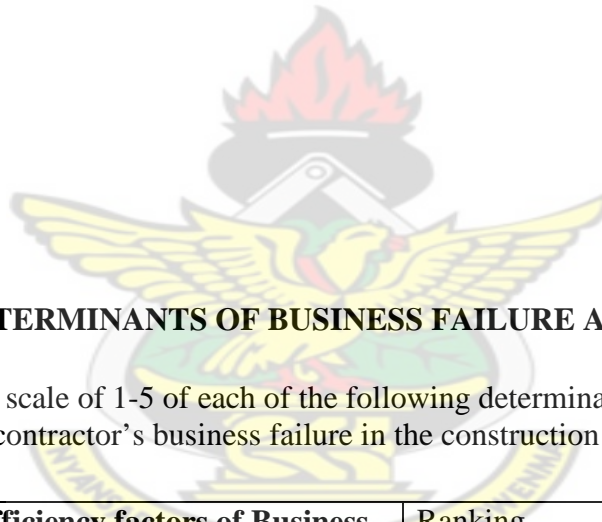
SECTION B – DETERMINANTS OF BUSINESS FAILURE AND STRATEGIES

9. Please rank on a scale of 1-5 of each of the following determinants/factors of their influences to cause contractor's business failure in the construction industry.

A. Managerial Inefficiency factors of Business Failure	Ranking					Please note
	1	2	3	4	5	
Lack of experience in line of work (construction)						
Replacement of key successful personnel						
Assigning incompetent project leader at the site						
Bad decisions in regulating company policy						1= Very low influence
Lack of Labour productivity and improvement						
Lack of using project management techniques						2=Low influence
Sudden death of company owner						
Poor monitoring and control						3=Moderate influence
Poor communication						
Bad Company organization						4= High influence
Bad record keeping						
Adopting unsuitable Purchasing practices						5=Very high influence
Delayed submissions of claims						
Owner absence from the company						
Not completing on schedule						

Lack of material control systems					
Frauds/Pilfering					
Neglect (of simple issues/actions that can cause the company huge losses if not attended to)					
Others (Please specify)					
B. Financial Management Practices of Business Failure					
Low profit margin due to competition					
No Cash flow management system					
Poor estimation practices					
Undervaluing of work done					
Lack of Control of equipment cost and usage					
Not Evaluating project profit yearly					
Unfavourable credit purchases from suppliers					
High and unstable Inflation					
No Employee benefits and compensation					
Lack of book keeping systems					
Lack of access to capital					
Delay in collecting payments					
Inadequate payment of fluctuations					
Others (Please specify)					

						Please note
C. Business Environment Causes of Business Failure						
National slump in economy						
Poor tendering/selection procedure						1= Very low influence
Lack of well structured training programmes						
Weak construction industry regulations in Ghana						2=Low influence
Award of contract to lowest bidder						
Owner involvement in construction phase						3=Moderate influence
Shrinkage in construction demand						
Others (Please specify)						4= High influence
D. Business Growth/Expansion Causes of Business Failure						5=Very high influence
Expanding into new geographic locations						
Opening a regional office						
Increased number of projects						
Increased size of projects						
Change in the type of work						
Lack of managerial development or maturity as the company grow						
Change from private to public or vice versa						
Others (Please specify)						
E. Political Decisions on Business Failure						
Delay in collecting debts from new political heads						
Suspension of projects of previous government						
Change in government policies						

	1	2	3	4	5	
Financial demands by political heads						
Awarding contracts to incompetent party folks						
Nonpayment of interest on delayed certificate						
Others (Please specify)						

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10. Based on your experience which of these operational practices and strategic policies do you consider has very high influence/impact on the success and survival of a contractor's business in a scale of 1-5?

	Ranking					
	1	2	3	4	5	
Proper material control systems						
Well kept book keeping system						
Record keeping system						Please note
Effective purchases practices						
Successive plan policy (after death)						1= Very low influence
Training and mentorship programmes for contractors						
Easy access to capital						2=Low influence
Flexible interest rate						3=Moderate influence
Effective networking and social capital of contractors						
Proper contractor selection and registration						4= High influence
Separation of business activities from family matters						5=Very high influence
Effective industry regulations						
Transparent and effective tendering systems						
Continuous contractor assessment and grading						
Competent site supervisor/engineer						
Ensuring regular and accurate valuation of work done						
Effective risk management practices						
Well managed cash flow practices						

Compensation and bonuses packages						
Proper financial practices						
Good management team						
Controlled overheads and recurrent expenditure						
Adequate capital structure						
Reasonable tax systems and tax holidays						
Implementation of dividend policy						
Business expansion at a gradual steady pace						
Adequate balance of assets and liabilities						
Reduce liabilities						
Others (Please specify)						

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APPENDIX II

SEVERITY INDEX OF DETERMINANTS OF EACH FINANCIAL CLASS

1. D2/K2 Financial Class

1. D3/K3 Financial Class

2. D4/K4 Financial Class

Table 4.20 - Rankings of the Determinants of Business Failure by D2/K2 Contractor

OBSERVATION	DETERMINANT	SEVERITY INDEX
1	Delay in collecting debts from new political heads	95
2	Suspension of projects of previous government	94
3	Nonpayment of interest on delayed certificate	89
4	Financial demands by political heads	86
5	Lack of access to capital	86
6	Delay in collecting payments	84
7	Change in government policies	83
8	Low profit margin due to competition	80
9	High and unstable Inflation	80
10	Inadequate payment of fluctuations	80
11	Assigning incompetent project leader at the site	80
12	National slump in economy	79
13	Poor tendering/selection procedure	76
14	Poor estimation practices	76
15	Undervaluing of work done	76
16	Poor monitoring and control	76
17	Lack of material control systems	75
18	Awarding contracts to incompetent party folks	75
19	Frauds/Pilfering	71
20	Bad record keeping	71
21	Lack of book keeping systems	71
22	No Cash flow management system	71
23	Weak construction industry regulations in Ghana	70
24	Replacement of key successful personnel	70
25	Lack of experience in line of work (construction)	69
26	Bad Company organization	68
27	Award of contract to lowest bidder	65
28	Poor communication	65
29	Bad decisions in regulating company policy	64
30	Unfavourable credit purchases from suppliers	63

Table 4.20 - Rankings of the Determinants of Business Failure by D2/K2 Contractors Cont'd.

OBSERVATION	DETERMINANT	SEVERITY INDEX
31	Lack of Labour productivity and improvement	62
32	Not completing on schedule	62
33	Neglect (of simple issues/actions that can cause the company huge losses if not attended to)	60
34	Owner absence from the company	60
35	Lack of managerial development or maturity as the company grow	60
36	Adopting unsuitable Purchasing practices	58
37	Shrinkage in construction demand	58
38	Delayed submissions of claims	56
39	Lack of using project management techniques	55
40	Lack of well structured training programmes	55
41	No Employee benefits and compensation	52
42	Not Evaluating project profit yearly	51
43	Lack of Control of equipment cost and usage	50
44	Sudden death of company owner	49
45	Increased size of projects	45
46	Change in the type of work	44
47	Increased number of projects	42
48	Expanding into new geographic locations	36
49	Change from private to public or vice versa	34
50	Opening a regional office	31
51	Owner involvement in construction phase	31

Table 4.21 - Severity Index Rankings of the Determinants of Business Failure by D3/K3 Contractors

OBSERVATION	DETERMINANT	SEVERITY INDEX

OBSERVATION	DETERMINANT	SEVERITY INDEX
1	Suspension of projects of previous government	96
2	Delay in collecting debts from new political heads	94
3	Financial demands by political heads	88
4	Awarding contracts to incompetent party folks	87
5	Nonpayment of interest on delayed certificate	85
6	Assigning incompetent project leader at the site	85
7	Frauds/Pilfering	85
8	Poor estimation practices	83
9	Undervaluing of work done	83
10	Change in government policies	81

Table 4.21 - Severity Index Rankings of the Determinants of Business Failure by D3/K3 Contractors Cont'd.

OBSERVATION	DETERMINANT	SEVERITY INDEX
11	Poor monitoring and control	81
12	Lack of experience in line of work (construction)	79
13	Bad record keeping	76
14	Delay in collecting payments	76
15	Low profit margin due to competition	75
16	Bad decisions in regulating company policy	75
17	Lack of access to capital	74
18	Inadequate payment of fluctuations	74
19	Lack of material control systems	74
20	Poor tendering/selection procedure	74
21	Delayed submissions of claims	73
22	Lack of managerial development or maturity as the company grow	71
23		69
24	Sudden death of company owner	68
25	Award of contract to lowest bidder	67
26	Replacement of key successful personnel	67
27	No Cash flow management system	65
28	High and unstable Inflation	65
29	Bad Company organization	64
30	Lack of book keeping systems	64
	National slump in economy	
31	Unfavourable credit purchases from suppliers	63
32	Lack of Labour productivity and improvement	63
33	Neglect	63
34	Poor communication	62
35	Lack of using project management techniques	62
36	Owner absence from the company	62
37	Adopting unsuitable Purchasing practices	61
38	Weak construction industry regulations in Ghana	61
39	Lack of Control of equipment cost and usage	58
40	Shrinkage in construction demand	58

41	Not completing on schedule	57
42	Not Evaluating project profit yearly	56
43	Lack of well structured training programmes	56
44	Expanding into new geographic locations	43
45	No Employee benefits and compensation	40
46	Owner involvement in construction phase	38
47	Increased size of projects	35
48	Change from private to public or vice versa	35
49	Change in the type of work	32
50	Increased number of projects	27
51	Opening a regional office	26

Table 4.21 - Severity Index Rankings of the Determinants of Business Failure by D4/K4 Contractors

OBSERVATION	DETERMINANT	SEVERITY INDEX
1	Delay in collecting debts from new political heads	92
2	Suspension of projects of previous government	90
3	Assigning incompetent project leader at the site	88
4	Financial demands by political heads	87
5	Low profit margin due to competition	85
6	Lack of material control systems	85
7	Undervaluing of work done	83
8	Lack of access to capital	83
9	Frauds/Pilfering	81
10	National slump in economy	81
11	High and unstable Inflation	79
12	Replacement of key successful personnel	79
13	Nonpayment of interest on delayed certificate	79
14	Delay in collecting payments	77
15	Change in government policies	77
16	Poor monitoring and control	75
17	Poor tendering/selection procedure	75
18	Bad record keeping	73
19	Poor communication	71
20	Adopting unsuitable Purchasing practices	71
21	Poor estimation practices	69
22	Inadequate payment of fluctuations	69
23	Lack of book keeping systems	67
24	Awarding contracts to incompetent party folks	65
25	Shrinkage in construction demand	65
26	Owner absence from the company	65
27	Lack of experience in line of work (construction)	63
28	No Cash flow management system	63
29	Weak construction industry regulations in Ghana	63
30	Sudden death of company owner	60

Table 4.21 - Severity Index Rankings of the Determinants of Business Failure by D4/K4 Contractors Cont'd.

OBSERVATION	DETERMINANT	SEVERITY INDEX
31	Neglect (of simple issues/actions that can cause the company huge losses if not attended to)	58
32	Award of contract to lowest bidder	56
33	Lack of well structured training programmes	52
34	Not completing on schedule	52
35	Bad Company organization	52
36	Lack of using project management techniques	50
37	Not Evaluating project profit yearly	50
38	Unfavourable credit purchases from suppliers	50
39	Delayed submissions of claims	48
40	Increased size of projects	48
41	Lack of Labour productivity and improvement	46
42	Bad decisions in regulating company policy	46
43	Increased number of projects	46
44	Lack of managerial development or maturity as the company grow	44
45	Expanding into new geographic locations	42
46	Opening a regional office	42
47	Lack of Control of equipment cost and usage	42
48	No Employee benefits and compensation	40
49	Change in the type of work	40
50	Owner involvement in construction phase	29
51	Change from private to public or vice versa	21

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