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THE SUSTAINABILITY OF CONSTRUCTION SMALL-MEDIUM ENTERPRISES (SMEs) IN SOUTH AFRICA

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Submission for partial fulfilment for the degree of Master of Science in Building

UNIVERSITY OF THE WITWATERSRAND

DECLARATION

I declare that this thesis* is my own unaided work. It is being submitted in partial fulfilment for the Degree of Master of Science in Building to the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination to any other University.

(Signature of Candidate)

_____day of_____, _____

(day) (month) (year)

*Sustainability of Construction Small-Medium Enterprises (SMEs) in South Africa

Abstract

Small, Medium Enterprise (SMEs), are extensively interrelated with the economic development of national economies. Globally SMEs are substantial contributors to Gross Domestic Product the goods and services produced within the boundaries of a country. They are also considerable employment creators; this in turn reduces poverty and improves the standards of living, and in African countries SMEs endorse economic growth and development significantly. SMEs belong to different industries and that each industry has its own challenges. Moreover firms or organisation are established in order to generate income according to the industries' value systems; hence there are a number of factors, both internal and external, that influence the survival or pose obstacles to the survival of an organization.

The present study has been undertaken in order to identify the sustainable factors relating to construction SMEs in South Africa. The literature review identifies the factors for or barriers facing sustainable SMEs and these factors are organised as internal and external. Structured interviews are used as a tool for the study on focus groups purposely chosen to see if internal and or/ external environmental factors cause failure or success of construction SMEs in South Africa. Data are subject to descriptive analysis.

Focus groups gave valuable information to the phenomena; it was discovered that organisations have to concentrate on the benefits of the internal environment by applying business processes, whereas the external environment will be continually be influential to organisations so they must learn to persistently adapt in response to its changes

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NOMECLATURE

SACPCMP (South Africa's council for the Project and Construction Management Professions)

AICA (American Institute of Certified Accountants)

ASGISA (Accelerated and Shared Growth Initiative for South Africa)

CICA (Canadian Institute of Certified Accountants)

CIDB (Construction Industry Development Board)

DPW (Department of Public Works)

SME (Small -Medium Enterprises)

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CHAPTER 1: INTRODUCTION

1.1 SMALL MEDIUM ENTERPRISES (SMEs)

The success or failure of Small Medium Enterprises (hereafter SMEs) is fundamental to the performance of the national economy. As they contribute to employment creation, economic growth and technical innovation (Audet and Courteret, 2012; Chen, 2011). The acronym SME is widely used in the European Union (EU) and by international organisations such as the World Bank, the United Nations and the World Trade Organisation (EU, 2011). TheEuropean Union Law (2011) explains the main factors that determine whether a company is an SME, as shown in table 1 below.

Table 1: European SMEs [1]

Company category	Employees	Turnover	Balance Sheet Total
Medium Sized	≤250	≤€50m	≤€43m
Small	≤50	≤€10m	≤€10m
Micro	≤10	≤€2m	≤€2m

Source: European Union, 2011.

In 2011 the European Union launched support programmes to target SMEs by funding research, innovation, competitiveness and other similar national programmes. SMEs are distinguished as companies with either a turnover of €10-50 million or a balance sheet total of €10-43 million and they contribute a percentage towards the country's GDP (European Union, 2011).

The United States of America's (USA) classification of SMEs differ slightly to that of the European Union; based on USA business criteria, for a company to be classified as a SME are based on the industry within which the company operates, the form of ownership, revenue and number of employees which in some cases may be as high as 1500 (Bharati and Chaudhury, 2012).

[1] The South African Rand value is lower than the Euro

1.1.1 The Role SMEs in the Global Economy

In the European Union presently, SMEs are economically imperative with 98% of an estimated 19.3 million companies defined as SMEs, providing around 65 million jobs (EUROSTATS, 2011). These enterprises are the considerable contributors to economic growth, employment creation and poverty alleviation. SMEs are vital globally; for example, in USA, one of the world's most economically influential countries, SMEs create 50% of private employment (Davies, 2011) and in countries like China, Austria, and Canada, SMEs' employment creation is above 50%.

Idemobi (2012) states that, in Nigeria, 70% of operating companies are classified as SMEs, and in Kenya more than 50% of the existing companies are SMEs.

In the Southern Africa region,the Namibian SME Gazette (2012) reports that 50% of companies in Namibia are classified as SMEs;they create jobs and assist with the national economic growth. Furthermore, SMEs are the engines driving the national economies; in South Africa,91% of all formal entities are SMEs[2]and they contribute 38% towards GDP and 55% towards employment (National Credit Regulator, 2011; Statistics South Africa, 2011).

1.1.2 SMEs in South Africa

The economy of South Africa experienced economic growth of almost 5% for the past years, achieving optimistic growth in 32 consecutive quarters. It is expected that South Africa's economy may accelerate from 2012 onwards, subsequentto the global economic recession in 2008/2009 (ASGISA, 2012). The target increase of ratebetween 2010 and 2014 is 6%; this will be achieved by reducing unemployment to eradicate poverty, and thus motivating growth in the economy. This can be attained by sustaining and encouraging the growth of SMEs (ASGISA, 2012; Jooste, 2012; Lunsche, 2010). The 2010 Fin Scope SMEs survey reported that there are an estimated of 5.9 million SME businesses in South Africa; these enterprises (Which account for 91% of companies registered in South Africa) (Fatoki, 2010).

[2]SMEs in all industries

The South African government has in place policies and programmes which support the development of SMEs; such being the National Small business Act (Act 102 of 1996).SMEs in South Africa are regulated by this Act; and in terms of its schedule, there are different sizes of SMEs found in all sectors of the economy. SMEs in each sector belong to different business areas of business and are distinguish as SMEs according to the number of full-time members of staff, annual turnover and the gross asset value. The Table 2 below shows SMEs in different industries:

Table 2: SMEs in different industries in South Africa.

Industries	SIZE OR CLASS	TOTAL FULLTIME PAID EMPLOYEES	TOTAL ANNUAL TURNOVER	TOTAL GROSS ASSET VALUE (FIXED ASSESTS EXCLUDED)
Mining	Medium	≤100	≤R30m	≤R18m
	Small	≤50	≤R7,5m	≤R4,5m
	Very small	≤10	≤3m	≤R1,8m
	micro	≤5	≤R0,15m	≤R0,1m
Manufacturing	Medium	≤200	≤R40m	≤R15m
	Small	≤50	≤R10m	≤R3,75m
	Very small	≤20	≤R4m	≤R1,5m
	Micro	≤5	≤R0,15m	≤R0,10m
Construction	Medium	≤200	≤R20m	≤R4m
	Small	≤50	≤R5m	≤R1m
	Very small	≤20	≤R2m	≤R0,4m
	Micro	≤5	≤R0,15m	≤R0,10m

Source: National Small Business Act 102 of 1996; Venter et al, 2007

The sizes of SMEs vary according to the industry in which the enterprise functions. For instance the manufacturing industry has a high turnover compared with the construction and mining industries, wherein the nature of the industry determines its income and the number of workers employed; Dubois and Gadde (2002) clarify that in the construction industry each project is unique and it is managed differently by the project manager, and supervised by the construction manager, and the project designer and construction engineer are also crucial contributors towards the project. Thus each industry differs because of its nature and the objectives of each business.

SMEs fall within the three sectors of the economy, primary, secondary, and tertiary (Shakantu and Ekaatz, 2000). Within each sector SMEs belong to either the informal or the formal sector; businesses in the formal sector are usually registered for tax purposes and are licensed (Venter *et al*, 2007). They occupy formal business premises, and have formal accounting procedures. Most micro-enterprises (as opposed to small and medium enterprises') are found in the informal sector of the economy (European Union, 2011); in other words, they are not registered businesses. These enterprises' can be classified as either *survivalist* enterprises or *growth* enterprises (National Small Business Act 102 of 1996). Venter *et al.*, (2007)explained a survivalist enterprise as one run by individuals who simply aim to generate money to feed their families; while growth enterprises have a more formal structure, employ a small number of people and usually occupy premises. They also have the ability to expand. The sustainability of these informal enterprises has long been questioned as more than 50% of survivalist and growth enterprises close down within the first year of operation (Boris and Naidoo, 2010; Ladzani and Van Vuuren, 2002).

1.1.3 SMEs' Sustainability

The term 'sustainability' has been defined in various ways by different industries; and it is viewed differently from within, and outside, an organisation. Dahlsrud (2008) explained that a sustainable business is the one that is economically and socially responsible and Hatten (2012) argued that sustainability involves environmental responsibility; whereas others have explained sustainability as the ability to be profitable in the long run (Fombron and Shanley, 1990;

Wikstrom, 2010). For the purpose of this study, the latter definition of sustainability is used, as the publication Industry Insight, (2012) reports that construction businesses that filed for bankruptcy in 2011 increased by 4.1% to 39% of businesses that filed for bankruptcy largely due to budgetary issues and unrealistic profit margins, and therefore a sustainable entity is the one that can maintain its cash flow and being profitable in the long run (Hunt, 2007; Langford *et al*, 1991; Reinhard, 2000).

A global research study on sustainability was conducted by the American Institute of Certified Accountants, Chartered institute of Management Accountants and Canadian Institute of Chartered Accountants in 2006; their findings suggested that the drivers that hinder sustainability were lack of skilled labour, general management practices, government regulations and customers seeking green products. These four categories had a correlation to lack of SME sustainability. The variables identified as least correlated to sustainability included competition, risk management, and accessing finance. Jenkins (2006) counter-argued that none of the sustainable factors emanate from outside the organisation; thus the internal factors they mentioned were capital management, quality management, adoption of innovation, managing finance and managing the environmental impact. SMEs from different industries viewed the internal factors differently, and the external factors were the stake-holders involved, (customers, suppliers, and community). The studies that were conducted were in different countries and the classification of SMEs differs from one country to the next. Lozano and Murillo (2006) undertook a study in Asia; they found that the factors that were linked to sustainability were legal regulations, competitive impact, economics, innovative possibilities; the participants in this particular study were SMEs that had fewer than 250 employees. Drawing from a number of studies, the sustainable practices were identified as being implemented both inside and outsidethe organisation. External practices, also known as macro-environment and market environment practices are those that SMEs have no control over, while the internal practices, also known as the micro-environment practices, are those practices that businesses have comprehensive control over (Venter *et al.*, 2007).

Table 3: Internal and External Practices of SMEs.

Internal factors (Micro Environment)	External Factors(Market Environment)	External Factors (Macro Environment)
• General management skills • Quality management • Leadership skills • Risk management • Lack of skilled labour • Effective human resources management • Accounting skills • Administrative skills • Professionalism • Ethics	• Customer care • Competitiveness • Public relations • Suppliers: Middlemen • Product pricing • Relevant marketing tools • Business environment • The location of the business	• Corporate governance • Corporate social responsibility • Green business practices • Economic trends • Adoption of e-commerce • Access to finance • Legal information (contracts)

Source: World economic Forum, 2006; Venter et al., 2007; Boris and Naidoo, 2010; Wikstrom, 2011)

1.1.4 The Challenges facing SMEs

One of the government initiatives is to create a sustainable society by empowering individuals to start businesses; however,many of these businesses shut down within the first 12 months of operation. In order to sustain SMEs, the European Union implemented an initiative to sponsor SMEs financially to either expand or start businesses; and in South Africa the Gauteng Enterprise Propeller introduced a similar initiative (Monks, 2010; Quadir, 2011).

SMEs face a number of challenges that are within and outside the business; these challenges include risk management, accounting skills, general management, professionalism, and green business, and if not addressed, usually lead to bankruptcy and insolvency (Idemobi, 2012; Venter *et al.*, 2007).

This particular study focuses on the South African constructionSMEs and the difficulties they encounter in sustaining growth.

1.1.5 Construction SMEs

Marx (2011) explains that the term 'construction' covers erection, repair and demolition of all types of buildings and civil engineering structures; the industry typically is divided into civil, building, drilling and refractory contractors.

Statistics South Africa (2011) reported that 78.5% of companies in the construction industry are small and medium; hence these companies are vital in job creation and the well-being of the economy. And in 2010 an approximate of 4 531 000[3] workers were employed in construction (Industry Insight, 2011). Also, in the past few years, the South African National Government has awarded most projects to SME construction firms; for example, school refurbishment in the Highlands area of north Johannesburg, police station projects, magistrate court projects, defence force facilities and many other projects. The government has put aside R1, 7 billionper year on behalf of client departments (McCord, 2004; McCutcheon and Parkins, 2004).

Although the government has supported the SME industry, it is still characterised by high failure rates and lack of management skills (McCord, 2004; McCutcheon and Parkins, 2004). A survey by the Construction Industry Development Board (CIDB) in 2011 found that in Gauteng, SMEs'building activity dropped due to lackof skilled labour and poor management; five in 10 buildings deteriorated after only having been built a few months earlier; and in more than one incident, construction workers have lost their lives; as a result contractors have cash flow problems as a contract may be cancelled or payment delayed by the client. These cash flow inconveniences are also caused by budgetary issues and high profit margins which led to the

[3]Construction SMEs were a large proportion of this

liquidation of about 40% of construction businesses at the beginning of 2011,due to bankruptcy and/ or insolvency (Marx, 2011).

1.1.6 Need for the Study

Marx (2011) declares that high levels of illiteracy and lack of skills are found in SME businesses; in the construction industry over 50% of the building contractors do not have management and leadership skills; furthermore lack of management skills is associated with insolvency which could lead to bankruptcy. Although the CIDB introduced a training programme in support of the National Contractor Development programme, low levels of literacy continue to exist to a great extent in the construction industry and this contributes to poor business efficiencies among SMEs (Yanta, 2001).

A recent study published in 2010 was conducted in Sedibeng South Africa about business sustainability; the authors emphasised that although there are government initiatives, the South African SMEs are struck by many challenges mainly inside the organisation like budgetary issues, profit margins, competition, and others (Boris and Naidoo, 2010), and these challenges eventually lead to failure. Consequently Monks, (2010); and Statistics South Africa (2010) declared that there is a 75% failure rate of SMEs in South Africa and out of these more than 50% of the failures are in the Townships. Firms usually liquidate their assets when they are declared insolvent or when they are in the process of filing for bankruptcy. In South Africa the total number of liquidation declined to 25%; but the construction industry liquidation increased to 38, 5%[4] (Industry Insight, 2012).

The foremost quandary facing SMEs is that most contractors file for bankruptcy. In 2011 alone construction companies filing for bankruptcy rose by 4,1%[5]; hence for a firm to reach its end, there are micro environmental factors inside the organisation and external factors which constitute the market and macro environment responsible for most organisations failure (Industry Insight, 2012; Jooste, 2012; McCutcheon and Parkins, 2004). So discovering the

[4]Limited data on construction SMEs
[5]A large proportion includes construction SMEs

challengesthat threaten the survival of SMEs is fundamental to a country's economic development, whether small or medium these enterprises create jobs, reduce poverty, and contribute to economic growth (Chen, 2011).

1.1.7 Statement of the Problem

SMEs are directly involved in contributing to the performance of national economies;thus sustaining small and medium businesses is extensively related to economic development (Chen, 2011). These enterprises are employment creators in developing economies,as job creation combats the socio-economic issue, and as a result poverty is significantly reduced.SMEs also bring about innovation, technological change, so the success of these is fundamental for the economic development of a country (Audet and Courteret, 2012).

South Africa has one of the highest SME failure rate of 75% across industries, and studies of SME failure or challenges have focused mostly on the situation in South Africa; a key point raised in earlier studies was that initial failure of these enterprises could ultimately lead to later success (Boris and Naidoo, 2011; Monks, 2010).

The present study focuses on the sustainability of South African construction SMEs; as about 40% of all construction companies (including SMEs) filed for bankruptcy in 2011 which is among the highest proportion ever in South Africa and this could be largely blamed on the many challenges SME contractors are facing in the field(Industry Insight, 2012).

The government is supportive of SMEs; but not-withstand continual investment in SME development and sustainability, there appears to be no change in the failure rate of SMEs (Marx, 2011).So what might be the possible causes of the failure to ensure the sustainability of the construction SMEs and how can the situation be improved/ mitigated?

1.1.8 The Importance of the Study

SMEs have an immense impact on South Africa's economy; therefore their sustainability or survival is crucial as it is correlated to economic development. The South African government has introduced initiatives to boost infrastructure in the country and the current national budget reflects a major increase towards investment in infrastructure; for example the infrastructure budget for, the Gauteng province was R400 million in 2012 (Gauteng Provincial Government, 2012).

SME are significant contributors towards employment, economic growth and technological innovation, among other factors;however between 2009 and 2010 about 290, 000 construction workers lost their jobs and about 40% contractors filed for bankruptcy (including SMEs). Therefore it is fundamental to identify the source of the predicament; SMEs retrench mainly because they cannot afford to pay employees or primarily when the project is over (Industry Insight, 2012).

1.1.9 Research Questions

1. What are the sustainable practices of construction SMEs?
2. What are the critical parameters for South African SMEs depending on their characterisation?

1.1.10 Aim

Identify the factors affecting the South Africa's construction SMEs sustainability and plan the mitigation strategies to ascertain their continued operations.

1.1.11 Objectives

This dissertation has two key objectives; these are

- To identify the organisation factors affecting thesustainability of South Africa's Construction SMEs.
- To group these as internal and external factors, and apply each to SME business processes in relation to its sustainability

1.1.12 Scope and Limitations

The study was conducted in Gauteng Province, South Africa. The focus is on the sustainability of SMEs in the construction industry. The Gauteng province is home to approximately 50% of all SMEs in South Africa and future growth of the province will determine the growth of the entire South African economy (Econometrix, 2010).

CHAPTER 2:LITERATURE REVIEW

Introduction

The literature review undertaken here clarifies the nature of a firm and its sustainability; in particular the construction SMEs survival prospects over time by considering the internal and external environment of the industry.

The survival of Small Medium enterprises in the long run has been of major concern for governments globally and academics, as they all seek a solution to prolong the endurance of these enterprises (Rasmussen, 2007).

2.1 Theory of the firm

The firm generates income in relation to the structure of its value system and its collaboration with the industry's value systems is known as the theory of the firm (Feng *et al*., 2001; Fisken and Rusherford, 2002). Rasmussen, (2007) elaborated that this theory is concerned with the distribution of a firm's information to managers, shareholders and the investors; as a result all the stakeholders would be informed about all the relevant details pertaining to the firm.

Kantarelis (2010) emphasised that the firm should positively react to change as well as create change for competitive advantage; this change involves benchmarking its business with those offering similar products or servicesin the market. Thus it is imperative that each organisation is familiar with what the theory means in order to operate effectively according to the industry guidelines to prolong the survival of the business.

2.2 Firm sustainability

From a macro-economic perspective, Reinhard (2000) defined a sustainable firm as the one that maintains its total stocks of natural and manufactured capital over time;thus the firm maintains its balance sheet and total net assets in relation to social costs. Hunt (2007) explained that the firm must ensure similar results when net assets originate from normal private costs; so economic and environmental performance must also be considered as the firm strives to minimise the negative impact on the environment and the economy. Sustainability is closely linked to productivity, investment and profit and it becomes the responsibility of all stakeholders (Chanderdeo *et al.*, 2011).

2.3 Construction firm Failure

Failure of any organisation, particularly in construction industry, may have a negative impact on the economy; construction firms are highly susceptible to bankruptcy due to the nature of the industry as each project is unique and there is high competition and extensiveinstabilities in the market regarding construction activity. Henry (1994) concluded that construction firms file for bankruptcy due to operational management and strategic management failures; and these factors have been highlighted by management of contracting firms as being risk areas of operating a contracting firm. Most construction firms that face bankruptcy file for insolvency which is the broader term that incorporates liquidation, dissolution and administration of a corporation by investors, or shareholders andthose who own part of the business (Langford and Male*,* 2008).

Kangan (1988) found that most construction firm failure is caused by unrealistic profit margins; and other common grounds of construction firm failure identified were budgetary issues, failure to adapt to market conditions, human/organisational capital issues and macro-economic issues. According to Kale and Arditi (1999) financial and macro-economic issues as were the main reasons for construction company failure in the United States of America. Kivrak and Arslan (2008) concluded in their study that cash flow and poor relationship with the client drove firm'sto fail. They also stated it is critical for a firm to prepare a bid proposal with realistic profit margins, and that failure to do so may contribute to the demise of a firm. Kangan (1988) explained that customers require a bid proposal and this could enable them to save without compromising quality delivery of the project, but that due to high competition, contractors are forced to reduce their profit margins.

Rasmussen, (2007) confirmed that the aim of every firm is to realise a reasonable profit, in order to prolong the survival of the business (this does not include not-for-profit organisations). Thus, in order for the firm to survive it must recognise and understand its business environment. Strydom *et al.* (2000) explained that the business environment consists of three sub-environments; the *internal* environment (also known as the micro-environment), and the *external* environment which is made up of the *market environment* and the *macro-environment*. The business does not exist in isolation from these environments as stated below:

- The **internal environment**- it is an environment in which the business carries out its activities also known as the *micro-environment*. This environment deals with people, structures, resources and the business culture.

- The **external environment**-the entrepreneur cannot control the factors of this environment and it entails the macro and the market environment; the *micro-environment* deals with economic forces, social forces, technological forces, global forces and political forces. And the *market environment* is also known as the *industry environment*. It consists of the consumers, suppliers, competitors, intermediaries (middle men), the government, opportunities and threats, and corporate social investment (Harvey and Jowsey, 2004).

The internal and the external environments factors are discussed in details in this chapter. Each environment has factors that specifically impact on the construction industry.

2.3.1 Internal Environment

According to Venter *et al*. (2007) the internal environment comprises all the aspects inside the business; as mentioned, this environment comprises the micro environment with its variables that impact on SME construction firms. This is expanded on below.

2.3.1.1The micro environment

This environment determines the ability of the business to operate successfully; the business has full control over the variables or factors of this environment, numerous opportunities and threats emerge from these variables (Strydom *et al.*, 2000). A discussion of the problems and benefits associated with the effectiveness of these variables on SME contractors follows; these variables or factors include quality management, skilled labour, management skills, effective human resources, effective leadership, and risk management.

(a) Quality management

Quality is the ability of the product or service to consistently meet or exceed customer expectations. The emphasis of quality is on finding and correcting defects in services or products before they reach the customer (Stevenson, 2007).

Love *et al.*(2001) defined quality management systems as "*all activities of the overall management function that determine the quality policy, objectives and responsibilities, and implement them by means such as quality planning, quality control, quality assurance and quality improvements within the organization"(p.33).*

The construction industry is expected to adhere to quality measures.

Each construction firm must have quality management systems in place to assist the firm to improve its performance. Slaughter (1998) explained that performance improvement is influenced by small construction *knowledge-intensive professionals*; therefore each firm's individual competence within construction field is vital for success and performance improvements in the construction industry overall. Drihlon and Estime (1993) contended that continual use of the quality management systems improves competitiveness and customer satisfaction and is crucial in small medium micro businesses.

Over time, several standards have been developed to assist SMEs to improve their project deliverance and quality (Peters, 1985). Quality standards have been put in place like the ISO 9000 of quality management and assurance. Quality deliverance has always been of importance; there were quality systems in place since at least the 1800s, which confirms it as long being an area of major concern.

Theories have been developed to assist the deliverance of quality projects; some of the literature identified the problems associated with *not* using QMS and the benefits associated with the use of such projects.

The problems associated with not using QMS

The failure in the constructed facilities can result in very large costs; even with minor defects, re-construction may be required and facility operations impaired. Increased costs and delays are the result. In the worst case, failure may cause personal injuries and accidents during the construction process can similarly result in personal injuries and large costs. Indirect costs of insurance, inspection and regulation are increasing rapidly due to these increased direct costs. Quality control during construction consists largely of insuring conformance to this original design and planning decisions (Fox and Cornell, 1984).

Rwelamila and Dlungwana (2004) stated that while conducting a study it was discovered that on site construction activities for public projects were perceived to be the most troubling quality problems. Quality management is the most common cause of quality problems. The experiences of all the project staff and management abilities determine the level of quality that occurs during a project. One of the problems associated with not using QMS is breakdown in communication throughout the construction process. It is important in the engineering and construction industry to use QMS because the risks involved are not completing the project on time, as well as a number of other external factors (Abdulaziz and Tawliq, 1999).

The benefits of using QMS

According to Carson and Dent (2007) traditionally, manufacturing and service industries have achieved remarkable benefits in business processes and performance by adopting a well-defined quality management system. Abdulaziz and Tawliq (1999) accentuated that the same benefits can be achieved by the construction and real estate development industry if they implement quality management system, the ISO 9001:2000 as one of the best known quality management systems offers a variety of benefits to the construction industry. These benefits range from improved employee efficiency to reduced customer complaints, and from increased productivity to enhanced market image through a greater emphasis on customer needs and expectations and improving business performance through delighting the customers.

Low and Jasmine (2004) stated that as projects become larger and more complex, clients are also increasingly demanding higher standards for their delivery of Total Quality Management (TQM). Total Quality Management has long been recognised as a successful management philosophy in the manufacturing and service industries, and can likewise be embraced in the construction industry to help raise quality and productivity. During a study conducted by Low and Jasmine (2004) they discovered that the experience of applying TQM concepts provided the organisation with improvements, information and learning that occurred only because of the TQM process. The customers responded positively and client referrals increased.

The benefits associated with using Total Quality Management (TQM) are higher levels of customer satisfaction, better quality and higher market share. TQM implies that change in behaviour and culture is required if construction firms are to become learning organisations. Total quality management is an ever-improving system of integrating various organisational elements into the design, development and manufacturing efforts, and providing cost-effective products or services that are fully acceptable to the ultimate customer. There are two approaches to the total quality management system: internally it reduces operating costs, while externally it is customer-oriented (Love *et al.*, 2000).

The end user of the product is the one that determines quality and therefore construction companies should encourage contractor development. This could be achieved if they undergo necessary training to deliver quality construction projects. Contractor development could incorporate the use of TQM including safety and environment aspects. The emphasis is that contractor training development helps to improve the performance of SMEs (Rwelamila and Dlungwana, 2004).

Agus and Abdullah (2000) stated that construction companies train their employees to deliver quality projects to the client; they continued that TQM may be used effectively by training employees of SMEs in the construction industry. This is supported by Pinho (2008), who contended that when quality systems are applied efficiently by well trained employees, the

realisation of a quality project is apparent. Should SMEs focus on what the client wants since small firms are highly competitive? This view may contribute and assist policy makers to evaluate the importance of TQM consumer orientation and innovation in enhancing SME performance.

(b) Lack of skilled labour

Problems associated with the lack skilled labour:

Employees with a lack of accurate skills and who are unfamiliar with the work environment; impacts negatively on the project performance, and in construction there are numerous performance related problems. All staff need to be trained to assist with the implementation of the organisation's objectives (Boris and Naidoo, 2012).

Benefits associated with skilled labour:

Cronje Du Toit and Mol Van Reeven concluded in their (1997) study that proper training for employees is vital, and some of the objectives of training and development are to oversee a tremendous increase of output quality and quantity. In addition, waste costs are reduced drastically while accidents are minimised on the construction site. Thus the level of employee job satisfaction is raised.

These objectives are used across industries; in the construction industry in particular, contractor development is encouraged and this could be done if those involved undergo the necessary training. The emphasis is that contractor training development helps to improve the performance of SMEs (Rwelamila and Dlungwana, 2004). Finally Agus and Abdullah (2000) accentuated that construction companies train their employees to deliver projects on time and within budget to the client; by doing so they improve their competitive edge (Drihlon and Estime, 1993).

(c) General management skills

Every organisation consists of people and resources, and certain objectives that have to be attained; thus the manager's job is to direct all the resources and activities effectively towards

the goals of the enterprise. These sources include human, financial, physical and information resources (Du Toit and Mol Van Reeven, 1997).

Strydom *et al*. (2000) described the basic responsibilities of the manager which is to plan, organise, lead and control. These require the manager to determine the mission and goals of the business and how they are to be attained, by allocating human and physical resources of the relevant department. The manager is responsible for giving orders to sub-ordinates to direct their actions to conform to the organisation's goals and plans, so as to check whether the organisation is working towards the accomplishment of its goals.

Problems of the lack of management skills:

In order to improve sustainability of SMEs and its development, top management must first identify specific processes with discrete activities that require improvement (Raymond *et al.*, 2002). Lack of communication and not breaking down the project into steps or phases constitutes poor planning; poor planning involves negligence (Abdulaziz and Tawliq, 1999). Failure to clearly identify and define the project requirements result in a building with the wrong features through the use of using technical design. Getting a project wrong leads to costly rework (Kashiwagi and khiyara, 2002). Most industries have top, middle and lower levels of management; these standard levels of management mainly assist a company to delegate responsibility.

Benefits of associated with skilled management:

Effective running of any organisation requires that the manager manages the resources of the business effectively. SME contractors mainly perform most of the duties of the project, which the manager may not have the necessary skills to do, and one these is drawing up a budget for the project and /or general accounting practice.

(d) Effective human resources management

Du Toit and Mol Van Reeven (1997) explained human resources as a function of the business that is responsible for recruiting and training, and establishing and maintaining sound relations

with the workers of the business. The human resources manager cannot be expected to train or develop employees himself; he is responsible for providing training facilities' and for encouraging employees, and giving them the opportunity to develop to higher levels of competence. The human resources manager employs basic training strategies and development activities to improve employee skills throughformal and informal training; thus the training commences when the training facilities are available.

Problems associated with ineffective Human Resources management:

For SMEs it may be difficult for the human resources department to provide facilities for development and training as this requires extensive funding; thus SME construction may face an even bigger challenge as they would not have adequate time to provide training facilities and the budget may be constrained. In construction the client requires that the project is to be completed at a specific time and within budget.

Benefits of effective human resources:

One of the most difficult tasks for human resources manager is hiring the right candidate for the available post. Normally the HR manager may advertise the post and shortlist the candidate from the CVs' received and then conduct interviews. In most organisations after the successful candidate is informed and then the induction takes place. For SMEs in construction, going through the whole recruitment procedure may be time consuming; so the contractor may hire a construction worker and train them themselves on how things should be done. The problem with this however is that some of the construction workers may find it hard to grasp what was taught in a short space of time; this could be risky as the employees may not be fully sure of what they are supposed to do.

(d) Accounting skill

Benefits of associated with accounting skills:

Du Toit and Mol Van Reeven (1997) contended that if and when the finances of the business are handled accurately these could diminish the risk of the business going bankrupt or even liquidated. A business is all about managing money and making a profit; a strong financial analysis has three parts, or books: a balance sheet, a cash flow statement and an income statement. Venter *et al*. (2006) stated that these three books are essential for the effective running of the business, and they are used to check expenditure and income of the business, ensuring that the business maintains its profitability.

Problems associated with poor accounting skills:

A qualified accounted is necessary for the effective running of the business. However, SME contractors usually draw up the books themselves, but because they do not have the accounting skills they put their businesses at a disadvantage; As a result, about 40% of construction firms have been liquidated in 2011(Industry Insight, 2012).

According to Industry Insight (2012) reported that, there was a low number of home loans for building plans passed and this was importuned from a South African bank (ABSA); their senior analysts explained that this indicated that the construction industry was facing a crisis. So, the normal labour force is the one that suffers because of failed projects; these include a failure of the number of residential developments and dramatic decline in the number of non-residential building plans. Therefore, building plans should be appropriate so that they are acceptable, once the plans have passed; the contractor and the developer must take into consideration the adequacy of the project budget and all costs involved (Kim and Arditi, 2010).

(e) Administrative skills

Venter *et al*. (2007) clarified that the administrative department is also known as the information department; it deals with the collecting and processing of data, storing the information and making it available to the manager.

Problems associated with a lack of administrative skills in an organisation:

Good administrative skills assist the manager with daily decisions, and incomplete or insufficient information can lead to wrong decisions. Du Toit and Mol Van Reeven (1997) explained that the administrator is responsible to other departments of the business such as finance and marketing departments.

Benefits associated with administrative skills in an organisation:

Administrative tasks differ from one business to the other depending on the size and type of the business; so one of the duties of an administrative officer in the construction industry SME is to keep records and assist with all the functions of the business. Construction SMEs normally execute their administrative work without having the necessary skills; accordingly it is the contractor's professional responsibility to ensure that relevant information is recorded and kept safe for each project (Strydom *et al.*, 2000).

(f) Professionalism

Problems associated with lack of professionalism:

Marx (2011) reported that the Construction Industry Development Board (CIDB) who are supporting the national contractor development in South Africa. This involves a course run over a number of weeks for general builders and civil engineers to improve their professional behaviour. Unprofessional behaviour leads to customer dissatisfaction and tender loss to competitors; thus in the construction industry it is fundamental that contractors undergo necessary training as to improve their professional etiquette.

McCutcheon and Parkins (2004); SACPCMP (2012) have stated that professionals, like construction and project managers, have to register with South Africa's Council for the Project and Construction Management Professions (SACPCMP); this professional body was established to develop and demonstrate world-class performance by ensuring that the professionals receive world-class training. If any of the professionals breach the SACPCMP Code of Conduct, they are liable to face a disciplinary hearing.

Benefits associated with professionalism:

To control quality, cost and time it is fundamental that contractors act professionally, as this is one of the government initiatives to improve the performance of contractors. Contractors are required to register their business with the Construction Industry development Board (CIDB); necessary standards have to be met for registration and it is unethical if a contractor is practising without being registered (CIDB, 2011).

(g) Ethics

The benefits of ethical behaviour in an organisation:

Strydom *et al*. (2000) explained that ethical behaviour is crucial for every business as it fosters relationships between the customer, supplier and/ sub-contractor. Ethics deal with what is wrong and what is right; this may be difficult to be defined in an organisation. Thus it is crucial that all SMEs adhere to an ethical code of conduct; to promote ethical behaviour in SMEs the owner of the business or the contractor may draw up an ethical behaviour policy and provide training for the labours force about ethics in the workplace.

Problems associated with lack of ethics in an organisation:

Clements and Gido (2005) described unethical practices as conduct that may cause harm to people and the environment; and this conduct may include the contractors' falsifying travel expenses, purchasing material from the supplier who provide gifts, using project equipment for personal use, and so on. As a result these practices mislead the customer or other people that have dealings with the contractor and the business could be eventually ruined.

There are many unethical practices in South Africa with the pressure construction SMEs are under, thus it is difficult for even the smallest organisation to remain ethically upright. A business that exercises ethics could contribute to its good public image (Ward, 2008).

(h) Lack of leadership skills

Problems associated with poor management:

Venter*et al*. (2007) explicated that leading people may be one of the most difficult tasks to carry out, as people are different but they must all be led towards the same direction; therefore leadership is necessary to ensure that the plans are drawn up and implemented to achieve the objectives of the business.

Benefits of good leadership in an organisation:

To be able to communicate with people, give clear instructions, motivate the staff and the ability to handle conflict are the main aspects of leading. Strydom *et al.* (2000) described the different leadership styles below:

1. **Autocratic leadership style**- the leader makes centralised decisions; and the main advantage is that everyone is clear of what is expected. The main disadvantage arising from this form of leadership is that sub-ordinates are not encouraged to give their own opinion.

2. **Democratic leadership style**- the leader involves the lower level managers in decision making and employees at a lower level are encouraged to give their input. The advantage is that employees are highly motivated and the main disadvantages would be that the employees may try to take on the role of the manager.

3. **Laissez-faire style of leadership**- this leader sets general guidelines and then the employees continue with minimal direction; the advantage of this style is that the workers are allowed to be creative and the disadvantage is that sub-ordinates are sometimes confused over what is expected of them.

Chinyo (2000) contended that leading people towards the same direction is difficult; contractors have to explain to the construction worker what is expected of them because they have to produce a specific design required by the client. The project has to be done on time, within budget and to the required quality; as a result leading people to these objectives may prove challenging. Leaders lead people and managers must manage the business effectively and one crucial decision managers have to take is choosing the right location for their business.

(i) Risk management

Haig (2001) stated that the management of risk is crucial for every type of business to minimise costs and to prolong the survival of the business. To manage risk involves identifying andassessing the risk in order to minimise the likelihood of a risky incident to occurring. American Institute of Certified Accountants, Canadian Institute of Certified Accountants, (2010) identified risk management as one of the key factors that foster sustainability.

Problems associated with poor risk management:

Clements and Gido (2005) identified a number of negative outcomes that may arise if risk is not controlled or managed; for example severe weather during a construction phase, first time use of new complicated machines, specific skill required for the completion of the project, and other factors. When these risks factors are not managed problems like project not finished on time may occur, so measures have to be in place to minimise risk.

Benefits of risk management in an organisation:

Hillebrandt (2000) explained that risk has to be assessed by the risk team to ensure they determine the likelihood of the incident occurring and how this risk can be minimised; for this to be a success the risk team has to regularly review if the risk is still in control. This is a mission for SMEs as the business has to hire a risk assessment team and they do not come cheap. Most contractors will identify the risk and try managing it themselves; Ladzani and Van Vuuren (2002) however elucidated that risk assessment skills is an essential ingredient for SMEs to succeed. One of the risks during building construction process is that the building may fall on the

labourers and they could be injured; so careful risk assessment and management is required. It is every business's responsibility to ensure that they understand the environment their business exists in to minimise unforeseen risks.

It is fundamental that SME contractorsor owners of construction businesses work on the variables of the internal environment so as to avoid the problems associated with these and in turn the organisation could reap the benefits that could lead to prolonging the survival of the business.

2.3.2External Environment

All aspects of this environment fall outside the business (Venter *et al.*, 2007).

2.3.2.1Market Environment

Harvey and Jowsey (2004) and; Venter *et al*. (2007) stated that the market environment is one which the business can influence with no control over the variables; for example, the business can influence the potential customer through advertising but has no control on what the customer decides to do. The factors or variables of the market environment are discussed in detail in the literature, cementing these variables or factors that impede on construction SMEs, which are competitiveness, customers, suppliers, product pricing, marketing tools, public relations, and business location.

(a) Competitiveness in respective industries

Two types of competition exists: imperfect and perfect competition

Imperfect competition

There are few sellers or even one seller of a particular product; thus there is minimal competition that exists.

Perfect competition

The consumer and the producer are satisfied with the price of the product; thus the conditions stated below must be met:

- A perfect market

The prices of the product are similar or the same in a perfect market. The consumers should be happy with the maximum consumption of the products and the producers unrestricted to maximise profits.

- Perfect knowledge

Consumers should be aware of any price differences that exist in the market for a short period; such as entrepreneurs of any super-normal profits made by other firms, the costs of producing different outputs, products costs using different techniques, and so on. This knowledge should be free and be readily available to everyone. The difficulties could be dynamic conditions that produce vagueness as regards the size of future demand, the plans of competitors and changes in government policy.

- Perfect mobility of the factors of production

The price system operates imperfectly if factors of production do not move in response to changes in relative prices. Transport costs and housing costs, for example, restrict mobility. Above all, any movement takes time, and this is particularly so with land resources, since buildings have long lives. Immobility may also give rise to imperfect competition and super-normal profits.

Competitiveness in the construction industry

In the South African construction industry there is high competition among contractors as they want to secure a building tender as a form of staying in business. Below are some of the concepts for SMEs to stay competitive in the construction industry.

- Value Engineering

Kashiwagi and khiyara (2002) stated that one of the ways to be competitive is using value engineering which is to identify the function and its value, and to provide this function at the lowest cost possible. Due to the intense price pressure of worldwide competition, non-

competitive options are being questioned and delivery costs are being scrutinised. There are two major competitive environments: the performance-based arena (performance and price) and the design-bid-build arena, which uses the low delivery system; these two are combined to formulate value engineering.

- Just-In-Time (JIT)

Pheng and Chuan (2001) explained that the theory behind JIT production is to provide the right materials, in the right quantities and quality, just in time for production; thus this improves customer service and builds organisational competitiveness.

- Benchmarking

Benchmarking is applied to measure a firm's performance against another firm that is excelling in the construction and other industries; the firm that measures has to discover its system first before it can benchmark. Comparing and measuring the performance of a better-performing firm helps to generate improvement opportunities to increase the firm's productivity and competitiveness. Benchmarking applies to value-adding activities such as time, cost and quality (Garnett and Pickrell, 2000).

The nature of the construction industry is competitive and the above theories discussed could assist SMEs to stay competitive in the industry, if implemented accurately. Construction SMEs face a number of challenges and one of these challenges is being the best;the products used must be obtained from the appropriate suppliers at a reasonable price that is market-related.

(b) Middlemen (suppliers)

In the construction field middlemen are called the 'builders merchants'; they operate between the manufacturer of the component and the builder. Builders' merchants stock a range materials including:

I. Heavy material, such as bricks, breeze-blocks, cement, sand, aggregates, and drain pipes and so on.

II. Material for later stages of the project such as baths, washing basins, and kitchen fittings, or for repair work such as tiles.;

III. Finishing materials, such as paint, standard tiles and fitting are stocked at a local level.

Middlemen have been discouraged in most industries as this cuts the final price that the consumer has to pay; but in the construction industry the builders' merchants are important as they help with the storage of materials that cannot be stored on site. Harvey and Jowsey (2004) explained the functions of the builders' merchants; they assist with the transportation of goods, they undertake storing bulky material, they offer trade credit, and other relative services. The builders'merchant assists the contractor with storage so that the material would not be damaged on site and is available when needed.

Kim and Arditi (2010) explained that one of the main objectives of the quality management systems is to lower the amount of capital tied up in inventory while at the same timeensuring that the production process never slows down or stops due to unavailability of material. The accessibility to material or its availability, and/ the prices the contractor has to pay for these materials will drive the pricing of the project.

(c) Product Pricing

Harvey and Jowsey (2004) stated that the construction industry can be divided into two groups: (i) speculative builders and; (ii) contractors. Pricing the project differs with the respective builders and contractors as explained below:

Speculative builders

Pinho (2008) stated that building activity for builders mainly occurs when demand for houses increases. The price of the land may be charged based on the price the builder wishes to sell the house. The success of this project will mainly depend upon the price originally paid for the land in competition with other builders. House prices have increased rapidly in the past decade and this is due to an unstable financial background; thus speculative building becomes risky owing to the supply time lag. Hence many small builders undertake such projects as a supplement to their main contract work (CIDB, 2011).

Contractors

The pricing of the project is difficult for the contractors as they try to ensure that the client's needs are met; Harvey and Jowsey (2004) explained that to achieve pricing on a competitive basis, various methods are used:

- *Negotiated:-* In this case*,* a single contractor is approached to undertake the whole project. He selects the architect from the design phases right up to the final stage of the project. Since competition is removed the price may be high, so the contractor is selected based on successful previous work.

- *Tender:-* This is the most common method used by contractors, but it is highly competitive. Many contractors bid to offer the most attractive price to the client; the efficiency of the firms is important as is their ability to complete by a specified date. There is no possibility of adjusting the selling price once the contract has been given to a firm, and the contractors need to take into account inflation when they decide on a price.

- *Fee construction: management contracting-* In this case, the contractor negotiate a fee for management services and the client covers the construction costs.

- *The package deal-* This comprises an all-inclusive package; the contractor does everything from designing the building through to handover. The package deal is used only where a limited choice of design is acceptable; for example, factories and farm buildings.

Pricing a product is a sensitive issue for every business; the contractor has to make a profit and yet the prices of the product or service offered must be in relation to the market value as well as keeping the customers happy with the prices they pay.

(d) Customer care

Strydom and colleagues (2000) described the new marketing landscape:

"The past decade taught business firms everywhere a humbling lesson. Domestic companies learned that they can no longer ignore markets and competitors. Successful firms in mature industries learned that they cannot overlook emerging markets, technologies and management approaches. Companies of every sort learned that they cannot remain inwardly focused, ignoring the needs of the customers and their environment" (p.30).

SMEs globally are faced with the pressure to continually develop. Customers in today's markets with their frequently changing needs encourage SMEs to continually improve;by improving their relationship with suppliers and learning innovative ways to produce products (Harvey and Jowsey, 2004).

Clark (2012) concluded that,out of all the candidates that participated in their study, customers were the group of stakeholders that had the most influence on businesses improvement and sustainability. Abdulaziz and Tawliq (1999) elaborated that, it is crucial for the project to be completed on time; there is a high incidence of failure to achieve this because of the nature of the industry and other external factors which may affect the performance of the project. This subsequently leads to client/customer dissatisfaction; thus SMEs should focus on what the client wants since smaller firms are highly competitive and one to secure a worthwhile project is by the effective use of the marketing tools (Pinho, 2008).

(e) Relevant marketing tools

Strydom *et al*. (2000) discussed how marketing has to do with all the activities necessary to transfer the goods and services from the producer to the consumer; thus in order for this to take place a process has to be followed which is the marketing process. Haig (2001) listed the marketing process that has to be adhered to:

1. **Environmental scanning** (by means of marketing research) to collect pertinent information on which marketing management can base sound decisions.

2. Development of **market offering;** this consists of a tangible product or an intangible service at a specific price at a convenient place and about which the consumer has received adequate information.

Du Toit and Mol Van Reeven (1997) and; Haig (2001) explained that marketing management uses four variables or marketing tools, known as the 4P's. These have become an important benchmark in the building sector:

- Product:-With need satisfying-properties, the building project has to be completed on time within budget and of highest quality.
- Place:-Delivering the product to the consumer, everything is done on site and a building is immovable; the contract will not worry about delivering the product as the building is immovable, but the customer/client should be satisfied with the end product.
- Promotion:-Messages which inform consumers about the product offering and persuade them to buy; e-commerce can be useful as the contractor can use this medium to persuade clients to seek their building services.
- Price:-Which the consumer will be willing to pay; the pricing of the project is discussed in detail in this chapter. This is fundamental to the contractor and mostly to the client.

Aish (1999) wrote that building SMEs should use the 4Ps effectively as this may assist with profit increment, good customer relations, and good public relations.

(f) Public Relations

Public relations aim at establishing favourable image of the business, among the stakeholders that has an interest in the business. Venter *et al*. (2007) explained that one of the main objectives of public relation is to promote the success and growth of the business by maintaining good lines of communication between employees and the public, and by establishing goodwill amongst the public by becoming involved in the community it serves.

Formation of public opinion:

The type of relationship the business has with the public can increase or diminish profits; for example if a construction firm that has a reputation producing of buildings that develop cracks on the walls over the years, this is highly unlikely to be good for business. Thus a business in this type of situation needs to take the appropriate steps to restore a favourable public opinion. Cronje Du Toit and Mol Van Reeven (2004) set out the various ways in which favourable public opinion is achieved.

- *Previous experience of the business*-customers can share their experiences with the business, and most client's prefer this way to receive information about the reputation of the business
- *Communication*-the business will assist in making it well known and contact current and potential customers.
- *Reception and atmosphere*-a friendly receptionist and a neat entrance will assist in this aspect.
- *Social Responsibility*-most firms give back to the community by sponsoring hospitals, learners and students, etc. Sometimes staff members can give their spare time to help the less able, in for instance orphanages and homes for the elderly.

One of the most difficult tasks of an organisation is to keep in favour with the communities and individuals that exist within the surrounding areas, so having a good image of the business is essential.

(g) Location of the business

Hillebrandt (2000) explained that where the business is situated is vital, and if the wrong decision is taken this could prove very costly. In South Africa most contractors will move or be closer to site for the duration of the building project; but this may cause problems for the construction team as they have to be away from their families. Whereas some contractors may hire new labourers in that area only for the duration of the project; because of time constraints

and a stringent budget the contractor may have to recruit available labour even if it is not the best (Du Toit and Mol Van Reeven, 1997).Where a business is situated may assist the contractor to access available innovative measures, one of the recent studies conducted by Heimon (2011) found that about 9% of construction firms in urban areas had access to innovative measures whereas their counterparts in rural areas about 1.7% of them had that privilege.

Venter *et al.* (2007) elucidated that the factors to be considered for the location of the business are labour, transport, competition, and the market. These are fundamental for the success or effective completion of the project; for instance the business has to be where adequate labour or skill is located, and it is better for the business to be located where the goods are sold.

Rafferty (1991) clarified that for construction SMEs challenges are minimised when all the factors relating to the most suitable location of the business are adhered to. At times the contractor will normally have offices in a certain location but will have to move closer to the site so that the project is completed on time. Some contractors will have to ask construction workers to work overtime, at night or even over the weekends because the project has to be completed at the time stated in the contract. Once the contract is sealed it may give the contractor some peace of mind, but if the client is not pleased with the performance of the contractor the project may be given to the competitor; thus, it is the contractor's responsibility to assess all the risks involved when choosing the location of the business (Clements and Gido, 2005).

All these factor discussed are not to be taken lightly by SME construction firms as all the aspects affect profit making; and making a reasonable profit is important for an organisation's survival. Aspects like suppliers and, customers have an effect on the final price of the product being offered or service. The next section of the literature review considers the factors or variables of the next external environment under investigation- the macro environment

2.3.2.2 The Macro Environment

Venter *et al*. (2007) explained that the macro environment is part of the external environment, and deals with all the aspects that organisations have no control over; for example changes in laws, government regulations, and economic issues, among others. The variables that impact on the construction industry are discussed in this section; these include access to finance, corporate governance, green business practices, and economic trends.

(a) Access to finance

SMEs pose high credit risk for banks as these businesses have very little or no credit history. When SMEs do have access to finance they invest in assets and IT equipment, thus it still remains difficult to obtain credit or equity finance. SMEs do not have adequate financial statements, business profiles and or business plans in comparison with their larger non-SME counter-parts that have such experience (Ricupero, 2001). The entrepreneur has options on how to finance the business: they can use their own money to start a business (**Owners' equity**), obtain finance from the bank or other lending institutions (**debt finance**), or obtain money from other people who wish to purchase a share of the business (**equity finance**).

Venter *et al*. (2007) describes below some of the organisations that assist SMEs:

1. **Own money/ Owners Equity**

   The entrepreneur may use life savings and other personal savings to start or expand a business.

2. **Debt Finance**

   ***Banks*-**the entrepreneur and/ the contractor can approach the South African banks such as ABSA, First National Bank (FNB), Standard Bank and Nedcor for a loan. The advantage of obtaining a loan from a bank is that the interest rates are regulated by the South African Reserve bank and ownership of the business is not given up; the setback, however may be that the banks require a good credit history and, collateral, and they charge for their services.

   ***Friends and Family*-**an entrepreneur can make use of social capital.

Micro lenders-they supply with small loans usually not more than R10 000 and charge very high interest rates.

Non-governmental organisations-many organisations donate money to help with the development of South Africa; organisations like the UMSOBOMVU YOUTH TRUST and the NATIONS TRUST.

Government initiatives-the government has a number of initiatives in place but the most important of these is the KHULA FINANCE LTD, an agency of the Department of Trade and Industry.

3. **Sources of Equity Finance**

Venture capitalists-these invest in businesses that have potential for growth and a good track record. They take part ownership in the business and usually become part of the management.

Angel investors-wealthy individuals whoprovide private funding but do not take part ownership of the business.

Equity Finance-the entrepreneur gives up partial ownership to the investors; there are different finance options for different business forms.

The South African government has supported each province to assist with the sustainability of SMEs. The GEP (2010) stated that the Gauteng Township SMEs were required to take part in the GEP programme to improve their skills, marketing tools and business practices; and when these firms have completed the course they may qualify to apply for finance of between R10, 000 and R250, 000.

Du Toit and Mol Van Reeven (1997) explicated that regardless of the available options for SMEs to access finance, it still remains a challenge for them to acquire funding. Banks require collateral and most SMEs do not have enough of this; another option the micro loan, but banks charge high interest rates and this may have a negative effect on the finances of an SME business. The Government or non-government initiatives require good business plans and proof that the business will be sustainable. The SME building sector is faced by these

challenges when accessing finance; it becomes the contractor's responsibility to ensure the effective use of resources to achieve the project's objectives. The manager and/ or the contractor should be responsible corporate citizens.

(b) Corporate social Responsibility

The primary responsibility of the business is to make a profit, and giving back to the community may assist the business to become well known. A country like South Africa faces a number of challenges; these include HIV/AIDS pandemic, poverty, unemployment, lack of skills in respective industries, and others. Businesses can assist in these, with their time, money and so on, as the government cannot do it all (Venter *et al.*, 2007).

Ward *et al*. (2008) posited that businesses of all sizes within the construction industry have to *socially responsible citizens,* who address the way their business responds to stake holders; clients, designers, contractors and the suppliers of materials. All groups affected by the organisation are considered stake holders. Ward *et al*. (2008) described some examples of corporate social responsibility for construction firms: these include job creation as this reduces poverty and improves standard of living, and aesthetic designs which could make day-to-day activities easier.

Construction SMEs should make a commitment to be socially responsible citizens by re-shaping their values and fulfilling their legal obligation while taking into consideration everyone that is affected by the business. The concept that has been around for over the past decade is 'green' business and this is one of the key initiatives of CSR.

(c) Green business practices

McCord (2011) postulated that in order for a business to be rated 'green' it must promote the conserving of natural resources, and must have a positive impact on the global or local environment; by building a sustainable economy and society. Green practices have become increasingly popular in the twenty first century as communities are become aware of the importance of conserving the environment. Different industries have adopted green practices to minimise waste and produce products that have less harmful effects on societies. At the beginning of the twenty first century the South African government introduced an initiative to

conserve the environment when they decided to pass laws that plastic bags were not free and consumers had to buy them. These practices have become popular in the construction industry as the main aim of most contractors to produce project within budget, on time and without compromising quality. More and more builders and contractors are required to build green buildings.

Green building

Green (2003) explained that a green building qualifies as such if it uses minimal energy, has sufficient indoor air quality and collects recyclables. Clients are now more concerned about products that are environmentally friendly; the contractors are frequently asked to install solar systems and toilets that use less water. When contractors adhere to green building principles it increases the chances of securing a tender. Developed sites or constructed lands may assist with environmental change or damage; like degradation of water, soil loss, unsustainable energy use and non-renewable materials (Kibert, 2008).

During a building process green principles have to be applied. Some have been discussed in this chapter like value engineering and JIT; below are some of the practices to conserve the environment in the building sector:

Re-engineering construction

Pheng and Chuan (2001) stated that re-engineering construction has to do with reinventing the way the construction process was traditionally done, by introducing new and improved processes.

Lean Construction

Green (2003) explained that lean principles in building were adopted from lean production and its main aim is waste reduction; thus this will assist with an increase in output flexibility, increase process transparency, and reduction of cycle times. The firm/business can benchmark against a construction firm that applies best practice in lean thinking.

The government, customers and the community at large require that businesses use green principles when producing products and so on. Marx (2011) stated that although SMEs have tried to adopt these green principles, some have failed; in the building sector, for example, to change how a building is constructed can compel the contractor to train construction workers on how things should be done differently to meet the clients' expectation. Another government initiative is that businesses adhere to regulation and rules; corporate governance is there to regulate how companies operate.

(d) Corporate Governance

Wentzel (2009), the Companies Act (Act 71 of 2008) and; Giles (2009) elaborated that in the early 1900s a committee was formed to support companies' sustainability; this group produced a King I Report that set out principles on how each company had to be governed. Later the King II Report was released because the committee required South Africa's companies to adhere to global standards. Throughout the years there have been global changes and in September 2009 the King III Report was released as companies were required to annually report their negative and positive impact on the community and the economy at large; so the companies were to put in place stringent methods on how they will combat the negatives in the coming year.

Most SMEs are companies and are required to adhere to the King III; the Report has some of the best practices, explained below by Giles (2009):

- **Reporting**- if the company is a public company, it must publish its financial statements and report on any negative performance and how any changes rectify this will be conducted.
- **Goals of the business**- these are discussed by the directors, shareholders and stakeholders of the business.
- **Tactical management**- stakeholders are part of the decision making.
- **Ethics**- the business has to have an ethical policy in place, and train all employees about this policy.

- **Good economical and environmental practice**- conserving the environment is fundamental for the sustainability of South Africa and the world.

SMEs should incorporate the practices of corporate governance for the effective running of the business; building SMEs could improve profits, customer care, and so on- if and when legal documents like contracts are completed accurately.

(e) Legal information (Contracts)

A contract is an oral or written agreement between two or more parties most contracts are written. Businesses enter into a number of contracts with the supplier, customers, landlords, banks, insurance, and a range of other stakeholders. Entrepreneurs should have basic knowledge of contractual law (Venter *et al.*, 2007).

Contracts for SME construction

The contract must spell out the deliveries the contractor is expected to provide, and the terms on how the customer will make payments to the contractor; there are two types of contracts:

Fixed-price contracts

The contractor and the customer agree on the price of the whole project before hand; and the price remains fixed until unless the customer and the contractor may decide to change it in writing. This type of contract is high-risk for the contractor because, if expenses escalate profits will be reduced; thus the contractor must calculate accurate costs estimates and include contingency costs. The contractor must be careful that the project is not overpriced because the customer is likely to look for a better deal (Clements and Gido, 2005).

Cost-Reimbursement Contracts

Du Toit and Mol Van Reeven (1997) and; Clements and Gido (2005) explained that this type of contract is when the customer agrees to pay all the necessary costs of the whole project and some agreed profit for the contractor. This type of contract is high-risk for the customer as the contractor's costs may exceed the proposed budget; thus the customer requires the contractor

to check all expenses against the budget. The cost-reimbursement contract is suitable for projects that involve risk.

Clements and Gido (2005) discussed the provisions that may be included in the contract, these could be that the contractor may not overstate the hours worked for the project and if the contractor seeks a sub-contractor this must be approved by the client/ customer. The customer can terminate the contractor on the basis of poor performance. On the contract the grounds of termination must be stated as well the methods of payment and notice of costs overruns. The contractor cannot make changes without the client's approval.

Hillebrandt (2000) explained that contractors decide on the price of the project and the deal they need to seal with the client so that the project is finished on time and within budget; thus it is the contractors' responsibility to know that once the contract is signed it is legally binding. Larger firms have a separate legal department that deals with contracts; whereas SMEs normally cannot afford this and thus they require careful consideration of everything detailed in the contract before signing. For example when other buildings of the same type are to be erected, there is legal understanding that the firm will be given a series of contracts once the first building is completed successfully. There needs to be careful consideration that if the first building is not completed successfully, the firm is not required tocontinue with the other building. The firm may plan large-scale economies for a certain number of buildings, and this could result in keener prices. The contractor must understand all the details in the contract to avoid unnecessary misunderstandings with the client.

Before the contract can be signed, SME contractors must attract the client with their business marketing strategies in order to secure that contract. Thus, to secure the best tendering job or just one building for a client, the project must meet the customers' expectations, and customers and even most industries have made use of changes in conversing with the market by using e-commerce.

(f) Adoption of e-commerce

Aish (1999) stated that e-commerce mainly deals with the buying and selling of products electronically over the internet and it has a dramatic effect on the business operation. It also

serves as the facilitator in the resolution of conflicts, and it can be used as a communication tool when suppliers are involved to assist the construction process. E-commerce is used to transfer knowledge explicitly and it can be used as a tool to assist knowledge and information between project teams, thus enabling development of new innovation. Commonly the SME construction industry and its processes present formidable obstacles to innovation which means that knowledge of new and improved methods does not spread quickly (Harvey and Jowsey, 2004).

Knowledge needs to be effectively managed, collected, structured and distributed and e-commerce resources could be used to assist SMEs to achieve this. Other industries have been able to use e-commerce successfully. With its full adoption, the construction industry can also speed production, cut costs and deliver projects. E-commerce has certainly made it easier for the sellers of a product or a service to operate; but it remains crucial that construction SMEs must be aware of the economic fluctuations by being able to recognise the best time for construction activity (Chinyo,2000).

(g) Economic trends

Construction projects such as office blocks, shopping centres and so on are usually not taken on by SMEs; large construction firms tend to get these large-scale production projects. These large projects usually prefer lager construction firms as they have technical economies of specialised equipment and linked processes; commercial economies in buying material; specialisation in management, such as their own surveyors and legal experts; the ability to raise finance on cheaper terms; and the spread of risk through diversification into many products, including international contracts'. For SME contractors, a single contract may account for a large proportion of their work; which results in difficulty when spreading the risk. There could be construction activity available but this may not necessarily mean that it's available for SMEs because of its complexity (Rafferty, 1991). Rwelamila and Dlungwana (2004) stated that demand for building encourages construction or building activity and once there are more buildings this may result in over-building; thus in construction economies every building goes through this cycle.

Demand

Demand for SME contractors' results from developments and/ redevelopment on a smaller scale. Demand is seasonal and is subject to cyclical fluctuations. Also, the cost of credit influences demand as well the clients' individual specifications (Rafferty, 1991).

Supply

Stone (1976) explained that supply is dependent on labour costs and so on; and sub-contractingcould be advantageous to the main contractor, as it reduces on-site supervision, thus making estimating easier. Rwelamila and Dlungwana (2004) posited that the lack of information the contractor/ -builder may have regarding changes in the economy may result in an oversupply of buildings. The building activity undergoes a cycle as discussed above; it is the responsibility of construction SMEs to build or construct what is in demand.

2.4 Summary

Rasmussen (2007) explained that operating firms generate income and alongside adhering to the industry's value system is fundamental in South Africa; this is supported by the theory of the firm. Organisations that abide by this can succeed by sustaining firms' total stock of natural and manufactured capital overtime.

Henry (1994); Kivrak and Aslan (2008) both confirmed that glitches arise when construction firms face failure like bankruptcy and insolvency,and eventually the business may fail. Being fully acquainted with the business environment involves knowing both the internal and the external environment. The literature has revealed that the internal environment (micro-environment) is crucial as it identifies all those factors or variables that could hinder the survival of construction SMEs within a firm. Elements of the external environment (the market and the macro environment) can also have a negative effect on the business as the firms have to adapt to changes made in this environment. This can be validated by the variables or factors discussed above.

Chapter 3 presents the research design for the study.

CHAPTER 3: RESEARCH METHODS/DESIGN

3.1 Introduction: Importance of research design

Dabholkar *et al*. (2000) described a methodology as generally a set of guidelines for solving a problem, with specific components such as phases, tasks, methods, techniques and tools. There are two methods or strategies used for research; qualitative and quantitative.

Qualitative and Quantitative Designs

Qualitative studies produce findings not arrived at by means of statistical procedures, while quantitative research is all about quantifying relationships between variables (Strauss and Corbin, 1990; Vasques, 2001). Kilby (1971) made clear that these methods have specific designs used to collect and analyse data; subsequently these designs show all the major elements of research such as samples or groups, and then the conditions under which the data are arranged, collected and analysed. Consequently the designs chosen are used to obtain data required to answer the research questions and/ give meaning to inexplicable phenomena.

3.1.1 Research designs chosen

The present study used various measures to test the reliability and validity of the findings. Structured interviews were the main data collection tool for the study, these were conducted within a focus group setting to encourage discussions that provide full insight of the phenomena. These groups were individual SMEs who shares similar characteristics and each was guided through all the factors to be tested. This setting allowed the respondents the time and possibility to talk about their sentiments on the subject, which shows the methods validity. The questions were open ended but standardised which allows data received to be reliable to an extent.

3.1.1.1 Instruments:

Past research of similar structure had biographical data on both the individuals representing SMEs the on SMEs themselves. The firm's age and, size, and the respondent's ageand level of education were included (Wiklund, 1999). Thus a purposive sampling procedure has been used here as the study focused on construction SMEs, and Kilby (1971) enlightens that this type of sampling generates information that offers a good insight of the situation.

Structured Interviews:

Structured interviews are best suited for engaging in respondent or focus groups studies in which it would be beneficial to compare/- contrast participants' responses in order to answer a research question. For structured interviews it is necessary to develop an interview schedule which lists the wording and sequence of questions.

The questionnaire survey structure engaged in this study was largely drawn from a simplified version of a questionnaire developed by Eikebrokk and Olsen (2007) who investigated whether e-business contributes to the success of European SMEs. Their review of the literature identified the factors representing e-business competencies and they concluded that these competencies have implications both research and practice in the field of SMEs. The possible limitation in this study is that the success of SMEs in relation to e-business was measured on an individual level. It is probable that the success in e-business networks could be dispersed among partners and that the success of each participant is different from the success of e-business as a whole. Consequently relative capabilities/competencies could also differ; thus conclusions concerning competencies of business partners should be based on more than one participant (Eikebrokk and Olsen, 2007).Their questionnaire was chosen as their study is similar to the present study in that both set out to substantiate the success of SMEs in relation to the factors identified in the literature. Thus, instead of interviewing individual SMEs, this present study chose focus groups where participants were at liberty to communicate with other group members, which ensures the collection of relevant data (Ojiako *et al*., 2010); in addition, it has been recognised that focus groups are particularly valuable when the objective of the research

exercise is to investigate “not only what people think but how they think and why they think that way”(Kitzinger, 1995, p. 299)

The competency factors were based on the relevant literature reviewed from the field under discussion. Here, we distinguished the extent of competency reported in previous studies and based the measures in this study on frequent proportions identified in the literature review. Interviews and meetings were arranged; consequently face-to-face interviews were conducted; this strategy is important as it gives more information for the questionnaires and can improve this data-collection instrument (Dabholkar *et al.*, 2000; Vasques, 2001). Hence to gain initial insight into what the participants think and feel about the variables or factors under investigation, focus groups of a maximum of five members were chosen (in total 34 SMEs responded).

Construction SMEs were given factors/ variables in (Table3), and asked to identify whether lack of any of these was posing hindrance to the sustainability of the business. The questions were structured to ask the opinion of the respondents on the various items based on a seven-point Likert-type scale: the background of the organisation on a seven-point ranking scale from ‘a very low extent’ to ‘a very high extent’, and the concept of sustainability and the internal and external factors on a seven-point ranking scale from ‘totally disagree’ to ‘totally agree’. To ensure the validity and reliability of the instrument was that the utilisation of different questions for managerial explanations of findings, thus this type of response scales is related to reliability levels (Dabholkar et al., 2000). The data is descriptive it cannot be fully measured numerically, but the structured survey allowed this to materialize.

3.1.1.2 Sampling and Data collection

Purposive sampling was used to recruit contractors and owners of construction SMEs to get good insight information about the phenomena under investigation. The population of the

study is situated in Gauteng province, South Africa and all the respondents were contacted through the Gauteng Enterprise Propeller (GEP) and Gauteng SME Agency. Accordingly random sampling was used to ensure that all relevant SME contractors were on hand; the target sample was 50 respondents, and 34 suitable responses were used as the ultimate sample. SMEs that were taking part in the structured interview survey should have been in existence for a year and fit the SME definition relating to the construction industry, (see Table 2).

3.2 Summary

Pellissier (2011) explicated that, from the early stages of the research, the research must ask questions on what they want to achieve from the study; and the type of questions formulated may give the researcher a guide on which design will be most appropriate.

The accurate design is fundamental for each study; the present study's focal point is identification of sustainable factors for construction SMEs, thus descriptive design was more appropriate for the study, as the purpose of the study was to describe the current conditions of the phenomena.

The next chapter presents data and its analysis.

CHAPTER 4: DATA PRESENTATION AND ANALYSIS

4.1 Findings

A focus group study was conducted among SMEs in South Africa; the study only focused on construction SMEs and they had to be in business for over a year. Micro enterprises were excluded from the study as these are enterprises that are in business for survival reasons, they generate money mainly to feed families (Ladzani and Van Vuuren, 2002). The study focused more on growth enterprises that have a more formal structure, and most of these enterprises have registered for tax purposes and also have the ability to expand (Venter *et al.*, 2007).

The participants had made additional comments about SME sustainability prior to the structured survey; they mentioned that the municipalities take time to pay (there are many delays), and as a matter of fact contractors end up having to cover costs incurred, as a result of which they end up liquidating assets and filing for bankruptcy. They also mentioned that the main client of most contractors is the government. So government delay in payments has enforced SMEs to use personal funds to continue with the projects which led to their insolvency and they were initially forced to file for bankruptcy. In this context, however, Marx (2011) counter-stated that the government is supportive of SMEs and their sustainability and survival is crucial as it is correlated to economic growth.

Another group interviewed mentioned that most construction workers are not permanent. They also mentioned that it depends on the project size and how many employees they will need. Most of the work is sub-contracted from other construction companies. So much of the training of workers is depend on the sub-contractor. This factor has been identified in the literature as well, Boris and Naidoo (2012) who stated that lack of skilled labour impacts negatively on project performance, and in construction there are many performance-related problems.

The next group mentioned that they survive by undertaking different types of construction activities, like roads, building, resurfacing, and maintenance. They mentioned that most construction contractors get into business and misuse their first profits (buying luxury cars),

which leads to incomplete projects, and yet they are certain these contractors have been conditioned to minimise costs which could lead to less skilled labour, poor materials, etc and thus compromised quality of the overall final result. Furthermore they stated that other contractors start a construction business without having any knowledge about the industry itself, and that they go into business purely for money. As mentioned in the literature by Monks, (2010); Quadir, (2011) one of the government initiatives is to create a sustainable society by empowering individuals to start businesses, and many of these shut down within 12 months of starting operations.

Participants mentioned that some of the projects they have amount to R250million turnover and profit on such projects is only 3- 4 %; and with a turnover of R10mil they make between 20 and 30%. The argument is that the lower the turnover the higher the profit mark-up. They also mentioned that business is currently down (there are no construction jobs) available and supply of material is slow.

4.1.1 Survey

Each group survey was made up of five companies and only one group had four companies; in total there were 34 participants. Table 4 shows companies in groups A,B,E and F had 200 or more employees which made them medium enterprises; and groups C,D and G had employees of below 200 which made them small enterprises; thus none of the participants were micro enterprises (see Table 2).

Table 4: The number of employees of SMEs

Groups	A	B	C	D	E	F	G
Q1(Number of employees in all companies)	200-250	200-250	150-200	150-200	200-250	200-250	150-200

Questions 1 to 8 in the questionnaire were based on the companies' background; to discover whether the companies fell into the SME category and the type of business processes they had in place. The table 5 stipulates whether the participants are in the construction industry and what type of construction; as construction covers erection, repair and demolition of all types of buildings and civil engineering structures; the industry is divided into civil, building, drilling and refractory contractors (Marx, 2011). Question 3was necessary to discover if the companies had access to the internet as this has been an integral part of running a business in order to facilitate communication with all stakeholders, and question 4 was more specific in order to find out whether the participants were using the internet as a communication tool when suppliers are involved to assist the construction process, and accentuate that the internet could be used explicitly to transfer knowledge and information between project teams enabling development of new innovation (Aish, 1999).

Table 5: Background of SMEs

Groups	**A**	**B**	**C**	**D**	**E**	**F**	**G**
Q2(all companies are in the construction industry)	**(civil)**	**(roads)**	**(building)**	**(building)**	**(Refractory, maintenance, roads)**	**(building, civil)**	**(roads)**
Q3(companies access to internet)	internet	internet	internet	internet	internet	Internet	internet
Q4	(web page, e-business, e-commerce)	e-commerce	Web page	e-commerce	(e-business, e-commerce)	web page, internet, e-business)	(e-mail)

Table 6 shows the values chosen by SME groups to discover if the companies were aware of outsourcing, and other commercially available business processes to learn the extent to which

the business has achieved its intentions, and the background against it is achieved this. Venter *et al.* (2007) stated that outsourcing is integral for growth of the business and the other businesses it is outsourcing to; in construction, sub-contracting is done on a large scale where most contractors have appointed sub-contractors to cut costs so that a project can be finished on time. Rasmussen (2007) also added that the firm has to be aware of the commercially available business processes and providers; therefore it is important that there is distribution of knowledge to all stakeholders on whether the processes in place have been achieved. So the companies were asked to choose from a ranking scale from '*1 very low extent'* to a '7 *very high extent'*. About 10 participants had a 'low extent' of outsourcing, and over 20 participants had a 'high extent' of sub-contracting; and these construction SMEs were aware of the importance of knowing commercially available business processes. However, five contractors werenot aware of the providers of these processes, and again the same five have not achieved their business intentions as yet, while the other 28 have achieved their business intentions.

Table 6: SME business intentions and processes

groups	A	B	C	D	E	F	G
Q5(outsourcing/sub-contracts)	3	6	3	7	5	7	4
Q6(commercially available business processes)	6	5	6	7	6	7	6
Q7(providers of business processes)	7	6	5	1	6	6	7
Q8(achievement of business processes intentions)	7	5	5	1	7	7	7

The interviewer explained all the factors identified in the literature-internal environmental factors (quality management, skilled labour, management skills, etc), and external

environmental factors (the market and the macro environment). The factors explained included competition, customer care, marketing tools, corporate social responsibility, green business practices, economic trends, adoption of e-commerce, and contracts. The structured questions were based on the two environments.

The participants were well aware of all the factors before attempting to answer the Singular-questions; as the primary focus of these questions was the internal and the external environment of the organisation in relation to its sustainability. The participants had to indicate to what extent they agreed with the proposition based on ranking scale between 1 'totally disagree' and up to 7 'totally agree'.

Table 7 shows the number of companies that selected each ranking from 1 'totally disagree' up to 7 'totally agree'. The statements ranged from the concept of sustainability to find out whether companies knew the term and the followed by the external environment and the internal environment.

4.1.2 Concept of sustainability

All 34 companies agreed to havingsome level of knowledge on the sustainability of a firm, Langford and Male (2008); Reinhard (2000); and Hunt (2007); clarified that a sustainable entity is the one that maintains its cash flow and being profitable in the long run. Kantarelis (2010) added that a sustainable firm should positively react to change for competitive advantage; and this change involves benchmarking a firm against those offering a similar product or service. The participants for proposition 10 agreed that they know their main competitor and realise that benchmarking their company against that of a competitor could yield positive results. The SMEs agreed that the entire organisation understood sustainability; so they agreed that their companies were able to maintain total stocks of natural and manufactured capital over time, and its balance sheet and total net assets, in relation to social costs (Reinhard, 2000).

Table 7: Sustainability Concept

Rankings scale	1	2	3	4	5	6	7
CONCEPT OF SUSTAINABILITY							
9(high level of knowledge of business processes in relation sustainability)	0	0	0	0	4	10	20
10(high level of knowledge of main competitor)	0	0	0	0	10	14	10
11(sustainability is understood well)	0	0	0	0	10	14	10

4.1.3 External environment

The external environmental factors were described comprehensively to participating construction SMEs before they could carry on with the questionnaire; this environment is made up of two environments the market environment where the business can have an influence with no control and the macro environment which the business has no control over (Harvey and Jowsey, 2004).

For proposition 12 all participants agreed that they were knowledgeable of the external environmental factors; supporting Venter *et al*. (2007) who stated that the external factors affect business; for instance, the business can try to persuade its customers to purchase their products or services but customers ultimately make the final decision on whether they should purchase or not. Customer care factors are identified in the literature as a market environment. Thus the business has no control over macro environment, but it is affected by it, so being aware of this environment is a fundamental factor for the success of the business. They need to be aware of changes in government laws in relation to companies that they have to follow, such as the most recently introduced King Report III.

For proposition 13, 15 companies neither agreed nor disagreed that they have strategic techniques in place in relation to the external factors, while19 of the remaining participants agreed that they do have strategic plans and techniques in place that could help them regarding the external environment. Kashiwagi and khiyara (2002) stated that in South Africa the construction industry has one of the highest levels of competition among contractors as

they all want to secure a construction tender; therefore businesses should have strategic plans in place if things were to go astray. In case of tenders, they could have in place strategies like value engineering, just in time, and benchmarking (Garnertt and Pickrell, 2000;Kim and Arditi, 2010). The 15 companies that do not have strategic techniques in place find their businesses in avulnerable situation. Thus, it is imperative that an organisation has a plan of action that could place them at an advantage over adversaries or emerging risks (Clements and Gido, 2005).

The participants agreed to have been quite informed about the all the external factors in proposition 14, and in proposition 15 the companies agreed they had in place business processes that cater for changes that could emerge from the external factors; for instance the majority of companies have adopted e-commerce to deal better with customers and suppliers; and other changes emerging from external changes are that the government, customers and the community at large require that businesses use green principles when producing products and so on (Green, 2003). Companies agreed that they knew how to use the competencies they had in relation to external factors like the market and the macro factors (Strydom *et al.*, 2000).In proposition 17, all managers agreed that these external factors have significant influence on their businesses, so they have a plan in place to combat the negative effect on these organisations, and for proposition 18, 24 managers recognised that the external factors can also bring some positive benefits on the business; for instance, the introduction of CSR could expand the image of the business. Only 10 respondents did not agree that their emphasis on external factors is limited (Rasmussen, 2007; Ward *et al*., 2008).

The participating companies agreed in proposition 19that they were able to use their companies' competencies in relation to changes in the external environment; Harvey and Jowsey, (2004) made it clear that such businesses imply that they are able to cope with political, social and, economic changes. Twenty nine SMEs agreed that they work effectively with the impact or effect of the external forces in proposition 20, and Kim and Arditi (2010) elaborated that green business practices,as one of the external factors, has been one of the most positive variables from the external forces as, in construction, for a building to be rated green it has to use minimal energy, have sufficient indoor air quality and collect recyclables.

Clients today are now more concerned about products that are environmentally friendly, as contractors were frequently asked to install solar systems and toilets that use less water; When contractors abide by green principles it increases their chances of obtain a tender (Kibert, 2008). Twenty four SMEs agreed with proposition 21 that external factors have an impact in their businesses- and 10 of them decided to stay neutral; as discussed earlier the companies have no control over the external environment but changes in this environment affect the business either negatively or positively (Rasmussen, 2007).

Twenty nine construction SME companies agreed that they reorganise work to utilise external factors and in proposition 23 managers agreed that the external factors are effectively managed; as stated above, although the external factors can never be controlled or predicted by any business, appropriate strategic plans can be put in place could help businesses to be more flexible (Strydom *et al*., 2000). In proposition 24, SMEs agreed that they had achieved anticipated benefits from the external factors like technological changes, CSR, and green business. Only five were neutral as they were not sure how they would benefit. Twenty nine companies agreed that their business processes were flexible in relation to the external factors; and in this context Du Toit and Mol Van Reeven (1997) accentuated that companies have to be flexible in order to adapt to changes that the environmental may heave at them. These external factors make it possible for companies to cooperate effectively and successfully with business partners, particularly when the business has e-commerce, e-mail, and so on, which can be used as a tool to assist knowledge and information-sharing between project teams, that enabling development of new innovations (Aish, 1999).

Table 8: External environment

Rankings scale	**1**	**2**	**3**	**4**	**5**	**6**	**7**
External Environment							
12(high level of knowledge of external factors)	0	0	0	0	10	24	0
13(well developed strategic techniques)	0	0	0	15	4	0	15
14(in general, external factors are well understood)	0	0	0	0	5	24	5
15(external business processes)	0	0	0	0	0	29	5

16(knowledge on how to use competencies)	0	0	0	0	5	24	5
17(managers agree that external factors contribute value to business)	0	0	0	0	5	19	10
18(emphasis is on the external factors)	0	0	5	5	24	0	0
19(company is good in using competencies it already has)	0	0	0	0	10	19	5
20(company working effectively with an impact of external factors)	0	0	0	5	10	19	0
21(impact of external factors on business processes)	0	0	0	10	5	9	10
22(company is good at reorganising work to utilise external factors)	0	0	0	0	20	9	5
23(external factors are effectively managed)	0	0	0	0	15	19	0
24(achieve anticipated benefits from external factors)	0	0	0	5	10	19	0
25(business processes are flexible in relation to external factors)	0	0	0	5	10	19	0
26(external factors make it possible for companies to cooperate successfully with business partners)	0	5	0	0	0	9	20

4.1.4 Internal environment

The internal factors were described to SMEs, and also expounded in the same manner as the external factors; this environment determines the ability of a business to operate successfully, the business has full control over the variables or factors of this environment and these factors are quality management, skilled labour, general management, risk management, effective human resources, accounting skills, administrative skills, professionalism and ethics (Strydom *et al.,* 2000).

Twenty seven SMEs agreed that internal costs-saving has reduced overall business costs; Love *et al*. (2000) confirmed that service industries have achieved remarkable benefits in business processes and performance by adopting a well defined quality management system, and the same benefits have been achieved in the construction industry. These benefits range from employee efficiency to reduced customer complaints and from increased productivity to enhanced market image. Skilled labour is also considered one of the internal benefits- Cronje

Du Toit and Mol Van Reeven (1997) clarified that some benefits of training and development are a tremendous increase of output quality and quantity, and waste costs are reduced. Thus, companies could benefit and reduce costs by effectively managing all the other factors as well. SMEs agreed that effective use of all the internal factors could help companies deliver faster; so having skilled labour, effective management, quality management systems and risk management systems in place could help significantly. For proposition 29, 29 SMEs agreed that internal factors reduce communication costs with suppliers and customers; so relevant information is recorded and kept safe for each project as the administration department is responsible for this task, and it is one of the factors identified in the literature. The other five companies decided to remain neutral for proposition 29; and Strydom *et al*. (2000) clarified that most SMEs in construction execute their own administrative although they may not have the necessary skills to do so.

Twenty nine SMEs agreed that the internal factors assist companies' services/ -products to complement those of the supplier and for proposition 31, 29 SMEs agreed that these internal factors make it possible for other suppliers to complement their products/ services. Five SMEs remained neutral over both propositions. One of the ways to improve business sustainability is to have a skilled manager who could identify or benchmark their services against those of the supplier; and in order to achieve this, the manager must first identify specific processes with discrete activities that require improvement (Abdulaziz and Tawliq, 1999).

Regarding proposition 32, SMEs decided to agree that internal factors assist with providing a integrated supply chain to partners, and in order for a business to operate successfully it has to take into consideration the internal factors in order to work well with stakeholders (Cronje Du Toit and Mol Van Reeven, 1997); 29 SMEs for proposition 33 claimed that customers and suppliers do not replace an organisation which has extensive business efforts, while five SMEs remained neutral. Generally the manager is the one who has to manage the resources of the business effectively, basically when all the internal factors are managed effectively, with the recognition of possible benefits by having skilled labour, quality systems in place, effective

human resources, risk management and more (Jenkins, 2006; Boris and Naidoo, 2012; Murillo, 2006).

Five SMEs remained neutral on proposition 34- that the internal factors have assisted to make services more tailored to customers, and 29 SMEs agreed with this proposition; internal factors like business ethics that foster relationships between the customer, supplier and/ the sub-contractor is crucial, as unethical practices may cause harm to people and the environment. Such; unethical conduct may include a contractor using project equipment for personal use (Strydom *et al*., 2000). Clements and Gido, (2005) posited that customers are quite aware of contractors that place their needs first and can identify their business processes that facilitate that.

SMEs agreed on proposition 35 that business processes have made their companies pioneer internal environmental factors; as Raymond *et al*., (2002) explained top management has to have business processes in place and identify the activities that require improvement. Failure to define these requirements of the identified activities could result in a building with wrong features, and using poor technical design and formation of wrong projects will lead to costly rework (Kashiwagi and Khiyara, 2002). For proposition 36, SMEs agreed that internal factors have made their company cooperate with stakeholders in new and innovative ways, and for proposition 37, they agreed that in general they have experienced positive effects from the effective use of internal factors.Thus,dealing with stake-holders in new and innovative techniques is required to stay in business in today's competitive world. The contractor abhors lack of communication and breaks the project down into steps so as to involve all the stake-holders, particularly the customer. Clearly, positive effects have been experienced by these organisations, by remaining in business even during low construction seasons (Ladzani and Van Vuuren, 2002).

Twenty four participants for proposition 38 believed that they have a client that dictates their business processes in relation to internal factors, while 10 participants were neutral. These companies believe that they always have to do what the client wants and at times they have to change certain processes to cater for the client. In proposition 39, companies agreed that they

are good at implementing changes in the organisation; as this proposition is related to the above one where most SMEs realise that being flexible has helped them to remain in business and steer clear of ruin (Ladzani and Van Vuuren, 2002). For the last proposition, companies agreed that they have high levels of competencies for utilising internal factors; so being competent involves the company looking at its organisation internally and having in place processes that are flexible enough to cater for the client while at the same time ensuring that no aspects of the organisation are neglected.

Table 9: Internal environment

Rankings scale	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Internal environment							
27(internal business processes have reduced costs)	0	0	0	5	10	10	9
28(effective use of internal factors help companies to deliver faster)	0	0	0	0	10	20	4
29(internal factors help reduce communication costs with suppliers and customers)	0	0	0	5	5	20	4
30(internal factors assist companies product/service complement that of the suppliers)	0	0	0	5	0	20	9
31(internal factors make it possible for other suppliers to complement our product/service)	0	0	0	5	5	20	4
32(internal factor assist with integrated supply chain to partners)	0	0	0	0	5	20	9
33(customers and supplier doesn't replace an organisationwhichhas extensive internal business effort)	0	0	0	5	10	5	14
34(internal factors have assisted to make services/ products more tailored to customers)	0	0	0	5	0	15	14
35(business processes have made company pioneer in utilizing internal environmental factors)	0	0	0	0	10	20	4
36(internal factors have made company to cooperate with stakeholders in new and innovative ways)	0	0	0	0	15	10	9

37(in general, there are very positive effect experienced by companies regarding internal factors)	0	0	0	0	10	15	9	
38(the is a dominant client that dictates your business processes in relation to internal factors)	0	0	0	10	10	14	0	
39(company is good at implementing changes)	0	0	5	5	10	4	10	
40(company has a high level of competency for utilising internal factors)	0	0	0	0	10	5	19	

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1 Concluding Findings

The discussion held with the groups prior to the survey generated a great deal of valuable insight for the study; participants managed to contribute what they thought made them successful and mentioned hindrances to being successful. A number of concerns were raised, like the delay in payments by the government, having casual construction workers, poor financial management from the contractors side, many contractors get into the business purely for money without any construction knowledge, and that the higher the turnover the lower the profit mark up. This information gave a lot of insight for the overview of the study and highlighted fundamental points that are relevant for companies that may be facing a struggle in running their business and maintaining profit.It was discovered that these participants have the know-how in these areas, and have experienced what they have mentioned prior to the structured survey.

The study's focal point is the sustainability of construction SMEs in South Africa; as stated in the previous chapter, the participants should not be micro enterprises, and had a minimum of 150 employees and a maximum of 250 employees to get insight of these companies. These SMEs had access to the internet which helps them to better communicate with stakeholders. In the construction industry many projects are outsourced or sub-contracted (Abdulaziz and Tawliq, 1999); and the participants were subcontracting which helped them cut costs. Out of 34 participants,only 10 of them were still lagging when it came to sub-contracting, which could be a problem for these organisation. Sub-contractors are specialists in what they do for example pavers, painters, or roofers- where as the main contractor may not be an expert in all of these skills (Harvey and Jowsey, 2004); Abdulaziz and Tawliq (1999) further stated that subcontracting helps to minimise project failure which in turn helps to sustain the business. It was discovered that 29 SMEs have achieved their business intentions and they have processes in place, and only five have not achieved their business intentions; which is apparent that a successful company has plans in place, a possible action plan to materialise the plan and eventually implement it (Clark, 2012). The participants in this study were fairly successful in this regard.

5.2 Sustainability

The companies seemed to have some form of knowledge of what sustainability was and they all agreed that to be sustainable is to be profitable without harming the environment. Most of the participants were quite aware of this concept, (the reasons for selecting this concept were set out in chapter 1 of this paper). Thus the literature highlighted that a sustainable entityis the one that maintains its cash flowby sustaining profits in the long run (Langford and Male, 2008). The term 'sustainability' is not only based on profitability but also on total natural stocks and manufactured stock of capital over time (Hunt, 2007; Reinhard, 2000). The participants agreed that the other factors like being competitive, among others,-is imperative, but that a business that is not profitable will fail. Accordingly, the external and internal factors were identified in the review.

5.2.1 External Environment (External factors)

It has been evident that the group survey provided a lot of information regarding the external factors as SMEs had to discuss what they were thinking and why they were thinking that. The 34 SMEs did realise the significance of these factors and the influence they may have on the effective running of the business. Factors like corporate social responsibility, green business practice, economic trends, e-commerce corporate governance, and legal contracts have been very influential to businesses and five out of 34 SMEs mentioned that they had not fully been prepared for these factors. These competency factors were based on the relevant literature (Dabholkar *et al.*, 2000; Vasques, 2001).

It is noticeable that SMEs with strategic techniques in place could escape the negative influence that may emanate from the external factors; Venter *et al.*, (2007) emphasised that changes in government and changes in the economy, which seem to be typical, regular events over time can unsettle some SMEs from their stable businesses. Factors like competitiveness, customers care, middlemen and project pricing arefactorsthe business can influence, but does not have control over; all these factors discussed are not to be taken lightly by SMEs construction firms

as this environment deals with all the aspects that affect profit making, as making reasonable profits is important for an organisation's survival (Clements and Gido, 2005).

5.2.2 Internal Environment (Internal factors)

The positive aspect about this environment is that the business has full control over its factors and SMEs have to focus on the benefits that may continually arise by implementing the factors successfully.These include quality management, skilled labour, risk management, effective human resources, and so on as mentioned in the review. In this study, 27 out of 34 SMEs believed that effective management of these factors has reduced costs. The success of the proper application of quality management systems has been shown in the literature; Drihlon and Estime, (1993); Agus and Abdullah, (2000); Pinho, (2008) commented that it does reduce costs, and factors like skilled labour have reduced costs to a great extent as employees who are acquainted with their job spend less time in completing a task. Internal factors like general management skills and skilled labour have been two of the major areas that the South African government is trying to upgrade by providing necessary training to SMEs throughout the country. The Construction Industry Development Board (CIDB)adopted the same approach in 2011 (Marx, 2011).

This environment determines the ability of the business to operate successfully (Venter *et al.*, 2007). As mentioned in the literature, problems are faced when these factors are ignored; for instance if the business ignores that having skilled labour is essential it will have problems like performance-related problem and the project not being completed on time (Boris and Naidoo, 2012) five of the 34 participating SMEs ignored the fact that they do not have suitable business processes in place to ensure that the benefits of the internal factors are realised. Effective management of internal factors can bring great benefits to the business.

5.3 Recommendation

The sustainable factors or barriers have been acknowledged in previous similar studies; and the present study has given further insight of this valuable information by grouping SMEs so that they may discuss the internal and external factors to get to know "*what they think and why*

they think this" about these factors. Thus, both internal and external factors did appear to be influential on the success or failure of the organisation. Possible future studies could be based on individual factors to find out the extent of the impact of that factor on the business, which could bring valuable information to the construction industry.

5.4 Conclusion

SMEs are significant contributors to the Global economy and national economies (Chen, 2011; Audet and Courteret, 2012). Relevant studies could advise SMEs on how to refrain from bankruptcy and/ insolvency as this is apparent in the construction industry, where about 40% construction companies filed for bankruptcy in 2011 alone(and SMEs formed a major proportion of these companies) (Industry Insight, 2012). The internal environmental factors and external factors were identified in the literature and a study instrument was adopted from a similar study that focused on the success of SMEs. The present study's perspective revealed that instead of interviewing individual SMEs focus groups gave valuable information to the phenomena.

As a result it was discovered that the organisation has to focus on the benefits of each factor of the internal environment by applying appropriate business processes, and in the case of the external environment it was revealed that this environment will continue to influence the performance of all organisations, so they need to learn to continually adapt in response to changes and always be prepared.

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