MEASURING THE COMPETITIVENESS OF SMALL, MEDIUM AND MICRO ENTERPRISE CONTRACTORS THROUGH THE USE OF THE REGISTER OF CONTRACTORS

By

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ABSTRACT

This research focuses on and summarises the methodology followed to demonstrate that the South African construction industry can use the Construction Registers Service, in particular the Register of Contractors, as a tool to measure the competitiveness of Small, Micro and Medium Enterprises (SMMEs).

The Register of Contractors (RoC) was developed by the Construction Industry Development Board (cidb) in terms of the Construction Industry Development Board (cidb) Act 38 of 2000. As a tool, it was designed to offer a basis for sustainable constructor development, growth, improved delivery, performance and sustainable empowerment. It was also developed to be used by the construction industry to, *inter alia*, and provide statistical data which would enable the construction industry to better understand the contracting capacity in South Africa. Beyond providing the statistical data, the register of contractors was meant to be enhanced with functionalities that would measure the growth and performance of contractors as they apply business practices that improve their value offering to the construction industry as a whole.

This research looks at how this tool can be used by the construction industry to measure the competitiveness of the contractors within the selected grades, with the intent of demonstrating the overall value of the RoC as a tool. The research undertaken looks at how the use of the RoC can measure the competitiveness of a targeted group of small contractors. The research limits itself to the entry levels of contractors registered with the cidb between grades 2 and 5 with a view to establish a benchmark for contractor competitiveness within those bands. The research further proves the correlation between contractor capability and the 'ability' to be competitive in growing their value proposition and businesses. The unit of study for the purposes of this research is at firm level drawing from a reflection on who is an active participant in the South African construction industry particularly as it pertains to the smaller contractors within the targeted group elucidated above. The focus of the research is on the efficacy of the RoC as a tool that identifies the areas needing targeted development to support SMMEs and the subsequent demonstration of improved business processes within that sector.

The qualitative research methodology was followed through this study as its nature was such that there was no requirement to rely only entirely on statistics or numbers due to the articulated problem there needed to be a qualitative enquiry into data needed which would adequately land to a significant synthesis on the responses and arrive at suitable solutions to the identified problem. The qualitative research methodology followed by this study was used to gain insight into the construction SMMEs' attitudes towards the sector within which they trade, their behaviours, their value systems [to the extent where this was possible], their concerns, their motivations and aspirations. All of these, the study concluded that they inform the business decisions which the SMMEs make. How structured information was collected and analysed provided a synthesis of themes and aided in extracting meaning.

The main findings of the research were that there is no shared understanding within the local construction industry of what contractor competitiveness is and to what extent it would benefit both the industry and the SMME sector. As a result of this competitiveness could not be measured and there was no clarity as to what tools of measure could be used to forecast the capabilities of the industry. This research was focused on exploring how the RoC can be used to measure improved capability and competitiveness on the part of SMME contractors.

The implications of these findings are that there would now be improved and measurable competitiveness allowing the contractors to bid for work both within their provincial regions but also outside of their geographical location and to measure their growth as they achieve higher grading statuses within the register of contractors (RoC). The efficacy of contractor development programmes would also improve as they go beyond enhancing contractor capacity but also include competence improvements, training for business acumen, improved capability and innovation.

The conclusion is that South Africa's construction industry could achieve sustainable development and growth as a result of SMME contractors whose competitiveness would have been measured through the use of the RoC tool.

The main recommendation is that there be a clear understanding of competitiveness and what its benefits to the South African construction industry are whilst at the same time the RoC is acknowledged as the tool embedded with functionalities able to measure this competitiveness amongst graded contractors. The RoC would allow construction clients to not only measure contractor competitiveness but also that they may have an improved ability to measure the direct impacts of contractor development interventions.

OKUMAYELANA NALOLUCUBUNGULO

Lolucubungulo lugxile ekubhekeni izimo ezinqala ngaphakathi komkhakha wezokwakha. Lubuka igalelo losonkontilaka abasebancane kulomkhakha ekuzithuthukiseni kanti futhi nemizamo eyenziwe uHulumeni endimeni edlalwe uhlu olushicilwelwe iBhodi yomkhakha wezokwakha (i-cidb). Umbhali walolucubungulo ukholelwa ekutheni loluhlu lungasetshenziswa hhayi kuphela ekuthuthikiseni ononkontilaka kodwa futhi ekwenzeni ukuthi bakhule kulo lona loluhlu baze bakwazi ukuthola amathuba angcono emisebenzi.

Uhlu ekukhulunywa ngalo lapha lwashicilelwa i-cidb ngomgomo womthetho kaHulumeni we-Act 38 of 2000. Luyithuluzi elenzelwe ukuba likhulise umkhakha wezokwakha, lithuthukise osomabhizinisi abasebancane, likhuthaze imigomo efanelekile ekwakheni (improved delivery). Enye injongo yokushicilela lelithuluzi kwakuwukwenzela ukuthi kwaziwe inani labo osonkontilaka, ubulili babo nokuthi bagxile-phi ngokwezindawo zokusebenza. Konke loku kwakufanele ukuze uHulumeni kanye nabanye abaqashi bazi ukuthi uma kusikelwana ngemisebenzi bangaki na ononkontilaka abazokwazi ukufeza izidingo zemiphakathi esiphila kuyo?

Lolucubungulo luzobheka ithuluzi elasungulwa umkhakha wokwakha ekutheni lingakwazi na ukudlondlobalisa osonkontilaka abasafufusa phakathi kwalemikhakha (grades) ababekwe kuyo? Kuzobhekwa futhi ubugugu balo lona lelithuluzi. Akuzoqxilwa kubo bonke osonkontilaka, kodwa kulabo abasabancane ngokwamabhizinisi abo ababekwe emazingeni kusukela ku-2 kuya ku-5 ngokoshicilelo le-cidb. Kuzobhekwa amakhono abo labosonkontilaka, kubhekwe futhi izinkomba ezingabadlondlobalisa ngokwamabhizinisi.

Okunye okuhloswe yilolucubungulo ukubheka ukuthi umkhakha wezokwakha uyakwazi na ukukhiqiza amathuba anele isikhathi eside kwenzelwa osonkotilaka belu nokuthi uyakwazi na ukuqhubeka wakhe amathuba azokhuthaza ukukhula kwabo. Ekugcineni okufanele kufezwe yilolucubungulo wukuthi uhlu olushicilelwe losonkontilaka lungasiza ekukhuthazeni udlondlobalo losonkontilaka abancane.

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DECLARATION

I, Zanele Bridgette Nompumelelo Gasa, declare that:

- The thesis hereby submitted by me for the degree: Philosophiae Doctor (Ph.D): Construction Management at the Nelson Mandela Metropolitan University is my own independent work and has not previously been submitted by me to another academic institution. I furthermore cede copyright of the thesis in favour of the Nelson Mandela Metropolitan University;

- The thesis is the result of my own independent work and own experience in industry both as a previous Executive Manager responsible for Infrastructure Development but also as a President of the Africa Region of the Chartered Institute of Building;

- All sources used or referred to, have been documented and recognised.

Signed:_____ Date: _____

NMMU DECLARATION STATEMENT

In accordance with Rule G4.6.3, I hereby declare that the above-mentioned thesis is my own work and that it has not previously been submitted for assessment to another University or for another qualification. Opinions expressed and conclusions arrived at, are those of the researcher and are not necessarily attributed to any entity.

Signed:_____ Date: _____

(Zanele Bridgette Nompumelelo Gasa 194354510)

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1.0 INTRODUCTION

This Chapter sets the problem statement within the context of the South African construction industry. It looks at the key organisation that was established to provide leadership to the industry and the programmes developed in particular to deal with the stated problem statement. The reader will find value in the following:

(i) A description of the overall problem which the researcher seeks to resolve and an indication of where this problem is indeed located, contextually;

(ii) A universal definition of competitiveness;

(iii) Understanding the challenges faced by the delineated group of SMMEs targeted for this study;

(iv) Understanding the main problem and the unit of study pursued by the research;

(v) A requirement for an interest in competitiveness within the construction industry and sector;

(vi) Appreciating the benefits accruing to the industry as a result of solving the main problem of the study, and;

(vii) Conclusion.

1.1. The problem and its setting

This thesis outlines the research focus and summarises the methodology that was followed to demonstrate how the construction industry can use the Construction Register Service (CRS) [in particular the RoC], as a tool, to measure the competitiveness of SMMEs in the South African construction sector. The definition of contractor competitiveness for the purposes of this research relates to the capability, capacity, competence, training and innovativeness of contractors registered in the RoC. It also looks at the extent to which handling that tender-value range allocated through the RoC limits their growth potential and how they could advance in the grading system and be more competitive.

The CRS was developed by the cidb in terms of Act 38 of 2000 which established the cidb. The RoC as a tool was designed to offer a basis for sustainable constructor development and growth, through improved delivery, performance and empowerment. The RoC provides statistical data through which construction clients, development agencies and financial institutions are enabled to understand the contracting capacity available in South Africa.

This research investigates how the RoC can be used to measure the competitiveness of small contractors.

The research limits itself to contractors registered with the cidb in grades 2 to 5. Within these grades, the research investigates the criteria for assessment of the SMMEs as they apply to the cidb to upgrade their status and to what extent the criteria assists them in improving their competence. The research further establishes a benchmark which looks critically at the definition of business or organisational competitiveness. This is necessary in that there could be a direct correlation between contractor competitiveness and competence and their 'ability' to subsequently grow their value proposition and their businesses. The perceived correlation would either be scientifically supported or not supported by the findings of the research. The extent to which the outcomes of the research could shed light on the impact of SMME competitiveness at industry level is also explored.

The unit of study for this research is at organisation level; drawing from a reflection on who is an active participant in the South African construction industry. The research has its premise from an in-depth analysis of the South African construction industry, with a focus on the smaller contractors mentioned above. There is a subsequent demonstration of how improved business processes within the grades of the sector can result in enhanced competitiveness which could be measured using the RoC. During the research work, the focus was on the efficacy of the RoC as a tool that identifies the areas needing targeted development to support SMMEs in their pursuit of competitiveness.

In the research there is also a discussion on the theoretical and conceptual frameworks that underpin the methodology followed; supported through the requisite terminology and concepts. This detailed exposition serves to provide clarity and clear delineation, as these concepts recur throughout the literature review. The major sources that were explored in order to obtain the required data have been identified and briefly discussed in this thesis. Reference has been made to other methods of research that could be employed in future studies.

The ultimate objective of this research was to determine whether South Africa's construction industry through its participant entities could achieve sustainable development and growth as a result of SMME contractors' participation, whose competitiveness would have been measured through the RoC.

This study was focused on the Eastern Cape Province of South Africa. The downward trend in investment in building and construction began in 2008. Investment, which had been steadily rising since 1999, contracted sharply in 2008 from a high of 17.8 percent growth in 2007, as market sentiment changed and investors became more cautious at the onset of the financial crisis. Between 1999 and 2007, growth in investment had averaged 8 percent. Investment in building and construction works, buoyed by public sector investment, masked the private sector's loss in business confidence: the first decline of 3 percent was only felt in 2010. The revised forecasts indicated recovery would be less sluggish than initially forecast: the rate of recovery would reach 10.1 percent in 2013 versus the growth projection of 7.6 percent made in 2009. However, recovery is expected to remain at growth rates below the pace achieved prior to the economic downturn.

This economic outlook means that construction firms face many risks and uncertainties. More so, construction SMMEs face particularly harsh business environments going forward, including those which are inherent in construction activity such as lack of job continuity owing to the project-based nature and unstable nature of the industry. It also means that those in the operating environment of the industry face difficulties in accessing finance, (Ofori, 2011).

Currently, SMMEs face even more risks and difficulties, including:

- more exacting demands of more knowledgeable and better organised clients, beneficiaries and stakeholders;
- more extensive regulations in efforts to address environmental, health and safety concerns;
- greater competition from more firms offering same services or a diversified portfolio;
- greater expectations from business partners as they seek to enhance their own competitiveness and project performance;

- pressures to ensure continuity of business operations in a world facing increasingly more frequent natural and human disasters, and:
- greater stress on professionalism and transparency to ward off collusive practices, (Ofori, 2011).

1.2. The background

1.2.1. Universal definition of competitiveness

There is both the global definition of competitiveness as well as a local definition. The global definition of competitiveness is that it is a measure of a country's advantage or disadvantage in selling its products in international markets. Competitiveness can be defined by country, region, industry, company or product. The global definition of competitiveness is also that it is:

> an aggressive willingness to compete. It is the quality of being bold and enterprising. Competitiveness is defined as the degree to which an enterprise can, under free and fair market conditions, produce goods and services which meet the test of international markets, while simultaneously maintaining and expanding real incomes over the long term (Organisation for Economic Cooperation and Development - OECD, 2006).

The World Bank rates economic growth as one of the most effective ways of reducing poverty, and infrastructure development as one of the key pillars of growth in any economy. Providing a developing country with good infrastructure along with the other drivers of growth is fundamental to the mission of reducing poverty (World Bank, 2003). Furthermore, the World Bank (2006) consistently asserts the indispensable role played directly and indirectly by the construction industry as a contributor to economic growth and a significant employer of people. Construction is acknowledged as a creator of numerous economic opportunities for SMMEs provided that appropriate procurement mechanisms are put in place.

According to the OECD (2006), the concept of countries competing to increase their standard of living is not very well defined in economic terms. The most widely used indicator is a country's per capita gross domestic product, sometimes adjusted to purchasing power parity. The OECD (2006) argues that countries do vary in the way that they manage their relationships with the world business community. Both the OECD and the World Bank claim the existence of a traditional link between competitiveness and international aggressiveness of countries. This aggressiveness refers to increasing exports to other countries and soliciting foreign direct investment (FDI) from the global community. Germany, Japan and Korea, and more recently China, are examples of countries that have followed this strategy. On the other hand, and more recently, some countries manage their competitiveness by offering a more attractive investment destination. For example, Ireland and Singapore have significantly increased their GDP through incentives structured to enhance FDI as a result of their attractiveness.

Needless to say, the attractiveness and competitiveness of a country has a direct correlation to the attractiveness and competitiveness of businesses located within that country. This is purely an argument of cycle dependencies which is cited by the OECD (2006). Such businesses can be well established or emerging; and this concept of emerging in the South African context refers to or is equivalent to the SMME sector of the economy. Countries in and of themselves can be competitive according to the measure which they achieve when weighed against the competitiveness index of the World Bank. However, they cannot be regarded as if they were absolute business entities, wherein which competitiveness may be measured in a more finite detail as opposed to the macro indices later referred to in this study under sections 1.2.2 and 2.2 of this research. The question that is usually asked by those who measure country competitiveness is around the extent to which a country’s policies contribute to business competitiveness.

Aggressiveness through the universal definition of competitiveness can be said to generate greater income for countries, but this does not necessarily translate directly into more jobs. The corollary is that attractiveness can create jobs in countries where significant FDI has been achieved, but the increase in GDP may not be as high as it could have been if the incentives met global benchmarks. A study of the OECD Report on competitiveness of countries (2008) betrays the notion which says that

wealthy countries can ignore the importance of attractiveness and this would not have an adverse impact on their ability to create employment. On the contrary, the report argues that countries must continue to ensure that they are both attractive and aggressive in order to compete in the global market place.

Competitiveness is usually perceived as being synonymous with competition. The thesaurus definition of competition is that it is a contest between individuals, groups and nations for territory, a niche or a location of resources. It arises whenever two or more parties strive for a
goal which cannot be shared. This research is not focused on the primeval and external dispositive nature of competition; it rather lobbies for a self-introspective analysis of what it would take for individual SMME firms to be better than their current state – with or without the pressure that often comes with weighing oneself against another organisation which may be pursuing a strategy different to yours.

There is an argument to be made for the competitiveness of organisations and what is required to achieve that within their businesses. Fellows *et al.* (2006) tout strategic thinking as key in creating the competitive advantage for construction firms. Within this assertion they explicitly single out key areas within strategic thinking which they claim create this competitiveness advantage and they list them as follows:

- Strategic management;
- Managing people;
- Managing money, and
- Decision-making techniques.

These key areas are revisited later in the study when both their singular and collective impact is unpacked.

1.2.2. Local Definition of competitiveness

In sub-Saharan Africa, South Africa does particularly well in a number of areas typically reserved for rich, innovation-driven economies. According to the Global

Competitiveness Report by the World Economic Forum (2006), South Africa's economic sophistication is reflected in high ranks for property rights, private institutions, goods and financial market efficiency, business sophistication and innovation. Since the political reforms of 1994, the South African economy has been undergoing structural transformation, with the implementation of macro-economic policies aimed at promoting domestic competitiveness, growth and employment.

South Africa is regarded as one of the more sophisticated and promising emerging markets in the world, offering a unique combination of highly developed first world economic infrastructure with a vibrant market economy. It is also considered to be one of the most advanced and productive economies in Africa. The following are some of the aspects considered to be incentives for doing business in South Africa:

- Consistently sound economic policies;
- Favourable legal environment;
- World-class infrastructure, amplified by the recently built stadia and enhancement of
- road infrastructure;
- Being a 'gateway' into the rest of Africa;
- Ease of doing business;
- Industrial capability with cutting-edge technology, and
- Competitiveness when engaging the global economy (SA Tourism, 2006).

Against this backdrop it therefore means that a succinct local definition of competitiveness is one which includes: sound economic fundamentals, a stable and flexible economy, a capable labour force, the country's marketing ability, its technological advances and innovation. South Africa is also considered to have a well-developed and regulated competition regime based on international best practice. The Competition Act of 1998 (SA Competition Commission, 1998) fundamentally reformed the country's competition legislation, strengthening the powers of the competition authorities along the lines of the European Union, United States, and Canadian models. The law places various prohibitions on anti-competitive conduct, and such conduct in the local context refers to restrictive practices such as: price fixing, predatory pricing, collusive tendering and abuses by 'dominant' firms, that is, firms with an industrial market share of 35% or more, across

all sectors of the South African economy.

The Competition Act of South Africa further expresses the following precepts upon which fair trade is encouraged:

- It was gazetted with the specific intention of providing all South Africans equal opportunity to participate fairly in the national economy;
- It was legislated to ensure the achievement of a more effective and efficient economy;
- To create greater capability and an environment for South Africans to compete effectively in international markets, and:
- To restrain particular trade practices which undermine a competitive economy (as already referred to above);

Notwithstanding these noble intents of the Competition Act and its attendant prohibitions, there are still institutional weaknesses in the implementation, monitoring and punitive actions arising out of non-compliance with the competition legislation throughout all sectors of the South African economy. This thesis seeks to align its focus areas with a basis from which to have a singular approach towards a definition of competitiveness, separate from competition which the current “tendering” system seems to encourage. Achieving that goes a long way, at least in the construction industry; in outlining an integrated construction SMME development strategy that informs it on a holistic model that can yield both quantitative and qualitative outcomes. Both the South African government and the country’s construction industry are continuously engaged in a process of encouraging industrial growth and performance which in turn will support the country’s social and economic transformation.

A country such as South Africa with a population of approximately 50 million and a GDP of about US$ 287.2 billion is measured against 142 countries where the following matrices scored out of 7 are used. This is how South Africa fares:

- How well governed and efficient the institutions are (5 out of a score of 7);
- The state of infrastructure (4 out of 7);
- The macro-economic environment (5 out of 7);

- Health and Primary education (4 out of 7);
- Higher education and training (rated 4 out of 7);
- Labour market efficiency (4.1 out of 7);
- How developed the financial markets are (5.3 out of 7)
- Technological readiness (3.5 out of 7)
- Business sophistication (4.4 out of 7) and
- How innovative the country is (3.5 out of 7), (Global Competitiveness Report 2010/11)

Against all matrices, South Africa's standing in the globe is ranked 50, an overall improvement from 54 out of 142 countries (Global Competitiveness Report, 2009/10). The ultimate objective should always be sustainable growth, stability, employment, enhanced delivery, improved industry performance and competitiveness, value for money and empowerment (cidb, 2004). In selecting contractors to perform work activities, decision makers must be assured that the contractor selected has the capabilities to *inter alia*: (1) select the best innovative technologies, (2) conduct appropriate analysis of activities to be undertaken, and (3) respond quickly to new information that is obtained.

1.2.3. Competitiveness defined

The definition of competitiveness for the purpose of this thesis is therefore: the capability, capacity, competence, training and innovativeness of contractors registered in the RoC. It also looks at the extent to which handling that tender-value range allocated through the RoC limits their growth potential and how they could advance in the grading system. Borrowing from the OECD definition which refers to attributes of being aggressive and willing to compete and the local definition of competitiveness which is pegged only at a country level and what things (if in place) would render a country able to fare favourably when compared to its peers, this thesis defines competitiveness as all-encompassing, contractors being in a position to have resources both human and capital (capacity), being able to marshal those resources for effective use to generate a positive outcome (capability), being properly trained to undertake the work at hand and any future work (training), having the ability to provide solutions to clients (competence) and finally being able to

devise new ways of doing business – different from their rivals (innovativeness). This then becomes the total summation of competitiveness.

The aim of this research therefore should be premised on undertaking an evaluation of what measuring the competitiveness of construction SMMEs using the RoC would yield; and the extent to which this provides sustainability within the South African construction industry, its development and its growth. The objective should be related to identifying those variables that can be advanced as crucial in enhancing growth and sustained participation of construction SMMEs in the mainstream economy. The causes of what plagues the lower end of entry into the construction sectors bear investigation insofar as the underlying phenomena are concerned.

The aims of study that are listed above have already been premised by a thorough analysis of the South African construction industry which gave a sense of the contracting capability within the country and what may be required to improve the current levels of competitiveness. The focus of the problem identification was also around skills training, or lack thereof. Increased productivity, or lack thereof and improved competitiveness support afforded by the construction industry to SMME contractors. Considering key enablers of competitiveness at company level the following was expanded on:

- What enhances the attractiveness of SMMEs to clients and more established contractors for partnering and alliancing purposes?
- What can be used to empower SMMEs to approach work opportunities in a bold and enterprising manner so as to guarantee their attainment of work, continually?

The identified characteristics of competitiveness will be expatiated on in the research. The current lack of competitiveness is not just a perception but it has been proven to exist in the South African construction industry and can be referenced to the Quarterly Monitor as produced by the cidb since 2007 and BER statistics issued to date (cidb, 2008).

1.3. Problem formulation

This section provides an overview of the research problem and gives an indication as to how it was determined and why it is worth exploring. The assumption which underlies the intent to pursue this study was that in exploring the formulated problem, this study would prove to be beneficial for the targeted sector of the construction industry in serving as a blueprint of the required enhancements needed by the individual firms to improve their competitiveness. Both the theory followed and the practices observed are positively impacted as a set of new solutions are surfaced by this study. This section presents the main problem succinctly and proceeds to discuss the respective assumptions, sub-problems and hypotheses.

The process followed at the commencement of this thesis was one which involved identifying that which bothers and as a consequence finding a connection between that 'bother' at a micro-level and the much larger contextual problem (Shakantu, 2009). The connection drew upon the observations and ideas to those of previous work which had an interest in the same question and through that process, the formulated problem was collectively owned and setting out to answer it, led to the conclusion of this thesis.

1.3.1. Defining the Research Problem

The competitiveness of construction SMMEs is a field that has not been explored in the South African construction environment and therefore not enough research has gone into the expansion of its knowledge and expertise. Most of the research conducted to date by the cidb and its partnering organisations has largely covered in great detail the imperatives of growth, transformation and enhanced performance of the South African construction industry. As the contractor registration process has stabilised particularly over the past four years (2006-2010), the cidb has advanced with reporting on progress against stated strategic objectives but also looking at overall industry enhancement considerations. This it has done and communicated both to the industry and the government administration through two publications which it issues on a quarterly basis. The one being the Construction Industry Indicators (CIIs) and the other being the Quarterly Monitor reports. The sole purpose

of the CII reports is to provide industry with a simple method of establishing a performance measurement system however this is largely based on a United Kingdom (UK) system of measuring performance within the industry, and it falls short of outlining what individual firms would need to do to achieve competitiveness.

Both the CII and Quarterly Monitor reports focus on construction activity across the country and the state of health of the industry and its participants. None of the work that is currently produced within the country gives a sense of whether the contracting fraternity of South Africa appreciates what it could do for the country if it had a thriving and competitive construction sector of the economy. The second challenge is that there is no tool, or measurement system in the country which provides an accurate gauge with which to measure the competitiveness of construction firms. The sector understands why government is investing as much as it is in infrastructure; however there is no record of a debate that has taken place amongst the participants within the construction industry arguing for competitiveness as a measure of growth and improved performance for this sector. As a subset to that discussion gap, there is no pronounced method of measurement notwithstanding the fact that the RoC could actually be used as this tool of measurement – there seems to currently be a limited appreciation of its added advantage. Moving from a base of R458 billion for the Medium-Term Expenditure Framework (MTEF) period of 2006/7/8 to the R787 billion investment in infrastructure which government has set aside for the MTEF period of 2009/10/11, the absence of such a debate and either a recognition of an existing tool or the design of an appropriate one, has led to a lack of clarity on where the investment is targeted and who within the construction sector will benefit and what would be the material effect of that benefit.

There is a great need therefore for a research focus that would provide an objective assessment of why the construction sector needs to be interested in the competitiveness of its SMME contractors. This is due to the fact that competitive forces continue to drive firms to seek new areas of growth, with either portfolio expansion or penetration into new markets. Although the forces that weigh heavily on a company are recognised, their influence in determining a company's action in choosing a particular strategy is not as yet well understood by most of the contractors that fall within the band that is the focus of this thesis. This thesis recognises that this could be averted by appreciating the natural progression of

contractor capability as contractors move up the value chain of grading through the cidb registers. Construction markets in developed countries or regions favour those contractors who have real competitiveness.

There was a critical need for this research to have its main problem distinctly set apart from the general purpose and benefits of competitiveness. The National Guidance Research Forum (NGRF, 2004) advises that research usually originates from a need that arises. It was in that context that the approach to understanding the main problem as stated in the following section, Section 1.4, had to be premised by an even greater understanding of how the problem has arisen and why? The bother or worry which premised the problem formulation process about the particular phenomenon had to lead to the finding of the solution, which was achieved and is later outlined in the study.

In and of themselves purpose and methods become meaningless and when a study cannot solve the problem and find answers to the questions and this happening as a result of an absence of a clear problem formulation, (NGRF 2004). In this instance having had understood the benefits that could be derived from construction firm competitiveness, the thesis became ceased with identifying the limitations preventing a significant contribution from being made by the construction SMME sector to the growth of the South African construction industry which was the main issue.

The demarcation of a problem occurs within the context of asking the following questions:

- What has occurred?
- Why has it occurred?
- Where is it occurring? and
- Who is it affecting?

There are three sources acting as usual contributors to problem identification:

(i) The first is individual experience or the experience of others as being a potential source of problem supply (NGRF, 2004);

(ii) The second is scientific literature through which it is possible to read about certain findings to notice that a certain aspect was not addressed and choose to explore it further; and

(iii) Theories around a phenomenon are a third source.

The NGRF (2004) encourages that research problems should be stated in such a way that they would lead to analytical thinking on the research with the aim of arriving at concluding solutions to the stated problem. This research's aim was to clarify or substantiate an existing theory; it was also to clarify contradictory findings about competitiveness in general. To that extent, the research thought of the causes for conducting this research (problem identification). The uppermost question that the research asked was: Are there questions about this problem to which answers have not been found up to the present? Further questions that were surfaced are hereunder reflected in Table 1.1:

Table1.1: Checklist for testing the feasibility of the research problem

	Criteria of Questions	**YES**	**NO**
1	Is the research problem important?	X	
2	Will it have any value to the construction industry?	X	
3	Is the problem of current interest?	X	
4	Is the problem important to the researcher and is there sufficient motivation to undertake the research?	X	
5	Will it be possible to apply the results in practice?	X	
6	Does the research contribute to the construction industry?	X	
7	Will the research surface new problems and lead to further research?	X	
8	Is there enough scope left within the area of research (field of research)?	X	
9	Would it be possible to find an answer to the problem through research?	X	
10	Will it be practically possible to undertake the research?	X	

This thesis arrived at the idea for a research project through reflecting on the experience of practical problems in the field using the checklist in Table 1.1**.** This was achieved through observing what is happening within the construction sector and the confirmation by the sector that undertaking this research would assist in achieving an understanding on what plagues the lower end of entry into it. It was further strengthened by the evaluation notes of external supervisors who are active participants in the construction sector as well as well-regarded authorities within the arena of construction business development. Another set of research ideas arose from literature in the specific field of construction management**.** Literature and thinking of ways to extend previous research on the competiveness of construction SMMEs also helped. Due to the fact that the RoC was considered the tool to be investigated in relation to the extent to which it could be used to measure competitiveness, meant that there needed not to be an invention of such a tool of measure but there was already a framework provided through its current availability, made the applicability in practice more realisable.

There was sufficient scope left within this area of research as to date there had not been an enquiry particularly directed at contractor competitiveness especially within the selected grades.

1.3.2. Feasibility of solving the formulated problem

With respect to analysing the feasibility of bringing solutions to the formulated problem, the following were kept in mind:

- The research ought to provide an outline of the general context to the problem area;
- It needed to highlight the key theories, concepts and ideas which are current in this
- area of research;
- Identify the underlying assumptions of the area of research;
- Explain why the issues that have been identified are important;
- Investigate what specifically needs to be solved;

- Conduct literature review around the subject in order to ascertain the contextual background; and
- Identify unanswered questions, controversies and the most significant issues for further exploration.

Through the problem formulation process certain tradeoffs between research rigour and practicality were made. There were several practical considerations that almost always needed to be considered when deciding on the feasibility of this research project. First, there needed to be a consideration of the breadth of the research to be undertaken and secondly the possible ethical constraints which exist against the study and finally, the required cooperation from the SMME contractors under study.

1.4. The statement of the problem

The main problem is: There is a general lack of competitiveness within construction SMMEs. Most construction SMMEs can hardly demonstrate the ability to meet upward movement measurement criteria of the RoC such as management competencies, capacity, training and innovativeness which could enable them to compete in a growing construction economy.

1.5. The sub-problems

The sub-problems that arise as a result of the above-stated main problem are:

Sub-problem 1: Construction SMMEs lack resources required for them to be competitive;

Sub-problem 2: SMMEs lack the management competence they need to make them competitive;

Sub-problem 3: There is a high turnover of SMMEs within the construction industry.

Sub-problem 4: SMMEs' lack of continuous business development hinders their upgrading using the RoC.

Sub-problem 5: SMME contractors experience difficulty in operating beyond their geographical location.

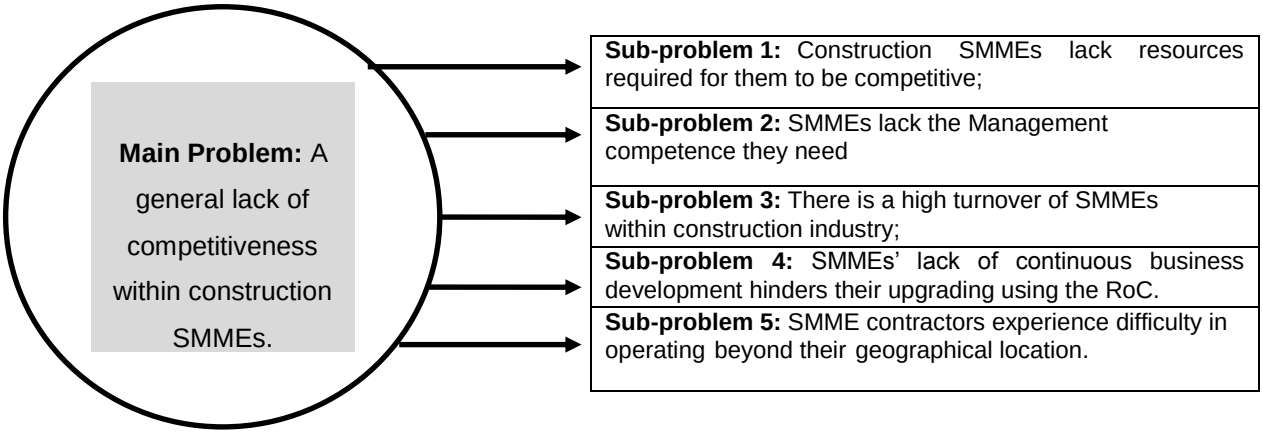


Figure 1.1: Pictorial representation of Main Problem and its connectedness to sub-problems

1.6. The hypotheses

This research aims to proof that the cidb RoC can be utilised to measure the competitiveness of SMME contractors and it further demonstrates how this can be done. The hypotheses addressed in this research are:

Hypothesis 1: SMMEs fail to acquire all the resources they need to be successful in business;

Hypothesis 2: Construction SMMEs are inadequately educated nor trained for the work they are contracted to do;

Hypothesis 3.1: There is an insufficient amount of continuous work opportunities geared at SMMEs by the construction industry, and

Hypothesis 3.2: SMMEs lack the requisite business competencies such as marketing and public relations;

Hypothesis 4: The focus on SMME development is not on business development, rendering the measurement of their competitiveness using the RoC unsuccessful.

Hypothesis 5: SMMEs lack the resources to establish operations nationally.

1.7. The importance of the study

The importance of this study is in that it would present the SMME contractors with a proper understanding of how their competitiveness is assessed in a specific construction market and how this in itself could lead to the achievement of sustainable development and growth as a result of their participation as their competitiveness would have been measured through the RoC tool.

The specific benefits of this research are therefore:

(a) For the construction industry:

- Improved forecasting of capabilities of the industry;
- Improved efficacy of contractor development programmes;
- Achievement of government's socio-economic objectives; and
- Since this research is exploratory in nature, it makes a substantial contribution to scientific knowledge and provide deeper insight into the subject matter.

(b) For construction clients:

Construction clients who implement construction projects using SMMEs need to reflect on the needs of this targeted group which go beyond access to start-up capital, skills and general business training. The findings of this research may encourage them to:

- Look at instruments they can use to ensure that the development of SMME contractors is consciously targeted and yields the appropriate outcomes in relation to their competitiveness against other more established entities in the construction sector;
- Take a considered view of where government should channel its development intent and how it could progressively deal with development features, at which grades and classes of work; and
- Learn from construction clients who have successfully adopted the RoC to uniquely measure the competitiveness of SMME contractors and to whom they have made available opportunities of growth.

As the ultimate claim is policy-driven in nature and the tool was designed for capacity, construction clients need to further explore how the RoC can now be used for improved capability on the part of SMME contractors.

(c) For Contractors:

- Improved and measurable competitiveness allowing the contractors to bid for work both within their provincial regions but also outside of their geographical location;
- Development of diversified skills;
- Enabled environment for the development of competitive strategies for SMMEs;
- Improved operating capability of SMME contractors allowing them to adapt to
- changing environments;
- Thorough understanding of which tools can be used by potential employers to
- measure the competitiveness of contractors, and;
- Clear understanding of the important role the client plays in not only measuring contractor competitiveness but having an improved ability to measure the direct impacts of interventions.

1.8. The aims and objectives of the study

The major aim of this research was to undertake an evaluation of how to measure the competitiveness of construction SMMEs using the RoC and to look at the issues which are important to the sustainability of the South African construction industry, its development and its growth. In this regard, the following represented the specific objectives of the study;

1.8.1. Examining all existing research regarding SMME contractor development;

1.8.2. Considering all the variables, in particular competitiveness, that have been advanced as crucial in enhancing growth and sustained participation of construction SMMEs in the mainstream economy;

1.8.3. Investigation of phenomena that give rise to the perceived lack of competitiveness which plagues the lower end of entry into the construction sector;

1.8.4. Conducting a comparative analysis of relevant, informative and available tools and making a case for why the RoC is one such tool that can be used to measure the competitiveness in the contracting fraternity, particularly within the small business sector;

1.8.5. Assessing the contracting 'capacity' in a geographic area; assessing its 'capability'; identifying gaps and focussing on understanding the competitive environment, SMME competencies, their performance output and productivity;

1.8.6. Exploring the use of the RoC which would assist in measuring the competitiveness of the selected SMME contractors;

1.8.7. Reflecting on the experiences of the cidb RoC participants who have benefited from targeted client development programmes, and;

1.8.8. Investigating the competitiveness of SMME's with a view to ultimately generate new knowledge in the built environment and subsequently creating new models or procedures with which to enhance that competitiveness.

The aims of study that are listed above have already been premised by a thorough analysis of the South African construction industry which gave a sense of the contracting capability within the country and what may be required to improve the current levels of competitiveness. The focus of the problem identification was also around skills training, or lack thereof. Increased productivity, or lack thereof and improved competitiveness support afforded by the construction industry to SMME contractors. Considering key enablers of competitiveness at company level the following was expanded on:

- What enhances the attractiveness of SMMEs to clients and more established contractors for partnering and alliancing purposes?
- What can be used to empower SMMEs to approach work opportunities in a bold and enterprising manner so as to guarantee their attainment of work, continually?

The identified characteristics of competitiveness will be expatiated on in the research. The current lack of competitiveness is not just a perception but it has been proven to exist in the South African construction industry and can be referenced to the Quarterly Monitor as produced by the cidb since 2007 and BER statistics issued to date (cidb, 2008).

1.9. The Research Methodology Outline

The methodology pursued for the purposes of this research is outlined in a sufficient level of detail under Chapter 4 which is dedicated to the research methodology followed through this study. However in summary, the research has its basis on both quantitative and qualitative data submitted by SMME contractors to the cidb as it relates to their requests for grade assessments. It has also primarily focused on both the observations of the grading body with regards to the responsiveness of SMMEs to the assessment criteria as outlined and the experiences of the SMMEs themselves regarding what qualifies them to enter into the competitiveness arena. The analysis followed by this research is therefore outlined as follows:

- Observation of behaviours, situations, interactions and environments within which the SMME contractors operate;
- Scrutiny of the assessment criteria used by the cidb in determining the upward mobility of SMMEs as they grow their businesses, observations of growth patterns and categories; and finally
- Answering the research questions based on what can be deduced from the findings.

The process followed by the research and its attendant methods and techniques is clear and the summary of the Research Methodology is espoused in a greater level of detail in Chapter 4:

- Philosophy: Epistemological and Interpretive leanings and therefore rational;
- Paradigm: Phenomenological;
- Reasoning: Inductive, and;
- Data: Qualitative.

1.10. The delimitation of the study

This thesis is delimited as follows:

1.10.1. Geographic delimitation

The area of research was limited to one provincial geographical area i.e. the Eastern Cape Province of South Africa. Comparisons were made with other provinces which have a similar GINI-coefficient profile to that of the Eastern Cape as it relates to those provinces' contractor development programmes. The work of public sector construction clients and relevant international entities may be referred to with a view of bringing a holistic industry-specific assessment and ensuring correlation to literature sources.

The Eastern Cape is ranked fourth in terms of consumption expenditure after the KwaZulu-Natal Province. The total spending growth in the province declined from 8.9 percent in 2006 to 8.6 percent in 2007, before plummeting to 0.9 percent in 2008. According to Statistics South Africa (2009), the Building and Construction sector was the second-largest contributor to the total gross domestic fixed investment in the Eastern Cape over the past 14 years. In 2009/10, a decline was experienced as most construction projects were completed for the 2010 World Cup. Given the rural development priorities of national government, investment in building and construction is expected to start showing signs of improvement from 2011 and pick up further in 2012 before declining slightly in 2013.

The Eastern Cape's economic output is expected to remain fragile in spite of the slow recovery in the economy. The economic outlook as published by the Provincial Department of Economic Development and Environmental Affairs (2010) showed the recovery of the provincial economy from the end of 2010, wherein which the Eastern Cape started to once more witness positive growth as global recovery and consumption levels improved to those last seen before the global financial crisis. The province's output started showing relative strong signs of recovery by mid 2011, when it was expected to tread at about 3.5 percent before rising to about 3.9 percent in 2012 and 4.2 percent in 2013, (DEDEA, 2011). Growth in fixed investment spending contracted in 2009, registering an annual growth rate of 2.04 percent from

12.44 percent in 2007. This in real terms meant that the investment by the Provincial government on capital expenditure was lagging and as a result a number of planned projects either deferred to outer year or completely cancelled. Of course the one sector that feels the direct impacts of such an act is the construction industry and more so the impact is largely felt by SMMEs. Nevertheless, while total fixed investment spending for 2009 was disappointing, forecasts pronounce a rebound in 2011, 2012 and 2013 due to government's investment plan. This positive outlook can only be reflected on in the first quarter of 2012.

1.10.2. Study delimitation

The respondents covered through this research involved SMME contractors graded between 2 and 5 on the cidb construction register service and active in the general building and civil engineering classes of works only. The area of research was limited to one provincial geographical area namely the Eastern Cape Province. Managers overseeing the SMME Development programmes in entities such as the Eastern Cape Development Corporation and the Eastern Cape Department of Public Works, CDC were also included in the population of targeted respondents. There were at least 12 663 registered SMME contractors within the selected geographical area at the time of assuming this study (cidb, 2008) as can be seen in Table 1.2 hereunder.

At the time of finalising this research there were 13 905 contractors registered within the targeted grades mentioned above signifying a growth in entry by 1242 contractors over a period of two years! Out of the 13 905 SMME contractors currently registered within the Eastern Cape Province, there is however a total of only 458 civil engineering construction SMMEs and 469 general building SMMEs within the targeted grades and areas of specialisation. One of the general enhancements which the RoC has undergone over the years is its ability to depict a separation between all of those contractors which are registered from those who are suspended and those that are active, i.e. they have paid their annual fees up-to-date and their tax clearance certificates are in order. So in relation to there being a total of 13 905 registered, there were effectively 1 201 active contractors in the RoC as at September 2011 as at Table 1.3. It would have been impossible to interview all of them and have their work assessed. The interviews tested the [general building, civil engineering sectors'] understanding of performance, competitiveness and what it

involves to remain consistently productive in the business of construction. These SMME contractors highlighted above are all based in the Eastern Cape; however the comparisons done with other Provinces which have the same socio-political profile as the Eastern Cape would assist with the national triangulation of common areas of either strength or weakness on the part of the construction SMMEs. Also managers that are responsible for SMME Development programmes within state-owned enterprises were interviewed.

1.11. Summary of the Problems sought to be solved by the study

Following from Section 1.3 and linking the formulation of the problem to its rationale and the justification for pursuing this research; the actual problems which this study seeks to solve are summarised as follows:

- Identifying the factors that drive competition in the South African construction SMME sector;
- Finding ways through which a culture of economic activism that drives entrepreneurship within the SMME sector can be both inspired and achieved, and;
- Identifying the support mechanisms for SMMEs that can substantially accelerate their growth and improve performance.

When the research was commenced in 2008, the set of circumstances were different. This research commenced at the time of the global financial crisis, mid-2008 and at the time there was buoyancy in the construction sector in anticipation for the yet to be hosted FIFA 2010 Soccer World Cup by South Africa. Both the new entrants in the construction register service and contractors who were already established wanted to participate in the projects that were mooted by government. This meant that there was also a general understanding among the
construction fraternity, that in order to participate – construction firms would need to be registered with the cidb as the South African government recognises such registration as the only formal process.
Tables 1.2 and 1.3 below depict first the upsurge in registrants as construction businesses were gearing up to take advantage of the country's build programme

(Table 1.2) and the decline in certain areas of specialisation post-the Soccer World Cup (Table 1.3).

Table 1.2: Contractors' grading by area of specialisation and by grade within the Eastern Cape Province (2008).

Gradings Registered By Class Of Work

Eastern Cape

Grade	CE	EB	EP	GB	ME	SW	Total Grades
1	2,313	94	153	7,977	166	900	**11,603**
2	141	18	3	207	12	39	**420**
3	81	8	6	65	5	7	**172**
4	80	15	5	64	6	9	**179**
5	47	14	11	38	15	11	**136**
6	46	4		44	1		**95**
7	19	3	1	19	2		**44**
8	4			6			**10**
9	2			1	1		**4**
Total	**2,733**	**156**	**179**	**8,421**	**208**	**966**	**12,663**

(cidb Register of Contractors, 2008)

Some areas have maintained levels of consistency, others increased whilst some grades show a decline. The drivers encouraging registration were also different. In areas, where there is a noticeable decline in the numbers of contractors registered, a variety of factors may have played a part in the decline and the surrounding set of circumstances are expanded on later in the study.

Table 1.3: SMME Contractors' grading by area of specialisation and by grade within the Eastern Cape Province (2011).

Grade	Class of works						
	GB	CE	ME	EP	EB	SW	Total
2	203	123	6	8	14	68	422
3	55	71	6	7	7	20	166
4	87	113	12	10	17	16	255
5	55	65	16	19	11	18	184
6	47	58	2	2	4	1	114
7	14	21	3	3	4	0	45
8	8	6	0	0	0	0	14
9	0	1	0	0	0	0	1
Total	469	458	45	49	57	123	1201

GB: General Building CE: Civil Engineering ME: Mechanical Engineering
EP: Electrical Engineering (Infrastructure) EB: Electrical Engineering (Building) SW: Specialist Works

(Cidb Register of Contractors, 2011)

1.12. The definition of terms

cidb: The Construction Industry Development Board, established through Act 38 of 2000 as a schedule 3(a) entity of the South African government having its reporting function to the National Department of Public Works.

Competitiveness [as per OECD, 2006]: Competitiveness is defined as “an aggressive willingness to compete, the quality of being bold and enterprising.” (OECD, 2006). It is also defined as "the degree to which an enterprise can, under free and fair market conditions, produce goods and services which meet the test of international markets, while simultaneously maintaining and expanding real incomes over the long term.” The term competitiveness is usually equated with macro-economic issues such as changes in exchange rates or wages, or micro-economic issues such as an absence of entrepreneurship and excessive bureaucratic regulations on business. In popular discussions, solutions such as ‘depreciate the exchange rate’ or ‘cut red tape’ are often suggested as a panacea to augment business competitiveness. These clearly influence business competitiveness, but they are insufficient to deal with the challenges of a global economy. For the purpose of this research however, competitiveness is defined as a combination of: contractor capability, contractor capacity, training, contractor competence and innovation.

Competitiveness [as defined by this study]: Competitiveness herein refers to contractors being in a position to have both human and capital resources [capacity]; contractors being able to marshal those resources for effective use in growing their businesses [capability]; contractors being properly trained to undertake work at hand and any future work [training]; contractors having the ability to provide solutions to clients [competence]; and them being able to devise new ways of doing business and using advanced technologies [innovativeness]. It also looks at the

extent to which handling that tender-value range allocated through the RoC limits their growth potential and how they could advance in the grading system.

Construction Management: Construction Management is universally defined as the study and practice of the managerial and technological aspects of the construction industry including construction, construction science and construction technology, or to a business model where one party to a construction contract serves as a construction consultant, providing both design and construction advice. The definition according to the Government Gazette No. 23925 dated 18 October 2002 Republic of South Africa reads: “Is the management of the physical construction process within the built environment and includes the co-ordination, administration and management of resources. The Construction Manager is the one point of responsibility in this regard.” Construction Management also means management of the business of construction, (Fellows *et al.* 2002, p.2)

Construction Registers Service (CRS): The RoC as established by the Construction Industry Development Board (cidb) in terms of the cidb Act 38 of 2000. The Act makes it mandatory for public sector clients to use this register when inviting tenders and for evaluating tenders and quotations. The Register of Projects (RoP) is established by the cidb in terms of the cidb Act 38 of 2000. The RoP gathers information on the nature, value and distribution of projects and provides the basis for a best practice project assessment scheme to promote the performance of public and private sector clients in the development of the construction industry. Countries such as Singapore and the United Kingdom have what is termed the Construction Information Service established specifically for architects, civil and structural engineers, building control officers, building services engineers and other professionals in the construction industry. The Construction Information Service provides

fundamental information and legislation, as well as other sector material. The extensive ranges of full-text documents cover all aspects of building and is purported to enable construction practitioners to complete projects accurately and on time.

Contractor Capability: The ability of contractors to perform construction projects both with regards to their financial standing and also the ability to perform the work for which they have been assigned. Capability also refers to the ability of the contractor to manage operations and projects and fulfil accordingly agreed upon parameters. The term also refers to management skill, the finesse of contractors (cidb, 2004). Capability also has a clear link to competitiveness however not exclusively.

Contractor Capacity: The ability of the contractor to amass all attendant resources inclusive of: financial information, technology, supervision, labour/human capital, materials, plant and equipment, co-contractors and general management ability (Smallwood, 2005). Capacity also refers to the ability of a contractor to respond to both short and longer term demands of a client and in so doing demonstrate a highly–skilled workforce and a safe workplace environment that contributes to the organisational productivity and individual prosperity of the members of the construction industry.

Contractor Competence: capability as it pertains to the value range of each tender that contractors are able to handle based on their individual grades allocated through the RoC. Indicators of capability can also be classified under five groups: contractor's organisation, financial considerations, management resource, past experience, and past performance. Contractor competence can also be linked to competitiveness. (HSE, 1997)

Country Competitiveness: Refers to programmes which help individual firms to develop winning new products and services, then re-engineer

and cluster natural environments around them. The ability to develop infrastructure is one of the key factors in determining the competitiveness of a country. Most world competitiveness reports include infrastructure development as a primary set of indicators in assessing the competitiveness of countries. There is a long list of the other key factors which Garelli *et al.* (2002) list amongst which there are the following: a stable legislative environment, a resilient economy, transparent government and administration, private investment, foreign direct investment attraction, productivity and life-long training of the labour force.

National Contractors Development Programme: Refers to an initiative developed by the cidb in conjunction with the Eastern Cape Development Corporation (ECDC) and the CDC. This programme (whose custodian is the National Department of Public Works), is aimed at providing a variety of tools which are geared towards strengthening the capability of small, micro and medium construction contractors.

Quality Assurance: Defines a collective term for the formal activities and managerial processes that are planned and undertaken in an attempt to ensure that products and services that are delivered are at the required quality level. It includes efforts beyond these processes that will provide information for measuring internal processes. This is the area where the project manager can have the greatest impact on the quality of the project by ensuring that the project scope, cost and time functions are fully integrated.

Register of Contractors: The RoC has been established to: (1) support risk management in the tendering process; (2) reduce the administrative burden associated with the award of contracts; (3) reduce tendering costs to both clients and contractors; (4) enable effective access by the emerging sector to available work, as well as development opportunities; (5) assess the performance of contractors in the execution of contracts and

thus provide a record of performance for contractors; (6) promote minimum standards and best practice of contractors; (7) store and provide data on the size and distribution of contractors operating within the industry, and on the performance and development of contractors and target groups

SMME: South Africa's definition of small, medium, micro enterprises is of entities that are black-owned or black empowered with a turnover of up to R5 million per annum. According to Business Partners, the former Small Business Development Corporation, laid down the following as the statistical criteria for small businesses in South Africa: The quantitative criteria - total assets of less than R1, 5 million; annual turnover of less than R5 million and fewer than 100 employees. The qualitative criteria involves independent decision-making; simplified organisational structure and legal liability of the owner(s).

1.13. The abbreviations used in the study

cidb: Construction Industry Development Board;
CRS: Construction Registers Service;
DTI: Department of Trade and Industry;
EC: Eastern Cape Province of South Africa;
NCDP: National Contractor Development Programme;
RoC: Register of Contractors
RoP: Register of Projects
SEDA: Small Enterprise Development Agency
SMME: Small Medium and Micro Enterprises.

1.14. The assumptions of study

The assumptions underpinning this thesis and providing a direction to the understanding of this research study as conceptualised are as follows:

1.14.1. 1

Sub-problem 1: Construction SMMEs lack the resources required for them to be competitive.

Assumption 1: The assumption is that SMMEs have both an understanding and appreciation of the resources that are required to make them successful and competitive. They only need to access these resources so as to have sustainable enterprises.

1.14.2. 2

Sub-problem 2: SMMEs lack the management competence they need to be competitive.

Assumption 2: The assumption being that SMMEs aspire to be competitive and there are competency measuring tools which they could use to enhance their competitiveness. Another assumption linked to this sub-problem is that there are support mechanisms which SMMEs can access together with the resources they so require.

1.14.3. 3

Sub-problem 3: There is a high turnover of SMMEs within the construction industry.

Assumption 3: The assumption being that opportunities exist and they are in consistent supply and they are such that every SMME can benefit from them and the only good thing about the noticeable attrition is that it removes from the industry those that are not qualified to participate in it.

1.14.4. 4

Sub-problem 4: SMMEs' lack of continuous business development hinders their upgrading using the RoC.

Assumption 4: The lack of focus on business development in contractor development programmes does not engender evolution of SMMEs through all phases, such that the capabilities they require make them competitive. As such the RoC cannot measure their competitiveness. The industry needs to invest in its research capacity and holistic development has to be considered a critical aspect by the industry.

1.14.5. 5

Sub-problem 5: SMME contractors experience difficulty in operating beyond their geographical location.

Assumption 5: National competitiveness is encouraged. There are no legislative barriers and construction procurement regulations which exist which may discourage the participation of SMMEs at a national scale. Therefore business opportunities available at a national scale should encourage SMME contractors to expand their operations beyond the local level.

1.15. Thesis structure

The following gives a synopsis on the structure that the thesis has adhered to with respect to the description of the activities and work which was covered and related outcomes:

Chapter 1: Introduction

This chapter sets the problem statement within the context of the South African construction industry. It looks at the key organisation that was established to provide leadership to the industry and the programmes developed in particular to deal with the stated problem statement. It also gives a description of the overall problem which the thesis seeks to resolve and an indication of where this problem is located, contextually. The chapter commences with providing a universal definition of

competitiveness, but also defines competitiveness as argued through this research. Through this chapter, the following is looked at in greater detail:

- Understanding the challenges faced by the delineated group of SMMEs targeted for this study;
- A requirement for an interest in competitiveness within the construction industry and sector, and
- It concludes by appreciating the benefits accruing to the industry as a result of solving the main problem of the study.

Chapter 2: Literature Review

The chapter sets out by providing an understanding of the universal definition and measures of competitiveness. It also provides a definition of SMMEs in both the quantitative and qualitative senses before unpacking the issues that beset the group of SMMEs targeted for this study. It continues the literature review by appreciating the link between the theoretical framework and concept underpinning the chosen study.

Chapter 3: Theoretical and Conceptual Framework

This chapter outlines the theoretical framework and its accompanying concept. It also expands in detail the underpinning theory versus areas or fields of specialisation within which the study is located. In this chapter theoretical frameworks are defined and an outline of the fields of expertise underpinning this study and its theoretical location is given. It closes by giving backward linkages to the literature reviewed for the study and forward linkages for the extraction of data.

Chapter 4: Research Methodology

This chapter surfaces the issues which inform the research methodology for this study as it pertains to where the research is coming from and finding location of that

paradigm within the context of the South African construction industry. What is covered in the chapter includes the following:

- Research philosophy and methodology design;
- Reasoning of the research, and
- Data.

Chapter 5: Fieldwork: Model design and validation of the Instrument

This chapter addresses the research instrument that was designed for use in the interviews, which were conducted with the respective construction SMMEs. It also addresses in detail how the study was undertaken. The type of study pursued strikes a balance between being a social group study and a study of organisations and institutions. In its detail the chapter covers:

- Existing measurement instruments;
- Review of the assessment criteria in relation to the RoC;
- How the instrument was designed, and
- Biographical Information.

Chapter 6: Data collection, Analysis and testing of hypotheses

This chapter is about tabling the results and outcomes of the interviews. It also analyses and interprets the data collected from the interviews and provides conclusiveness in relation to the hypotheses.

Chapter 7: Summary, conclusion and recommendations

This chapter provides a summary of the findings and draws conclusions to the arguments made in Chapter 1. It also provides an answer to the main problem also identified in the same chapter. It is also a summary of the interviews and outcome of the discussions. Conclusions are drawn from the analysis and results

1.16. Concluding Remarks

The challenge of a lack of competitiveness within the construction sector and especially among grades 2-5, the SMME category, arises not out of a shortage of initiatives designed by the South African government and the country's construction industry, but the extent to which they adequately hone in the contractors' aggressiveness and willingness to compete. There are key organisations that were established to provide leadership: cidb being the main and those that were formed to drive targeted initiatives: NDPW and SEDA being good examples whose sole purpose was to inspire sector-specific growth, drive transformation within industries and improve the performance of entities. The main problem as defined in Section 1.4 of this thesis persists notwithstanding the interventions by the state and industry mainly due to the fact that the focus of the interventions have so far been geared towards improving the capacity of the SMMEs and very little focus has been placed on competencies, capability, training and innovativeness which would yield competitiveness and in turn enable SMMEs to compete in a growing construction economy.

Research aims and objectives were outlined in this chapter and gave way to the literature reviewed that guided progress to the study and in particular outlined the following:

- Competitiveness as it needs to be defined within the local construction industry and its attendant attributes;
- Challenges faced by the delineated group of SMMEs and the programmes designed to provide solutions. Have they succeeded or failed?
- What would be the benefits that accrue to the construction industry as a result of solving the main problem of the study?

2.0 LITERATURE REVIEW

The chapter presents the problem statement within the context of the South African construction industry. It also looks in-depth at the key organisation that was established to provide leadership to the industry and the programmes developed in particular to deal with the stated problem statement. The reader will find value in the following:

- *An understanding of the universal definition and measures of competitiveness;*
- *A definition of SMMEs in both the quantitative and qualitative sense;*
- *Unpacking the issues that beset the group of SMMEs targeted for this study;*
- *Understanding the benefits that will accrue as a result of the main problem of the study being solved;*
- *Appreciating the link between the theoretical framework and concept underpinning the chosen Study and;*
- *Conclusion.*

2.1 Introduction

To lay a theoretical foundation or framework for this study, a review of the related literature was necessitated. This framework, according to Anfara and Mertz (2006) citing the Morse work on theoretical frameworks in qualitative research, is vital for guiding the research, ensuring coherence and establishing the boundaries of the study. This literature review must be viewed in terms of the main objective of the study, which is articulated as the use of a tool, this being the RoC, with which to measure competitiveness for success in the construction small business sector. Other than the library sources for books published on the sector, the secondary data used mostly in this research was obtained from various South African and international sources, industry journals and websites, conference papers and publications and reports. The research was also undertaken using the following databases for information:

- cidb Contractor Registers Service;
- SMME databases; and
- Eastern Cape Provincial database of suppliers.

The survey of the literature for this study has been divided into a primary research objective and secondary research objectives. The primary objective of the survey of

the literature determines the various acceptable ways in which SMME contractor competitiveness can be reliably and validly measured. This has entailed a survey of the literature regarding definitions, models and approaches towards contractor competitiveness and what is possible to measure within that context.

Understanding and measuring the competitiveness of organisations has been a popular research area, internationally. As popular as this research area of organisational competitiveness has been, none has concentrated in depth on the unique challenges faced by those within the construction sector of any economy. At the very least, competitiveness in the construction sector has been about the rate of success in relation to contractors' ability to secure work on a consistent basis. Factors affecting organisational competitiveness have close association with the structure and practice of an industry. Studies on competitiveness and competitive advantage have been conducted by many researchers (Hu, 2001; Hitchens *et al*., 2003). These have largely followed Porter's suggested five major forces for determining the competition practice within an industry, namely: industry competitors, potential entrants, suppliers, buyers and substitutes.

2.2 Global Definition of Competitiveness

Competitiveness is defined as "an aggressive willingness to compete, the quality of being bold and enterprising." (OECD, 2006). It is also defined as "the degree to which an enterprise can, under free and fair market conditions, produce goods and services which meet the test of international markets, while simultaneously maintaining and expanding real incomes over the long term." The term competitiveness is usually equated with macro-economic issues such as changes in exchange rates or wages, or micro-economic issues such as an absence of excessive bureaucratic regulations on business. In popular discussions, solutions such as 'depreciate the exchange rate' or 'cut red tape' are often suggested as a panacea to augment business competitiveness. These clearly influence business competitiveness but they are insufficient to deal with the challenges of a global economy.

The construction industry, at a global level generally understands competitiveness as a measure one can use for ranking contractors in the process of bidding (CIOB, 2007). Previous studies have presented several methods for assessing contractor competitiveness in pre-qualifying and short-listing tenders. An earlier study by Flanagan and Norman (1982), for example, suggested measuring a bidder's competitiveness by the bidder's previous success rate, which is calculated by a percentage of the bidder's successful contract value to its total bids within a certain period. Later studies would define contractor bidding competitiveness as a percentage of the difference between the concerned contractor's bid and the lowest bid among all bidders to the lowest bid. It was only much early in the 21st century where we could witness the development of an optimal bid model to help a contractor in determining an optimal level of tender price and contract time in order to maximise its overall competitiveness.

In a more recent study, Li *et al*. (2002) introduced a multi-level parameter model for accessing contractor's competitiveness after analysing the construction business environment in China. In a further study, Shen *et al*. (2004) identified the model adapted to award construction contracts on a multi-criteria basis in the Chinese construction sector; by taking into account both the contractor's competitiveness and the defined project objectives. This model presented a comprehensive list of competitiveness parameters. Schmuck (2005) produced literature which considered the following to be the most important measures of competitiveness:

- The ability of a contractor to manage his/ her business and effectively implement the company strategy;
- Marketing the value proposition of the company;
- Finance;
- Controlling;
- Taxation;
- Innovation;
- Informatics;
- Environment-consciousness, and
- Labour market.

The global competiveness report (2009/2010) ranked 139 countries against a number of indices. Those possessing a definite link to this study are: labour market efficiency and financial market development. The underpinning reason as to why these two would be distinctly important links for this study is that:

- An improved and functioning labour market renders the South African economy more labour absorbing through active labour market reforms and specific procedural proposals around dispute resolution and discipline. The construction sector being a mass creator of jobs would therefore derive the most benefits from a functioning labour market, and
- A developed financial market would support small businesses through better co-ordination of activities in small business agencies, development finance institutions and public and private 'incubators'. Since a high percentage of registrations in the cidb CRS is made up of small businesses, it follows that such a reform would be positive for the sector, specifically.

In terms of the above-mentioned indices – hereunder is an indication of how South Africa fares in relation to other 139 countries.

Labour Market Efficiency:

- Flexibility of wage determination, SA is ranked 131;
- Rigidity of employment, SA is ranked 86;
- Reliance on Professional Management, ranked 19 out of 139
- Brain Drain, SA ranks 62
- Female Participation in the labour force, SA ranks 64 in the world.

Financial Market Development:

- SA ranks 6th in the world in terms of the degree of legal protection enforcement of legal rights;
- SA ranks 1st in terms of regulation of SA's securities exchange;
- SA ranks 6th in relation to the soundness of its banks;
- Venture Capital availability, SA ranks 39 out of 139 countries;
- Ease of access to loans, SA ranks 41 out of 139 countries;
- Financing through local equity markets (the ease with which SA is able to raise money by issuing shares on the stock market), it ranks 7th

- Affordability of financial services, world ranking 43.

So in relation to the level of competitiveness achieved by South Africa, from the above rankings it can immediately be established where the country's performance is optimal and those areas where a great improvement is required. Above, it has already been alluded to that there is a direct correlation between country competitiveness and the ability of its firms to compete both within the country and also outside of its bounds. This therefore means that if South Africa was able to improve its standing/ranking on competitiveness, there would be an accruable benefit for the firms in-country, irrespective of which sectors of the South African economy they trade in.

2.3 The Small, Medium and Micro Enterprise Environment in South Africa and related Competitiveness

In the South African context SMMEs by and large refers to the full spectrum of businesses other than large corporations and publicly owned enterprises. SMME firms include categories known as micro-enterprises, survivalist-enterprises, informal sector enterprises and formal small and medium-sized enterprises. It also covers all businesses in all stages of evolution otherwise referred to as start-ups, emerging or expanding enterprises. The term also characterises family-owned, black-owned, women-owned or co-operatively owned enterprises (DTI, 2005).

SMME contractors are regarded in South Africa as valued contributors to its mainstream economy (Blaauw, 2006). For public entities to effectively integrate SMMEs into the construction industry at large, requires an understanding of the environment within which they exist, their contracting capabilities, their risk tolerance, responsiveness, their productivity and the problems that impede their growth, performance and sustainability. The South African construction industry needs to look at creating an enabling environment which will maximise SMME contractors' benefits and minimise the identified weaknesses. In the main, this should assist in increasing the degree to which these enterprises can, under free and fair market conditions, produce services which meet the test of international markets, while

simultaneously responding to domestic requirements and maintaining and expanding their real incomes over the medium to long term.

Hager *et al.* (2000) cite the Mayer Key Competencies (KC) as forming the basis of the concept of generic competencies which are required of SMMEs for the construction industry to conclusively say that they are competitive. Smallwood (2006) lists the functions of any construction organisation as covering nine recognised areas:

- General management;
- Production;
- Procurement;
- Marketing;
- Financial;
- Human resources;
- Public relations;
- Legal, and
- Administration and information technology.

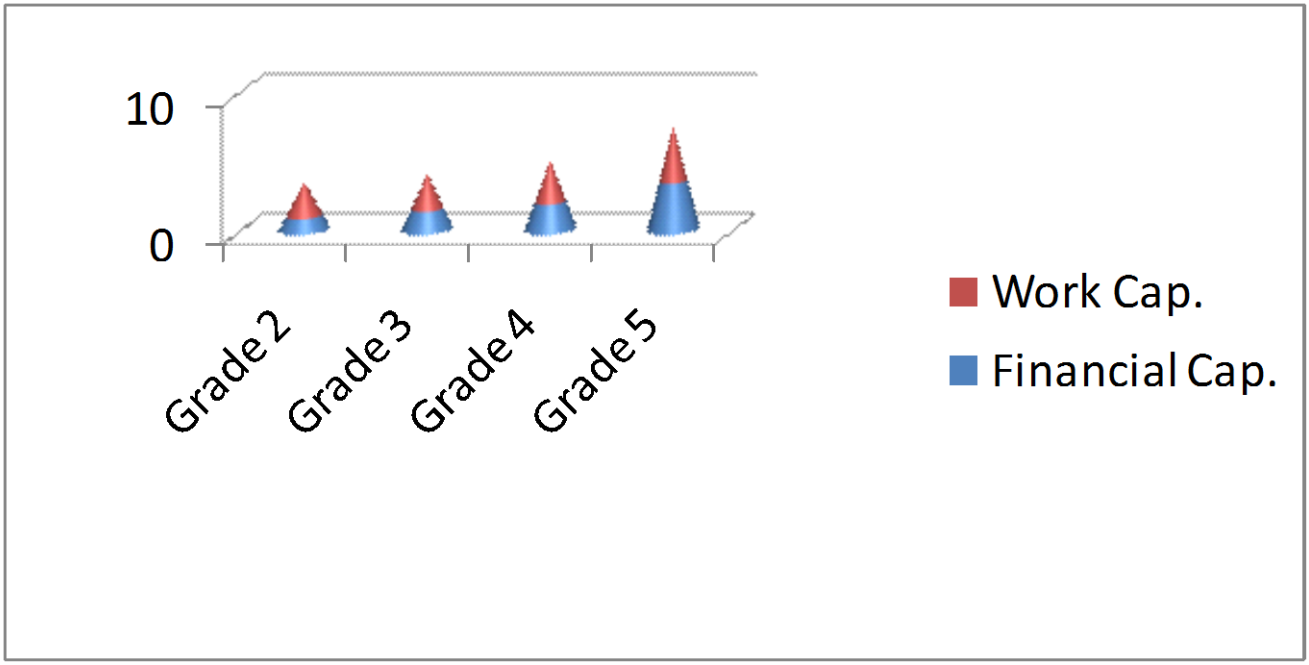
Production, which mostly takes place on projects, is merely one of the functions and is dependent on the others, and vice versa. These functions also need to be managed by people with the requisite competencies. Furthermore, top management, and middle management provide leadership, and are accountable for and direct resources i.e. they influence projects through their actions (Smallwood, 2006).

Competence in the Mayer study is thought of in general terms of knowledge, abilities, skills and the attitudes of SMME contractors. The narrow task-based approach to competency is not the focus in this cited work. There exist no other established competencies in terms of construction management, even through the Fellows *et al.* (2002) book on *Construction Management in Practice*. Generic competencies are drawn from reports of work done by Mayer on key competencies (1992):

- The ability of an SMME to collect, analyse and organise information (KC 1);
- The ability to communicate ideas and information (KC 2);

- Planning and organising activities (KC 3);
- Working with others and in teams (KC 4);
- Using mathematical ideas and techniques (KC 5);
- Solving problems (KC 6);
- Using technology (KC 7), and
- Using cultural understandings (KC 8).

These key competencies are not going to form the basis of this research. They are only referred to here, to support Hager's assertion in that the construction industry is in a state of change. It is no longer the industry it used to be, as it is in the process of redefining itself. What this actually means is that the construction industry at both the local and international level is moving away from a mere focus on capability of contractors as could only be articulated through what they have: this being financial resources and works capability (track record), as can be depicted in Figure 2.1 hereunder:

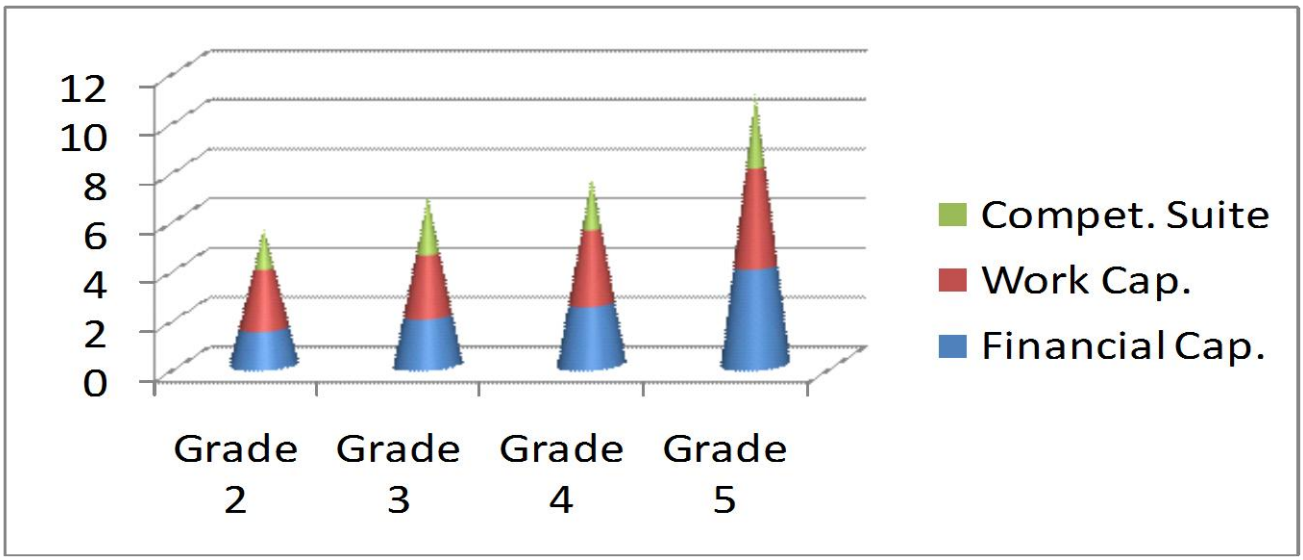


Works capability against Financial Capability = cidb current measurement

Figure.2.1: SMME Contractors and their capability

At present the construction SMMEs in the South African construction sector are assessed on the basis of the financial 'well-being' of their entities and a

demonstrable track record of work that they have done prior. It is upon the assessment of both these variables that they are then given a particular grade in the RoC. Hager *et al*. (2000) contend that the changes depend in part on construction participants deploying a range of soft skills and a capacity to learn continuously from industry practice. Industry practice is not always going to be about the hard aspects of construction, but will be about the soft ones that add value to the contractors' ability and willingness to compete. While there is evidence of progress in these changes in parts of the building and construction industry, the Hager *et al.* (2000) paper pointed out a series of ongoing difficulties in the crucial areas of the industry involving subcontractors. The findings from this study provide valuable information for helping contractors from different backgrounds in the local construction market to understand their competitive advantages and weaknesses, thus relevant actions can be taken for measuring their competitiveness. The research also provides valuable references for investigating contractor KCIs in different construction practices. So if through this research, there could be clarity in defining the 'competitiveness suite' which could be added as a value offering by construction SMME to the industry – this would provide proof that the ease with which the contractors can progress through the higher levels of the grading in the RoC, would be greatly enhanced as can be evidence from Figure 2.2 below:



Works Capability + Financial Capability + Competitiveness Suite = Upward Mobility of construction SMMEs.

Figure. 2.2: SMME Contractors, their capability added to a competitiveness suite

On the other hand Flanagan *et al.* (2007) argue that competitiveness has received close attention from practitioners and researchers across a wide range of industries, since being popularised in the 1980's. In the construction sector, much work on competitiveness has also been published, however these are generally not directly targeted at any specific sector within the broader industry, which this research now seeks to do for the construction SMME sector. There also appears to be no comprehensive review that summarises and critiques existing research on competitiveness within construction. The research by Flanagan *et al.* (2007) is amongst the very few found which reviews the extant literature from four aspects: concept of competitiveness; competitiveness research at the construction industry level; competitiveness research at the firm level and competitiveness research at the project level. Flanagan *et al.* (2007) present the state-of-the-art development of competitiveness research in construction, identifying research gaps and proposing new directions for further studies. Further research would need to do the following:

- Validate previous studies in construction practices with regards to competitiveness, and
- Identify mechanisms that encourage mutual enhancement of competitiveness at different levels and how to achieve its sustainability by embracing new management and/or economic techniques.

Although it is appreciated that the Flanagan research falls short of providing an answer to the question of how this could be addressed and on what tools would an entity need to use to measure whether construction firms have this competitiveness or not, perhaps this gap makes way for new discoveries to be made. Other areas where the Flanagan research falls short of is on defining how construction businesses can enhance this competitiveness in areas where there are not only perceived gaps but realisable ones too.

Due to a significant socio-economic role of construction industries in developing countries, Dlungwana and Rwelamila (2004) lobby for increased effort in the programmes that promote contractor development of small and medium-sized indigenous contractors. They further promote implementation of well-structured contractor development models and supportive procurement programmes in order to improve technical and managerial skills, knowledge and competitiveness of

contractors. Although they also fall short in suggesting how this can be done and which tools can be used, through the citation they mention the benefits which could be extracted from effective contractor development. These benefits they list are not in any particular order of ranking and they are:

- global competitiveness;
- sustainable business growth;
- good environmental management, and
- Socio-economic development of the developing countries.

This research thesis has already elucidated the fact that contractors can be distinguished from each other by variables such as the size of annual turnover, which speak more to contractor capacity than contractor capability. The continuous inflow of new entrants into the South African construction industry as can be witnessed through the number of registrations in the ROC undermines the sustainability of other SMMEs who were beginning to establish competitiveness credibility. This situation still continues to-date and it demonstrates that it undermines aspects such as continuity of work opportunities, consolidation, improved performance and market confidence. In the development of the programmes that are targeted at construction SMMEs competitiveness is not adequately highlighted, it is implied. It is critical to note the several categories for competitiveness and for SMMEs to understand and appreciate the interconnectedness amongst these:

- Country competitiveness;
- Corporate competitiveness, and
- Organisational competitiveness.

Figure. 2.3: Balance of competitiveness and what it yields

The seriousness with which South Africa promotes exports and competitiveness will guarantee success in raising employment or living standards, there has to be a concerted effort to penetrate new markets and to raise productivity, especially in tradable sectors. Most of the jobs the country intends to create are likely to be in domestic-oriented firms and in the services sector. Nonetheless, export growth expands market opportunities beyond domestic demand, earns foreign exchange and provides the impetus for productivity growth throughout the economy, leading to higher living standards for the people of South Africa (NPC, 2011).

2.4 The effect of experience on contractors' competitiveness

Fu *et al.* (2002) considered the relationship between bidding competitiveness, organisational learning and experience. They argued that it measures the effect of contractors' bidding experience on competitiveness in recurrent bidding, a notion that conceptualises a continuous decision-making process in which experiential learning plays a key role. The data analysis from their study demonstrated that contractors who bid more frequently over a six-year period were more competitive than contractors who bid occasionally. The study also found that greater bidding competitiveness is positively correlated with the frequency of

bidding attempts. A key finding of this paper is the existence of some experienced contractors, who may be perceived as being experienced market players, having the attribute of a more competitive and consistent bidding performance. This research should be useful to clients looking to prequalify contractors on the basis of experience and to contractors looking to analyse their bidding performance and/or their competitors' bidding performance, (Fellows *et al.,* 2002)

2.5 Entrepreneurship and its effect on contractors' competitiveness

SMMEs represent an important vehicle to address the challenges of job creation, economic growth and equity in South Africa. They further play a critical role in absorbing labour, penetrating new markets and generally expanding economies in creative and innovative ways. The stimulation of SMMEs must be seen as part of an integrated strategy to take any economy onto a higher road, one in which economies are diversified, productivity is enhanced, investment is stimulated and entrepreneurship flourishes (RSA, 2005).

Attempting to investigate the relationships between entrepreneurial characteristics and SMME firms' performance requires operationalisation of a theoretical framework of the competitiveness of SMMEs and being in a position to test the hypotheses that are derived from that enquiry. This study's theoretical and conceptual framework is explained in detail in Chapter 3. The outcome is that the concept is identified as being entrepreneurship and it links together the competencies of each SMME firm to how they perform with two further constructs: competitive scope and organisational capabilities. The methodology followed by this study is also explained in detail in Chapter 4, suffice to summarise that an interview guide was developed as an instrument specific to the research context and there was a stage which followed – that of hypotheses testing. The results of the testing of the hypotheses are detailed in Chapter 6.

Entrepreneurship, as exemplified by the characteristics of the entrepreneur, is considered to be central to the determinants of SMME performance by researchers such as Erikson (2002) and Hitchens *et al.*, (2003). Such a claim was particularly

popular among studies of the entrepreneurial firm, in which the entrepreneur plays a founding and dominant role in the development of the business. Over the years researchers have attempted to investigate the various entrepreneurial characteristics affecting the performance of SMMEs, including the entrepreneur's background and demographic characteristics like education, age, gender and ethnic origin (Honjo, 2004; Robb, 2002), psychological and behavioural characteristics (Sadler-Smith *et al*., 2003), and factors of social and human capital (Batjargal, 2005; Reicheil, 2007). More importantly, contingency factors of contextual, organisational and strategic natures are of particular importance in determining a firm's performance (Hmieleski, 2006).

However, studies on the relationship between these entrepreneurial characteristics and SMME firms' performance have produced mixed and inconsistent findings. Possible explanations for these inconclusive results are that the ability of the construction industry to predict a firm's success using entrepreneurial characteristics is limited by the instability of these small firms' performance and how they rank the importance of non-economic goals. The lack of formal structural frameworks and of a comprehensive theory of SMME development is also problematic.

Therefore, further research relating entrepreneurial characteristics and SMME performance must take into account:

- a more fully developed theoretical framework;
- contingency relationships on different conditions and interactions;
- characteristics that deserve more attention even if they may be less easily operationalised; and
- the performance measures chosen, and the use of multiple performance indicators.

The research themes which have been highlighted in the following chapter on theoretical frameworks and also expanded upon in the literature review above, address how the industry can inspire a culture of economic activism within construction SMMEs, which in itself will lead to competitiveness through entrepreneurship. This is important in that as the study explores the following themes: (i) contractor development; (ii) small business development and (iii)

entrepreneurship it lends itself to being a base for fostering competiveness which is the ultimate thread pursued throughout this research.

The Concise English Oxford Dictionary Revised 10th Edition (Pearsall, 2001: 476) describes the entrepreneur as: '…*one who organises, manages and assumes the risks of a business enterprise*'. The definition in and of itself identifies the entrepreneur as the key person managing the entrepreneurial processes within their firm. In the context of this study, it means that the SMME coordinates, plans, controls the input of suppliers, other subcontractors and team members for optimised delivery on construction projects. However, the traits of entrepreneurs are what is being recognised as an enabler that could render construction SMMEs as competitive. These have already been identified and discussed in the following chapter 3.

In business literature (Gerber, 2008) entrepreneurship is defined as: successful invention, creation of opportunities, and measurable growth of an enterprise. If this study focussed mainly on the last defined point, this in itself would mean that in an industry which employs at least a million people, which number is accepted to fluctuate as it is project-based), an industry which employs about 68% of its labour through labour-brokers, construction SMMEs who are enterprising would be those who are able to demonstrate sustained measurable growth year-on-year. As much as construction SMMEs grapple with a number of challenges, chief among these being: finding new sources of revenue, and securing the loyalty of customers which ensuring a steady cash flow – those that succeed are the ones that focus on extending the work responsibilities of their own core staff.

2.6 South Africa's Outlook

South Africa needs an economy that is dynamic and responsive to change and that enables the marginalised to access opportunities and move out of poverty. The ability to respond to opportunity and be resilient to shocks is critical. While this is already a feature for some large businesses and skilled people, it is not the case for most families and small businesses, which continue to face many crises. South Africa's planners did not adequately account for the effect that the global economy would have on the domestic environment. The emergence of developing economies,

particularly China and India, as economic powerhouses has already changed world trade and investment patterns, and is reshaping global politics. The relative decline in the economic power of the United States, Europe and Japan will have concomitant effects on the emerging economic powerhouses' political and military influence. After nearly three centuries of divergence, inequality between nations is decreasing.

Urbanisation and industrialisation in China and India are likely to keep demand for natural resources relatively high for at least a decade, and perhaps longer. Many more consumers around the world will be able to buy things, broadening opportunities for all, including South Africa, (NPC, 2011).

However, the current incentives on which the South Africa economy is premised, encourage short-term responses. The response to long-term opportunities is weak – some clear examples include low levels of infrastructure maintenance and the falling share of global markets for minerals, despite strong commodity demand (National Treasury, 2011). The summary of the South African budget in numbers reflects as follows in Table 2.1:

Table 2.1: South Africans' Economic Outlook (2011).

R 4-trillion
Gross domestic product to reach this figure in 2014/2015
R 1-trillion
Infrastructure spend/ Budget to exceed this mark for the very first time 2011/2012
3.4%
Projection for GDP growth in the year 2012
R 166-billion
Borrowing requirement in the year 2012
25%
Amount of under spending by municipalities during 2010/11
15.2 million
Number of people getting social grants in 2011/2012
1.2 million
Households living in informal settlements

Source: National Treasury Budget Speech, 2011

The NPC's (2011) diagnostic report pointed out that failure to address these challenges could lead to economic decline, falling living standards, rising competition for resources and social tension. This would have a direct impact on the ability of small businesses to ring-fence their market share and participation in sectors of the economy where they have largely had a presence. It would also mean that those struggling economies would start to look not only south for business, but anywhere in the emerging markets where there is such an opportunity for 'fair' trade. A failure to make inroads into poverty and inequality will prompt social instability, leading to a rise in populist politics and demands for short-term measures that lead to further tension and decline. This is the cycle which needs to be avoided.

A reduction in inequality will be achieved if South Africa's GINI co-efficient declines from the current level of 0.7 to 0.6 by 2030.[1] South Africa presently has one of the highest levels of inequality in the world. While the proposed reduction would signify a significant shift, the level of inequality is still likely to be relatively high all the way to year 2030. Trade however is a two-way street. South Africa's neighbours have things that the country wants and needs. While RSA is a water-scarce country, many countries in the region have an abundant supply. Securing adequate supplies of water and food must be looked at in a regional context. South Africa should invest in and help exploit the wide range of opportunities for low-carbon energy from hydroelectric and other natural sources in Southern Africa (NPC, 2011).

The proposed plan focuses on upgrading national capabilities, involving all of the people of the country in the development process, growing the economy to broaden opportunities, building a capable and intelligent state, and developing social institutions to manage and resolve conflict and build trust.

South Africa needs an economy that is more inclusive, more dynamic and in which the fruits of growth are shared more equitably. The plan envisages an economy that serves the needs of all South Africans, rich and poor, black and white, employed and unemployed, skilled and unskilled, those with capital and those without, urban and rural, women and men. In 2030 the economy should be close to full employment; equip people with the requisite skills for a dynamic economy; ensure that ownership

[1] A measure of the inequality of distribution, with a value of 0 showing total equality and a value of 1 maximum inequality.

of production is less concentrated and more diverse where black people and women own a significant share of the productive assets in the economy; be competitive and dynamic, able to grow faster, providing the resources to pay for higher levels of investment in human and physical capital.

To achieve lower levels of poverty and less inequality, the economy must become more inclusive and grow faster. These are twin imperatives. The government's New Growth Path aims to create 5 million new jobs by 2020 through faster and more inclusive growth by lowering costs for businesses and households; and enabling rising investment, exports, growth, employment creation and incomes. It seeks to do this through a providing a supporting environment for growth and development, while promoting a more labour-absorptive economy. Key in its proposals is a plan to lower the cost of living for poor households and business costs through targeted microeconomic reforms, especially in transport, public services, telecoms and food. Lowering the cost of living is a critical part of raising the standard of living and encouraging investment (NPC, 2011).

2.7 Competition and competition law in South Africa

Competition being a context between individuals or groups, for territory, a niche, or a location of resources, arises whenever two or more parties strive for a goal which cannot be shared. Competition occurs between living organisms which co-exist in the same environment. For example, animals compete over water supplies, food, mates, and other. Humans compete for water, food, and mates, though when these needs are met deep rivalries often arise over the pursuit of, prestige, and fame. Business is often associated with competition as most firms are in competition with at least one other firm over the same group of customers. South Africa has a well-developed and regulated competition regime based on best international practice.

South Africa's economic system is predominantly based on free market principles. However, as in most developed economies, competition is controlled. The Competition Commission is a statutory body constituted in terms of the Competition Act, No 89 of 1998 by the Government of South Africa and it is empowered to investigate, control and evaluate restrictive business practices, abuse of dominant

positions and mergers in order to achieve equity and efficiency in the South African economy, (Competition Commission, 2000)

The Competition Act of 1998 fundamentally reformed the country's competition legislation, substantially strengthening the powers of the competition authorities along the lines of the European Union, US and Canadian models. The Act provides for various prohibitions on anti-competitive conduct, restrictive practices such as price fixing, predatory pricing and collusive tendering and "'abuses'" by "'dominant'" firms who have a market share of 35% or more. The Act also entails a notification and prior approval procedure for certain mergers and acquisitions. It also carries significant penalties for contraventions - and reaches beyond South Africa, applying to economic activity both in and having an effect in the country.

In terms of the law, competition authorities can take into account both competitiveness and general public interest - including black economic empowerment - in arriving at their judgments. In general, the Competition Act seeks to maintain and promote competition in the South African market in order to:

- Promote economic efficiency, adaptability and development;
- Promote employment and general socio-economic welfare;
- Promote a greater spread of ownership within the economy;
- Provide consumers with competitive prices and product choices;
- Ensure that small businesses have an equitable opportunity to participate in the economy, and
- Expand opportunities for South African participation in world markets, while recognising the role of foreign competition within South Africa.

It is precisely for the reasons of promoting a greater spread of ownership within the construction sector's economy that this study becomes important. It is also precisely for the reasons of ensuring that small businesses have an adequate opportunity to participate in the construction sector's economy that this research was carried out. However what begs the question is whether what the CRS allows; e.g. higher graded contractors bidding for work at lower grades, is a catalyst conducive to growth in the sector of small business or is a deterrent of such growth. The unintended

consequence of such reared its head during the interviews and became evident as a deterrent.

2.8 The Characteristics of the South African Construction Industry

Quite correctly before focusing on the characteristics of the industry, the research needed to provide an overview of who participates in the industry and what their competencies are. Also prior to arriving at the conclusion that the cost of poor performance directly influences a reduction in competitiveness, it was necessary through this research to find the weaknesses within the industry which make room for such a lack of capability on the part of construction participants. The report produced by CSIR's Boutek (2004) not only pointed to these weaknesses and what the industry would need to do to measure improvements, but it also evaluated the SA construction industry against global standards on competitiveness. The commissioned work provided information that was used in the South African Construction Industry Status Report 2004 of the cidb (cidb, 2004).

The first part of the report examined the impacts of the economy and the regulatory environment on construction industry performance. It further assessed the capacity of the public sector to translate government's increasing capital expenditure budget into improved construction industry delivery. These influences, the report argued, play a fundamental role in ensuring enhanced construction industry performance in the medium term.

The second part of the CSIR Boutek report examined the imperatives of sustainable construction activities internationally. It also examined the socio-economic context driving the global debate on sustainable growth and development with an assessment of twenty four key areas to which construction activities needed to become responsive. Of these, contractor competitiveness was one (CSIR, 2004). At the time of commissioning the report, the CRS had just been launched and there were a total of 457 contractors that were registered. Currently, the construction industry is comprised of 113 937 active registered contractors (cidb, 2011). Of that

number, no less than 78% are made up of what the industry would classify as SMME contractors and elucidated in the definition of SMMEs in Section 2.3 above. What this finding indicates, is that the construction industry's make-up is largely out of balance with the initiatives of government: where the percentage spend on economic infrastructure is targeted at large contracting firms when in fact the capacity of the industry is made up of SMMEs. Smallwood (2006) lists eleven (11) resources that when amassed by contractors, renders them capable to perform within an active construction industry. Smallwood's articulation supports the work of Fellows *et al*., (2002) wherein the definitions of requisite contractor resources are listed as: capital, management skills, other skills, having premises and facilities (Fellows *et al*., 2002). There is general consensus in industry on these as no counter-argument exists against them. However, statistical evidence exists which suggests that the SMMEs to whom government's development interventions are targeted do not possess even half of these resources. Without these resources, SMMEs are rendered incapable to perform and in them not being able to perform they are consequently not competitive.

Therein lies the problem which this research aims to address and propose a solution to.

The cidb is currently engaged in a process of establishing a register for professional services. At the time of completing this research there were only two Registers within the suite of services offered by the cidb and these are the RoC and the RoP. The RoP Services will be similar to the others in its ability to provide a comprehensive overview with regards to all participants engaged in the value chain of the construction sector from the design and management sub-components. It will also look at the individual size of the firms engaged in design and management consulting within the sector and the percentages in relation to the size of the sector. For the purposes of this research not much would be explored on the side of design and consulting firms even if they fall within the definition of SMMEs because the consulting participants are not yet known. The focus of this research has remained largely within the graded contractors between grades 2 to 5 as justified throughout this study.

One of the issues that hardly ever get mentioned about the South African construction industry is that it still relies a lot on labour brokers and at the time of conducting this research there was a recurrent political discourse on whether or not they ought to be scrapped. The case for abolishing labour brokers within the construction industry in particular, being that a move to more permanent employment of labour will reduce the intermittent nature of contract labourers and create stability of employment within the construction industry. As it is, construction workers earn significantly less if contracted through brokers (Naledi, 2010). However the conundrum to this is that because the construction industry is largely project-driven, it would be unfeasible for firms to make permanent appointments as most of these firms would not be in a position to sustain large workforces. The outcome of this debate, initiated by organised labour, has relevance for the South African construction industry and in particular the construction SMMEs as they employ about 80% of the contract workforce for delivery on construction projects.

Ofori (2011) makes this interesting contribution when asked to assess the character of the South African construction industry and offer submissions related to where further strengths may be required:

- He observes that a greater understanding of the industry by construction SMMEs is imperative;
- An increased maturity in policy development by the sector is required;
- Better awareness of nature and needs of SMMEs, especially in construction – is necessary;
- Development of more appropriate and better-focused policies, programmes, initiatives for SMME development is crucial;
- More readily available guidance books and on-line resources for better training programmes is required;
- Better and user-friendly tools and techniques, many of which are computer-based are required;
- Greater understanding of value-chain benefits and benefits of competition is essential; and
- Greater solidarity among businesses and their leaders to foster common interests is imperative.

Ofori (2011) makes these articulations convinced that if the above can be achieved, it would bode well for the sector in that a new breed of SMME entrepreneurs would emerge and they would be:

- more aware: going beyond being better informed;
- able to inspire (employees, clients and partners) in order to attain greater joint performance;
- strategic in orientation;
- better able to deal with risk and uncertainty, and
- adept at participating in alliances and partnerships.

In summary Ofori (2011) argues that this aspirant leadership and entrepreneurship is essential to the growth of the construction industry in South Africa and across the continent. Even though there have been several funding and support initiatives already in place, a greater need for leadership is essential for sustainable development and the SMMEs targeted through this research (grades 2 to 5) may well be the lever through which the sector achieves that ambition. For construction SMME, leadership is critical at project and enterprise levels, (Ofori, 2011).

2.9 Contractor Development Programmes in South Africa

There are a number of Contractor Development Programmes (CDPs) which have since been initiated by the South African government, probably as early as 1995 to encourage a wider participation of smaller firms in the construction economy. CDPs play a very important role in supporting the development of the construction industry and the development of emerging contractors. Currently there are more than 18 CPDs of various forms in South Africa, with more than 1300 contracting enterprises currently participating in these programmes. However, while there have been some very notable successes in the growth of contracting enterprises, overall, the success of CDPs is somewhat questionable. One can count amongst them those listed hereunder. It is not assumed that any one contractor development model will apply to development across all grades of contractors and all levels of business maturity. Rather, as highlighted in the framework for the National Contractor Development

Programme of the cidb, different models are more appropriate to different levels of development, and can be broadly grouped as follows:

- DPW Eastern Cape Contractor Incubator Development Programme;
- Emerging Contractor Development Programmes – targeting strictly grades 3-4;
- Eastern Cape Contractor Incubator Programme;
- EPWP learnerships are models typically geared at Grade 1 and 2 construction workforce development;
- Emerging Contractor Development Programmes are typically geared at Grades 2 to 3 emerging contractors, incorporating predominantly mentorship models supported by formal business and technical training;
- Enterprise Development Programmes (EDPs) are geared towards contractors in Grades 3 to 6 who exhibit a potential to develop; and
- Programmes focusing on performance improvement are meant for established contractors typically Grades 4 to 7.

A general overview of the programmes in respect to whom they are targeting and whether or not they have been able to achieve the set objectives is not discussed through this study. However the only focus would be on the Eastern Cape's Contractor Incubator Development Programme because of its relevance to the research pool impacted by this study.

2.9.1. The Eastern Cape Contractor Incubator Development Programme (EC CIDP)

This programme operates within the Eastern Cape Province under the custodianship of the Eastern Cape Department of Public Works (EC DPW). The Programme runs over a three year cycle, and focuses on the development of contractors in cidb Grades 2 to 5 – the direct target for this particular study. This programme was established by the CDC responsible for amongst other things the SMME Development Programme. The targets within the Programme are 20 percent youth, 10 percent disabled, 50 percent women and 20 percent other. The EC CIDP is aimed at ensuring that contractors from previously disadvantaged backgrounds are

given the opportunity to get mentorship, training and support, as well as to create an enabling environment within which selected existing contracting enterprises can develop into sustainable contracting enterprises.

The programme is an advancement programme with each stage of advancement characterised by higher levels of risk to the contractor and the removal of support mechanisms by the department. The staged advancement programme is designed to effectively remove barriers that prevent the full participation of emerging contractors in the construction industry. Sixty contractors have entered the programme which was started in 2007, and 32 contractors have to date increased their cidb grading by one or two grades; predominantly moving from Grade 1 to 3. No contractors have yet increased their cidb grade by more than two grades. Notwithstanding the newness of the programme, there are a total of 12 contractors who have exited the programme, through graduation.

With respect to the Programme's Institutional Capacity and Management Model; the EC CIDP has an established regulatory framework to support emerging contractors which allows for targeted procurement procedures which are in line with affirmative action policy. The ECDPW business processes are geared to ensure that budgets and projects are identified in the department's infrastructure planning cycle, and that contractors participating in the Programme are cidb registered. The EC CIDP capacity is supported by representatives of all the programme stakeholders into a Project Management Unit – including the CIDP managers, municipalities and mentors from the Coega Industrial Development Zone (IDZ). Geographical constraints appear to be not dealt with adequately in the programme, and have been highlighted by various contractors as being a hindrance to their progress. The mentoring capacity and support is perceived by the contractors to be adequate, but the in-house capacity of the department is perceived to be a major constraint in effectively running the programme.

2.9.2. How are the SMME contractors selected?

The selection of a contracting enterprise is based on experience in contracting and experience in construction-related activities. The level of a contractor's development is assessed using the South African Excellence Model (SACEM), and a minimum level of development is required for admission to the programme. Contractors participate in the programme for a period of three years, during which time they receive access to finances, appropriate support, and accredited training programmes to address managerial, financial, technical and administrative capabilities.

Many of the current contractor development models in South Africa are combinations of EPWP and ECDP models, but are being applied across all grades – which convolute the objectives of contractor development and job creation. Rather, programmes should be clearly designed to achieve a clear objective – whether it is workforce development, job creation, development of emerging contractors, enterprise development or improving the performance of established contractors. The need, and scope exists, for development programmes to address all these components – but it is important that these objectives should not be convoluted within a single programme – as is the case with many current programmes.

Specifically, it is recommended that programmes focusing on contractors in grades 1 to 2 should not be designed as incubator programmes, but should form part of the EPWP. The starting point and in particular for emerging contractor development programmes has to be setting an objective that contractors will on exiting the programme have acquired the minimum competencies necessary for managing a contracting enterprise and for supervising building and construction works – of which an industry accepted norm for grades 2 to 3 is a NQF Level 4 National Certificate and for grades 4 to 6 a NQF Level 5 National Certificate. These competence requirements are being incorporated into the cidb *Best Practice Contractor Recognition Scheme* grading framework currently being developed, and it is appropriate that CDPs align their development models with the cidb *Best Practice Contractor Recognition Scheme*.

2.10 The Construction Management Discipline

The definition of construction management throughout the world still falls well short of any reasonable definition of a knowledge-based industry which is why the CIOB commissioned work late 2009 whose output was to bring articulation to this discipline, in respect of the role played by the variety of stakeholders within it. The resultant articulation of Construction Management (CM) as a discipline, was that it pertains to the management of the development and improvement of the built environment exercised at a variety of levels from the site and project, through the corporate organisations of the industry and its clients to society as a whole (CIOB, 2010). Construction Management is also about embracing the entire construction value stream from inception to recycling, and focusing upon a commitment to sustainable construction.

According to Fellows, Langford, Newcombe, and Urry (2002), Construction Management can be viewed in two dimensions, the management of the business of construction, and of projects per se. Through their work the emphasis is on the fact that in practice, the two dimensions are interdependent. The target audience for this research has been Construction SMMEs and these incorporate a wide range of specialist services and their daily occupation is guided by a system of values demonstrating responsibility to humanity and to the future of our planet. CM is recognised throughout the world as one of a family of disciplines concerned with the complex phenomenon we know as the built environment (BE).

The planning design, production, adaptation, maintenance, restoration, conservation, management, evaluation and recycling of the built environment requires interaction between disciplines within the built environment. In terms of the field of practice identified as Construction Management there is an acknowledgement made by the CIOB that the discipline cannot stand isolated from being informed, supported and challenged by an independent academic discipline. Sadly, 80% of the construction SMMEs registered in the cidb RoC; do not possess an academic qualification within this discipline as defined above.

2.11 The cidb and the Construction Registers Service

The cidb - a Schedule 3A public entity - was established through an Act of Parliament (Act 38 of 2000) to promote a regulatory and developmental framework that builds:

- The construction delivery capability for South Africa's social and economic growth, and
- A proudly South African construction industry that delivers to globally competitive standards.

In 1997 the South African government published the Green Paper entitled: 'Creating an enabling environment for Reconstruction, Growth and Development in the Construction Industry', which paved a way for the establishment of the cidb. The cidb Act was passed in October 2000 establishing the cidb mandate to lead stakeholders in construction development.

The CRS, developed by the cidb, provides statistical data through which construction clients, development agencies and financial institutions are enabled to understand the contracting capacity available in South Africa. The categories under which these entities are graded are as follows: Civil Engineering (CE), General Building (GB), and Specialist Works (SW), Electrical and Mechanical Engineering (respectively EE and ME), amongst others. The CRS's
grading system reflects contracting capability as it pertains to the value range of each tender that contractors are able to handle based on their individual grades. What was envisaged by the cidb was that construction clients would provide specific interactions within which they would accelerate growth within the construction industry, specifically enhancing the capacity across different contracting categories and grades. The Construction Registers Service is established in terms of the cidb Act 38 of 2000. The service offers a basis for sustainable construction development and growth, through improved delivery, performance and sustainable empowerment (cidb, 2004)

Why is the Register important?

The Register establishes the capability of a contractor for the purpose of streamlining procurement and reducing the risks to both the contractor and the client. It creates a framework for contractor development, for sustainable growth and empowerment (icdb, 2003). By grading contractors the RoC enables clients to match projects with a contractor's capabilities. This ensures the success of projects and reduces the failure rate. The register helps a contractor to build a track record and promotes confidence in the construction industry. A track record will promote confidence of the banks and improve access to credit by contractors who perform well. Confidence promotes growth and growth increases opportunities for everyone in the industry. Grading enables clients, industry and other agencies to establish development programmes suited to different needs. By profiling contractors the RoC enables employers to package projects in a way that creates the right work opportunities for target groups and enables focused contractor development programmes. The Register enables large contractors to effectively subcontract work to emerging contractors and enables the private sector to access emerging contractors (cidb, 2004).

The mandate given to the cidb in relation to the establishment of the CRS and in particular the RoC, see Table 2.2 hereunder, was that the Register be aimed at achieving the following:

- Support risk management in tendering process;
- Reduce administrative burden;
- Facilitate sustainable growth and transformation of contractors;
- Enable ease of access by the emerging sector;
- Promote minimum standards and contractor best practice;
- Enable access by the private sector;
- Improve performance of contractors;
- Provide information on size distribution, nature and development of contractors;
- Gather information on the nature, value and distribution of projects; and
- Provide a basis for both the contractor and project best practice schemes.

The registers service currently consists of two, interlinked, national registers: The RoC and the RoP. These registers form the basis of the first phase of the CRS that shapes and reflects progress in the capability and transformation of the South African construction industry. Each register promotes an enabling development framework for construction industry capacity, infrastructure delivery, and growth. Used together, they offer employers and contractors, alike, great benefits in identifying opportunities, challenges and growth sectors within the construction industry (cidb, 2004).

The Act (cidb, 2000) did not volunteer how construction clients are to provide these specific interactions aimed at accelerating growth. At a strategic level, it talked only about the ideals on industry growth, industry performance and industry transformation. It did not talk about how the industry would reflect on the contracting capacity at a national level by merely assessing the RoC to gauge the knowledge and additional competences of all grades of contractors, depicted as contractors' skills and capacity as indicated through the snapshot hereunder in Table 2.2. The cidb's founding green paper had spelt out the socio-economic imperatives relating to growing the industry and making it attractive for trade. A lot was however left to the industry and the cidb programmes to design procurement regulations that would create a conducive environment and level the playing field for all participants. Dlungwana (2003) advocated the development of contractors' skills and knowledge in order to achieve the following:

- build capacity to grow their businesses through technical and managerial skills;
- compete locally among fellow SMMEs, and
- build a foundation for competing globally, once adequate capacity has been built over time.

Table 2.2: CIDB National gradings registered by class of works (2010)

All Regions

Grade	CE	EB	EP	GB	ME	SW	Total Grades
1	23471	1300	1,739	55463	3380	9,994	**95 347**
2	1,550	173	87	2,095	194	446	**4,545**
3	503	98	43	538	80	90	**1,352**
4	752	169	108	751	130	106	**2,016**
5	505	145	127	463	143	150	**1,533**
6	554	51	53	481	70	46	**1,255**
7	219	19	33	193	37	25	**526**
8	73	2	8	58	15	7	**163**
9	46	6	17	31	21	10	**131**
Total	**24,101**	**1,635**	**2,215**	**62,680**	**3,183**	**10,874**	**106,868**

Source: cidb Registers, 2010

Dlungwana (2003) suggests that the programme through which all of these ideals could be realised be termed a Contractor Development Model (CDM). This referred to a structured methodology comprising measures designed to help the managers of contractors to develop their technical and managerial skills and thus grow their business enterprises. Dlungwana (2003) finally argued that such models should be located within the procurement programmes of government, in line with the government's procurement policy.

2.12 Contractor Competence

There are fifteen leadership competencies identified by Dulewicz and Higgs (2005: 37) and they are categorised as follows:

2.12.1. Intellectual competences

Intellectual competencies come in three groups:

(a) *Critical analysis and judgment*: The ability of construction SMMEs to gather information from a wide range of sources, probing the facts, identifying advantages and disadvantages. The ability also to apply sound judgment and decisions making and being aware of the impact that any of the assumptions they have would make on their business.

(b) *Vision and imagination*: The ability of construction SMMEs to be imaginative and innovative. This requires for the owner of the business to have a clear vision of the future and foresee the impact of changes on implementation issues and business realities.

(c) *Strategic perspective*: The ability of the construction SMME to be aware of the wider issues and broader implications. The owner of the business to be able to balance short and long-term considerations and identify opportunities and threats.

2.12.2. Managerial competences

Managerial competencies in the following groups:

(a) *Resource management*: Construction SMMEs being able to organise resources and co-ordinate them efficiently and effectively. Also being able to establish clear objectives and convert long term goals into action plans.

(b) *Engaging communication*: The ability of construction SMMEs to engage especially their clients to win their support through communication.

(c) *Developing*: Owners of small businesses encouraging others to take on ever more-demanding tasks, roles and accountabilities. Construction SMMEs developing others' competencies and coaches them.

2.12.3. Emotional competences

Emotional competencies grouped as follows:

(a) *Emotional resilience*: Owner of the construction business being able to maintain consistent performance in a range of situations and retaining focus

on a course of action or the need to obtain results in the face of personal challenge or criticism.

(b) *Intuitiveness*: Construction SMMEs arriving at clear decisions and being able to drive their implementation in the face of incomplete or ambiguous information from the clients.

(c) *Influence*: SMMEs persuading others to change a viewpoint based on the understanding of their position and recognition of the need to listen to this perspective and provide a rationale for change.

2.13 Small Medium Micro Enterprises (SMMEs) in Context

Small businesses in South Africa employ more than half of the economically active people formally employed in the private sector, and contribute in the region of 42% to the country's GDP, (STATSSA, 2003). There are an estimated three million small enterprises in the country (Burger, 2003). Understanding small businesses and their position in the economy requires knowledge of specific small business issues and an insight into the operation of small businesses. Small- and medium-sized firms will play an important role in employment creation. A large proportion of jobs created between 1998 and 2005 were in micro, small and medium firms. Despite this, total early-stage entrepreneurial activity rates in South Africa are about half of what they are in other developing countries.

Aside from creating jobs, there are other advantages to broadening the base of new and expanding firms: reduced levels of economic concentration; higher levels of competition, and increased opportunities for broad-based black economic empowerment. However, there are real obstacles to creating such an environment, including distortions created by South Africa's apartheid past in ownership and access to land, capital and skills for the majority of the population; a policy environment that traditionally favours concentration and large corporations; and a global trade environment that encourages and rewards economies of scale and scope in both production and distribution. Factors hindering the development of small and medium businesses include inappropriate regulation, lack of access to finance, and external factors, such as crime. Because they have supply chains

across the country, large firms are able to sell their products at prices smaller companies cannot match. A strategy to promote small business cannot succeed without addressing the challenge of accessing established supply chains (Burger, 2003).

The South African construction industry lays a foundation for economic growth through the provision of economic and social infrastructure (cidb, 2004). The Council for Scientific and Industrial Research's (CSIR) Building and Construction Technology (Boutek) division was commissioned by the cidb to produce a report in March 2004, reviewing the South African construction industry. This report addressed, *inter alia*, initiatives aimed at measuring the performance of the construction industry. This was largely to acknowledge the debate that had been prevalent for years regarding the industry's understanding of the difference between performance and competitiveness and how these impacted on each other. During 2006 the industry employed an estimated 450 000 to 600 000 people and its total financial
contribution was in the region of 5% of the GDP (Blaauw, 2006). Every 3 to 5 years STATSSA publishes an overview report of the performance of the construction industry. The last report published indicated that at the end of 2007 a total number of 540 581 people were employed by the industry with a projected growth of 25% by the end of 2009 (STATSSA, 2007).

There is a wide spread view that social responsibility in the construction industry is interpreted in different ways. There is also a view that diversification is slow in the construction industry. Current statistics according to the cidb registers indicate a large number of black businesses registered in the backdrop of an industry that is still largely white and male dominated at decision-making and management levels. Various conclusions have been drawn by a number of researchers both local and international as to why the *status quo* is as it is, however this research does not intend to focus on the arguments made therein.

2.14 Qualitative and Quantitative Classification of Construction SMMEs

In 1995, after the political transformation of 1994, the South African Government adopted the White Paper on the National Strategy for Development and Promotion of Small Businesses in South Africa. The main objective of this white paper was to create an enabling environment for accelerated growth of small enterprises following a history characterised by the dominance of large, capital intensive firms and the continued neglect of small enterprises. In 1995 also, government set a target of ten years after which they would have assessed the benefits of the above-mentioned strategy. The intention was that after these ten years there would be a review of whether the listed benefits would have been realised by small businesses. A number of industrial support measures have been introduced since 1994 to enhance the competitiveness of South Africa's industrial base. These include placing more emphasis on supply-side rather than demand-side measures, such as tariffs and export support programmes for small, medium and micro enterprises (DTI, 2005). Through this strategy the South African government has provided incentives for value-added manufacturing projects, support for industrial innovation, improved access to finance and an enabling environment for SMME development.

In South Africa the general perception of a small business relates to the size of the business, the size of its annual turnover, the number of employees , the size of the market share and whether it is managed and owned by its owners. The DTI’s (2005) official definition corroborates with an earlier one articulated through the National Small Business Act (1996) which classified SMMEs according to five categories regarding size, namely: survivalist enterprise, micro-enterprises, very small enterprises, small enterprises and medium-sized enterprises. For the purpose of this thesis, references will be made to small enterprises only as per the indicative definition of Grades 2 to 5 of the cidb RoC.

The qualitative classification of small businesses entails categorising and defining SMMEs in terms of ownership structures. To assist in the qualitative classification of small businesses, the Ntsika Enterprise Promotion Agency in South Africa (2004:8) defines small businesses as

“enterprises that are generally more established, and are likely to operate from business or industrial premises are tax registered and meet other formal registration requirements.”

Accordingly, the quantifiable aspects of a business are: annual sales or turnover; the number of employees in service; the total assets of the business, and the number of activities. However, the Bureau for Market Research (2001) identifies three quantitative variables, namely employment, turnover, and asset value. For the research focus upon which this thesis has been based, small businesses are defined as having between 5 and 50 employees. The thesis focuses on employment rather than sales or value added to the measure of size because information regarding employment is readily available and it is considered by owners to be less confidential than the other variable of sales or value of work undertaken.

Moreover, employment is used to classify businesses in many earlier studies of small businesses conducted by the Department of Trade and Industry. The literature that has been reviewed for the purposes of this thesis indicates that currently government contracts are awarded to contractors who can demonstrate capability on the basis of the human capital infrastructure they can avail to undertake work that has been scoped and specified. It is true that current government procurement methodology favours the award of points on functionality on the basis of contractors being able to demonstrate established work operations. Examples cited in the overview conducted by Smallwood (2005) in reference to the above include: the size of the concern, the competence within that organisation, experience and other resources. While it might be possible to define small businesses in terms of management organisation structure, this will not be attempted for this research. Dlungwana and Rwelamila (2003) conducted an in-depth treatment of this variable.

There is evidence to the effect that the many strategies targeted at the development of SMMEs, particularly those that were based on instruments such as procurement, have generally achieved little in empowering SMMEs due to the fact that initially they were implemented without well-defined skills transfer frameworks. The South African construction industry continues to be regarded by clients and suppliers as a high commercial risk and this presents further barriers to meaningful development particularly for SMME contractors (cidb, 2004). Related to this is the lack of clear

policy targets against which to measure the effectiveness of contractor support programmes. Therefore, although the SA government has developed the requisite overarching policy frameworks and the entities tasked with implementing these policy frameworks have subsequently developed appropriate strategies, these are not necessarily supported by objectively verifiable outcomes. This has led to the key variables of competitiveness and productivity not being improved to the levels required and thus the gaps between the established contractors and the SMMEs have not been significantly reduced.

Government, through the Department of Trade and Industry, is mindful of these gaps and as such has attempted to close them through the Integrated Strategy on the Promotion of Entrepreneurship and Small Enterprises (2007). However, the South African government accepts that this strategy is neither a blueprint nor a detailed implementation plan. Rather it is a strategic framework. This research argues that there is not a shortage of strategic frameworks which promote an environment which is conducive to SMMEs trading meaningfully. On the contrary, the thesis argues that what South Africa needs as a country is a measurable implementation plan which will focus on measuring the competitiveness of construction SMME organisations such that they are encouraged to play a meaningful role within the South African economy. This research therefore addresses aspects which are regarded as imperative to grow and sustain the South African construction industry; through improved competitiveness of construction SMMEs resulting from the use of the RoC as a tool. Some of the issues that have been addressed by this research are listed hereunder:

- Assessing the contracting ’capacity’ within a geographic area;
- Assessing the contracting ’capability’: first identifying gaps and secondly focusing on Contractors’ understanding of the competitive environment, the contribution of their competencies, their performance output and productivity, and
- Exploring the use of the RoC as a tool with which to measure the competitiveness of selected SMME contractors.

Most construction SMMEs are not competitive enough to benefit from growth in the industry. The focus of the problem identification is around the lack of competitiveness support afforded by the construction industry to SMME contractors. In defence of the

industry however this research ventures to provide proof that it would be impossible for the industry to support that which it cannot measure and therefore cannot know the respective attributes. The ability of these organisations to network with more established entities is regarded as a competitiveness-raising factor for small and medium-sized enterprises. Good relationships with clients, consultants, subcontractors, and suppliers enable contractors to have more information and opportunities with which to obtain construction contracts. The classical economic theories of market forces have long been placed into a framework for analyzing the nature of competitive advantage in a market and the position and power of any organisation in that market by Michael Porter (2003). Considering the key enablers of competitiveness at organisational level mentioned above, the following has been expanded on: investigation of the capability of the selected SMMEs with a view to ultimately create procedures with which to enhance that capability.

The lack of competitiveness by SMMEs plagues the lower end of entry into the construction sector (cidb, 2011). The high failure of local contractors due to lack of competitive advantage has resulted in a situation in which most of the construction work is undertaken by either more established contractors within South Africa and the region or foreign contractors, with very limited participation by the SMME sector within the local industry. Thus, in many Southern African countries, the base of viable contractors would have been severely depleted.

2.15 Globalisation and its effect on SMME contractors.

Globalisation has increased the complexity with which all countries must contend. Systemic risks, such as the world financial crisis triggered by the collapse of Lehman Brothers in September 2008, are increasingly likely to be part of the global landscape. Capital is generally more mobile than labour, resulting in significant implications for wages. And while inequality between countries has fallen in the past decade, inequality within most countries, notably China and India has increased. At a political level, there may be opportunities to bring about rules-based multilateral systems to shape global governance, making the world a more just place.

South Africa will have to manage the risks that flow from greater complexity and

recognise that emerging powers may seek to exploit its vulnerabilities. The rise of emerging markets also raises the level of competition, with downward pressure on the wages of low-skilled workers in the manufacturing sector. To become more competitive South Africa will have to confront some difficult choices. Similarly, the pursuit of mineral resources by fast-growing emerging countries holds opportunities and risks. Commodity-producing economies in Africa, including South Africa can use a period of higher demand for natural resources to generate the returns needed to upgrade the respective countries' capabilities. If mining output does not increase and resources are not extracted sensibly and used wisely, it will represent a tragic failure for the people of the continent (NPC, 2011).

Economic Empowerment probably begins with ensuring that the literacy which our small medium and micro enterprises (SMMEs) receive is functional and best prepares them for the world they trade into which expects of them to be able to solve both the menial and the very complex business challenges.

Secondly, true Economic Empowerment is about training those already in the employment pool and cultivating in them the skills requisite for today's economy. Economic Empowerment is finally about supporting entrepreneurship through a creation of economic opportunities. For any country which takes economic empowerment that seriously, the question it therefore needs to address is one which asks: has enough been done by both the public and private sectors to advance this economic empowerment in all sectors of the economy? (Global Competitiveness Report, 2010/11)

As much as there has been little research done both nationally and internationally on contractor competitiveness, there has equally been minimal but compelling research conducted relative to the problems facing SMME contractors. In a report prepared for the United Nations Centre for Human Settlements (UNCHS) in the 20th century on policies and measures for small contractor development, there was a range of problems identified as confronting SMMEs. In a later study, according to Ofori (2000), globalisation became a trend which occupied the headlines of major popular publications for several decades. Ofori argued through the later study that there were sharply different arguments on the advantages and disadvantages of the process of globalisation from the perspective of developing countries and how the trend was affecting SMMEs. His view was that the majority of contractors in many construction

industries fall in the small and medium-size range and do not export their services outside their countries. As a result, this sector therefore does not compete in the global construction market which is dominated by a few, construction multinational enterprises.

Ofori (2000) further argued that notwithstanding such limitations, SMMEs in their local sphere of influence, often had the capacity to execute small and medium-sized projects, and could thus compete at that level. It is important to note, for the purposes of this thesis that the latter generalisation that Ofori made was in relation to the Singaporean economic environment. However, the impact of globalisation as it is felt in any growing economy is still the same worldwide and the trends he highlighted could similarly be observed within the South African construction industry. Globalisation is expected to bring opportunities for local SMMEs to subcontract work from large, multinational enterprises and to form joint ventures and partnerships. Whether this ideal is equitably realised in both developed and developing countries remains to be examined. The competition of SMMEs at regional level, where a contractor works across its national borders is, however, a common phenomenon.

Dlungwana and Rwelamila (2003) on the other hand argue for contractor development models and programmes that are holistic and integrative in their approach. They support the view that globalisation in the construction industries of developing countries is real, unstoppable and has the potential to destroy non-competitive contractors. They do not however define who constitutes a competitive contractor and who does not. Their work lobbies developing countries, particularly those in Southern Africa, to meet the challenges of globalisation by strengthening the competitiveness of small, medium and micro sized-enterprises (SMMEs) in particular. Their work summarises a preliminary review study on the status of development models for construction SMMEs in South Africa and other developing countries, and it highlights the challenges and potential effects of globalisation on this sector. On the basis of their review, suggestions are made that can improve the current models and procurement programmes.

2.16 Growing small construction businesses

It is essential that there be a common understanding of the growth process undertaken by
small businesses within the construction industry so as to deal effectively with confronting attendant issues arising out of growing small businesses and whatever underlying opportunities exist. This collective understanding would encourage the construction industry to view quite a few concepts explored in the research in the same light. Understanding small businesses and their position in the economy requires knowledge of specific small business issues; and an insight into the operation of small businesses.

The small business sector has proved that it has great potential to provide increased output and job-creation which contribute to economic growth, (DTI, 2009)

South African policies + the construction industry output + SMMEs = wealth and job creation

As a result, policy-makers have realised that they have a crucial role to play as facilitators of entrepreneurship development by pursuing a comprehensive and cohesive program of small business promotion, in order to address specific constraints hampering the emergence of small business entrepreneurship and business creation. This role of the body politic is expressed through the National Small Business Development Act of 1996.

The South African government's support for the development of SMMEs is well documented (e.g. through the Incubator Programmes of government, EPWP, NCDP) and is a strategic objective which the country must continue to strive to fulfil. This is evidenced by the South African government's creation of an enabling environment for SMMEs dating as far back as 1995. The government has achieved this through legislation, amongst which is the National Small Business Development Act of 1996 and a host of other legislation which has been promulgated subsequently. As recently as 2005, the South African government (through its Department of Trade and Industry) expanded its thinking and support for the SMME development initiatives through an Integrated Small Enterprise Development Strategy. There are

sector-specific development initiatives which are targeted at SMMEs; however these fall short of arguing for a proper closing of identified gaps because they do not focus on creating tools that help close those gaps. This research claims that construction SMMEs are not competitive, it analyses the reasons for such non-competitiveness and suggests that the RoC, as a tool, may be used to measure competitiveness within the construction sector.

A number of researchers (Ofori, 2000; Dlungwana and Rwelamila, 2004; Flanagan, 2007) agree on one point that the high failure of local contractors is largely due to the lack of competitive advantage which results sometimes in a situation wherein most of the construction work is undertaken by foreign contractors, with very limited participation by the local industry. They mention different root causes for the lack of competitiveness. They agree that this failure cannot be attributed to a lack of intervention on the part of the state to design supportive mechanisms through targeted development and the creation of continuous work opportunities. Notwithstanding the efforts of the state however, a lot can be said for the severe depletion of the base of viable contractors.

If South Africa were to be serious in its attempts to expand the economy in a manner that is labour absorbing, it would have to do the following effectively:

- Strengthen underlying infrastructure delivery: Institutional reforms would have to ensure appropriate and sufficient investment in, and maintenance of critical network services (energy, water, telecommunications and transport). Herein would be a direct benefit for the construction SMMEs which are the focus of this study. (NPC, 2011)
- Business entry and expansion enabled for small and medium enterprises: Most jobs are likely to be created by small and medium-sized businesses. Regulatory reform and support would have to boost mass entrepreneurship. Domestic market stimulation is critical in boosting growth and employment, with small and medium-sized firms being the main employment creators. (NPC, 2011)
- Focus industrial development in areas of competitive advantage: The South African government would need to focus on sectors of competitive advantage. In the process of implementation, it would be important to learn from

successes gained prior and failures in sectors where mistakes have been made with a view to correct such failures. (NPC, 2011)

- Expand community-based work opportunities: Public employment programmes, particularly community-based public works programmes, are an essential element of any employment strategy. Again, it is would be necessary to learn from practice and to reward successful programmes. (NPC, 2011)

Summarising the review of literature conducted and elucidated above, it is clear that there is a direct correlation between the competitiveness of countries and that of its businesses, and also that the explored variables or concepts could be further looked at with respect to how they find their location against a designed business framework for construction SMMEs. The World Bank and Garelli *et al.* (2002) make this parallel which this research does reflect against at a later stage. Future studies should endeavour to address the other characteristics of contractor competitiveness which could assist in achieving improved performance by the SMMEs, again using the RoC tool to target such developmental initiatives. The RoC can be used for purposes of measuring the competitiveness of SMME contracting businesses.

2.17 Economic Outlook of the Eastern Cape Province

The Eastern Cape remains by and large under-developed, with economic activity well below economic potential. Currently, economic activity is concentrated in Port Elizabeth, East London and Mthatha. Notwithstanding economic growth, high levels of unemployment and poverty persist, particularly in the rural areas where two thirds of the population resides. The Province struggles to generate its own revenues: 98 percent of provincial government revenue receipts are supplied by the national government.

The Eastern Cape is endowed with extensive agricultural capacity, while the automotive sector dominates manufacturing production. A reliance on manufacturing export activity contributes to the cyclical nature of economic growth in the Province: economic growth is highly dependent on changes in the external economic climate - which contributed to the minus 2.1 percent decline in economic growth in 2009. Subsequent to the recession, economic recovery should be moderate, but is not

forecast to reach pre-recession growth rates in the short term. The Eastern Cape economy was estimated to grow at 2.6 percent in 2010, it achieved only 2.4 percent growth down from the projected estimate by 0.2. The provincial economy is forecast to reach a 4.2 percent growth rate by 2014 as domestic and international conditions improve. The propensity for cyclical growth is unlikely to change without intervention and the Province's contribution to the national economy will remain stagnant.

South African economic growth is still driven by consumption expenditure rather than fixed investment, thus, with the economic downturn; the contraction in provincial consumption began as early as 2007 with falling asset prices, tightening of the monetary policy and increasing levels of indebtedness leading to deterioration in disposable income. Recovery in total provincial consumption expenditure will be dependent on changes in the economic climate and unsustainable in the long-term. After its positive trade balance in 2008, due largely to a retracting economy with declining levels of imports, trade activity reverted back to a R5.4 billion deficit in 2009. The inability to generate net export activity in the Province is the result of a heavy reliance on the automotive industry and the lack of depth in manufacturing activity shown by the high volume of imports of intermediary and final goods in the manufacturing sector, (DEDEA, 2010).

Investment in the Eastern Cape will continue to be determined by prevailing market conditions, which have proved to be highly cyclical and unstable. Eighty-six percent of fixed domestic investment in the Province is dominated by investment in machinery and other equipment, and building and construction works. The proportion of investment in transport equipment to total fixed investment is forecast to grow insignificantly, from 14 percent in 2009 to a forecast 14.3 percent in 2014. Infrastructure payments did not exceed 13 percent of total provincial receipts between 2006/2007 and 2009/2010, and peaked in the year leading up to the 2010 FIFA World Cup, averaging 10.2 percent of the total provincial receipts for the period. An average of 73 percent of infrastructure payments was spent on maintaining existing infrastructure between 2006/2007 and 2009/2010.

The timing of infrastructure payments is important in contributing to sustainable growth. Significant effort has gone into a strategy to develop a new growth path based on the national economic development strategic plan of the Economic

Development Department for creating work that is inclusive and equitable, (DEDEA, 2010)

2.18 Concluding Remarks

This chapter provided an understanding of the universal definition and measures of competitiveness, but it also proffered a qualitative definition of competitiveness for the purpose of this thesis which looks beyond the capacity of SMMEs but argues that for this targeted group, they require competencies, capability, training and innovation to be able to compete in the construction economy. The chapter also considered contractor competence and the environment within which the SMMEs trade:

- How conducive it is for their growth and performance?
- What the competition regime allows or disallows?
- What effects do experience and inherent entrepreneurship have on the SMMEs in relation to the progress they make within the RoC grading system?

Further to the questions above, hereunder is the list of research questions that arose from the literature review:

- How would it be possible to tell apart the serious construction SMMEs from those that are in business driven by motives that have nothing vested in contributing to the growth, development and transformation of the construction industry?
- How imperative is the competitiveness of SMMEs to an industry that is not short of established contractors?
- Would this competitiveness when attained by the targeted group, be of any value to the construction industry?

The following chapter outlines the link between the theoretical framework and concept underpinning the chosen study.

3.0 THEORETICAL AND CONCEPTUAL FRAMEWORK

The chapter outlines the theoretical framework and its accompanying concept. It also expands in detail the underpinning theory versus areas or fields of specialization within which the study is located. The reader will find value in the following:

a. A definition of theoretical frameworks;

b. An appreciation of how the theoretical frameworks for this study were developed;

c. An outline of the fields of expertise underpinning this study and their theoretical location;

d. The outlined concept;

e. Backward linkages to the literature reviewed for the study and forward linkages for the extraction of Data, and

f. Conclusion.

3.1 Introduction

Torres (2004) citing Khan's (1997) work explains the purpose for establishing a theoretical framework as a process that a research follows to arrive at a logical sense that could be made between the relationships of the variables affecting the chosen study and the factors that are deemed relevant or important to the identified research problem. For the purpose of this study it was necessary for a theoretical framework to be determined so that the relations between all the variables would be defined and the relationship between them, understood. The aim for defining this theoretical was so that it would guide the research, whilst at the same time determining what things the research could measure.

Formulating a theoretical framework for this study helped clarify the variables of the study and provided a general framework for data analysis. This proved essential when it came to preparing the thesis in using descriptive methods. Hereunder is the chronology of the process followed to develop both the theory and concept underpinning the study:

1. Specification of the theory used as a basis for the study;
2. Mentioning the proponents of the theory;
3. Citing the main points emphasised in the theory;
4. Supporting the exposition of the theory by ideas from other experts;

5. Illustrating this study's theoretical framework by means of a diagram; and,
6. Reiterating the theoretical proposition of the study.

3.2 Theoretical Framework Development

The citation of Khan (1997) explains that theories are constructed in order to explain, predict and master particular phenomena (e.g. relationships, events or behaviours). This enables researchers to construct models of reality. Khan (1997) also emphasised that a theory makes generalisations about observations and consists of an interrelated, coherent set of ideas and models. In formulating a theoretical framework it is necessary to appreciate that a framework of any study is a structure that can hold or support a theory of a research work. It presents the theory which explains why the problem under that study exists. Thus, the theoretical framework is but a theory that serves as a basis for conducting research. Theoretical frameworks also remove preconceived notions, even if they are of a very general nature. The process of developing the theoretical framework for this study has been about making the implicit framework explicit. Once it is explicit, researchers can deliberately consider other frameworks, and try to see the organisational situation through different lenses. Developing the framework has guided this research on what needed to be noticed in the organisations or SMME firms were under investigation and it has helped in separating this from what was not needed.

In this chapter the research surfaced concepts which have relations one to the other whilst at the same time they are critical in deductive, theory-testing studies. The reasoning being that this would have served the purpose of presenting a case whilst being absolutely specific and as well-thought out as possible.

3.3 Variables of the study

Variables are herein referred to as the attributes of the formulated problem. In any particular study, variables can play different roles (Torres, 2004). The two key roles are those of "independent variables" and of "dependent variables". In research there is only one dependent variable, and it is the outcome variable, the research is trying

to predict. Variation in the dependent variable is what the research is trying to explain. For example this study is conducted to measure the competitiveness of construction SMMEs. In the case of this study therefore Competitiveness is the dependent variable. This research is trying to explain why the SMMEs need to be competitive, why this is good for their individual businesses and how the construction industry can measure competitiveness and how it (as a whole) could benefit from enhanced competitiveness.

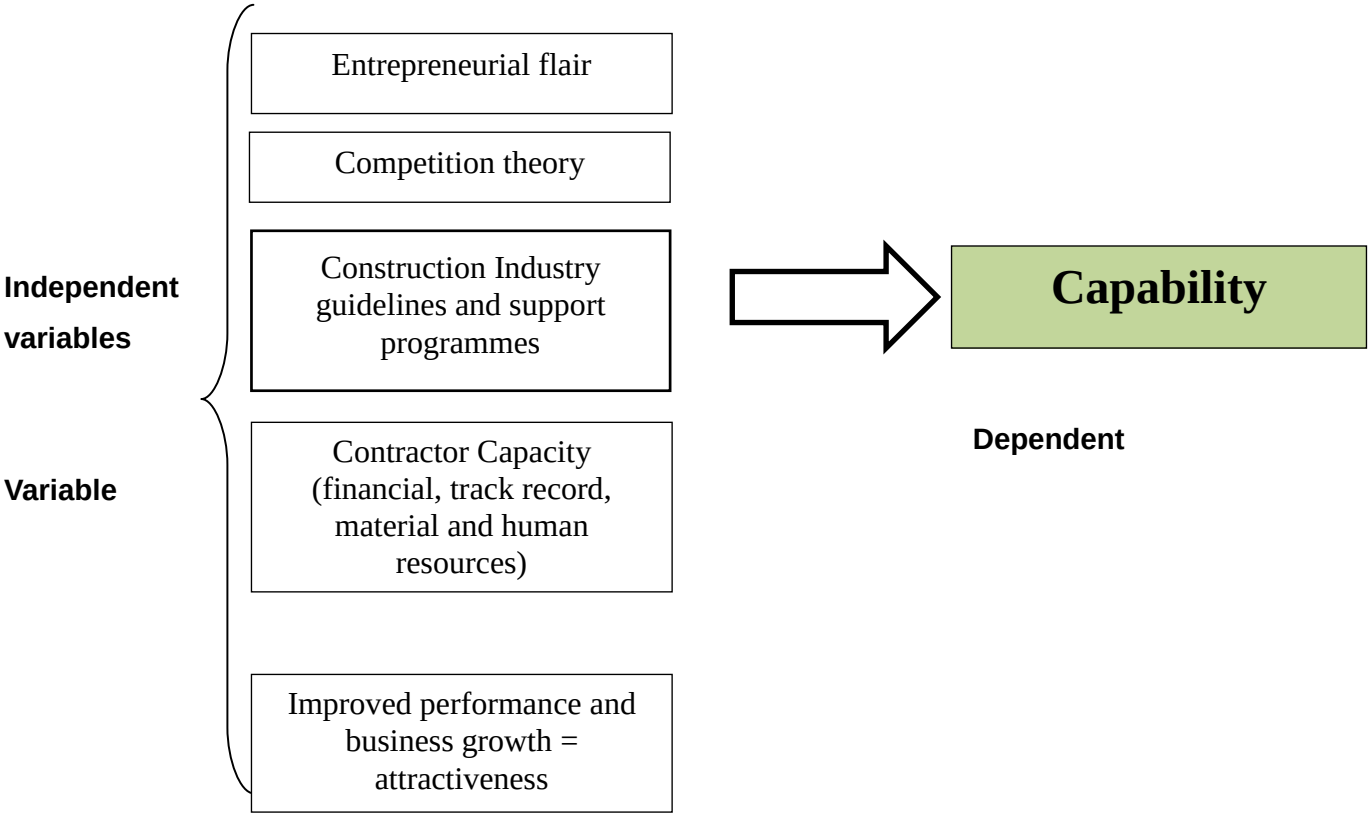


Figure 3.1: Developing a Theoretical framework: Independent vs. Dependent variables.

Independent variables that have already been researched through others studies but which attribute to the achievement of competitiveness are the following: **(1)** Entrepreneurial flair of individual SMME firms, **(2)** SMMEs' understanding of competition laws and theory, **(3)** SMMEs' ability to exploit benefit from Construction Industry Support Programmes, **(4)** Ability to assemble adequate contractor resources (human capital, plant and equipment), and **(5)** Their ability to consistently improve business growth, (Mun and Kong, 1998). All of these contribute to the general capability or skill of the construction entities as is reflected above in Figure 3.1.

The independent variables, also known as the predictor or explanatory variables, are the factors that the researcher uses to explain variation in the dependent variable. In other words, these are the causes. Khan (1997) cited by Torres (2004) talks about there being two other kinds of variables, which are basically independent variables, but work a little differently. These are “moderator” and “intervening” variables. A moderator variable is one that modifies the relationship between two other variables. Training of construction SMMEs in the grades that are a focus of this study, whether that training is related to the development programmes already mentioned in detail in section 2.9 or the accumulation of the requisite resources, such training is regarded as the moderator variable by this study. Because its main function would be to adjust the strength of relation between capability and competitiveness. Figure 3.2 hereunder, demonstrates the comprehensive suite which leads to construction SMMEs having the requisite competence as discussed in Section 2.12 of this research.

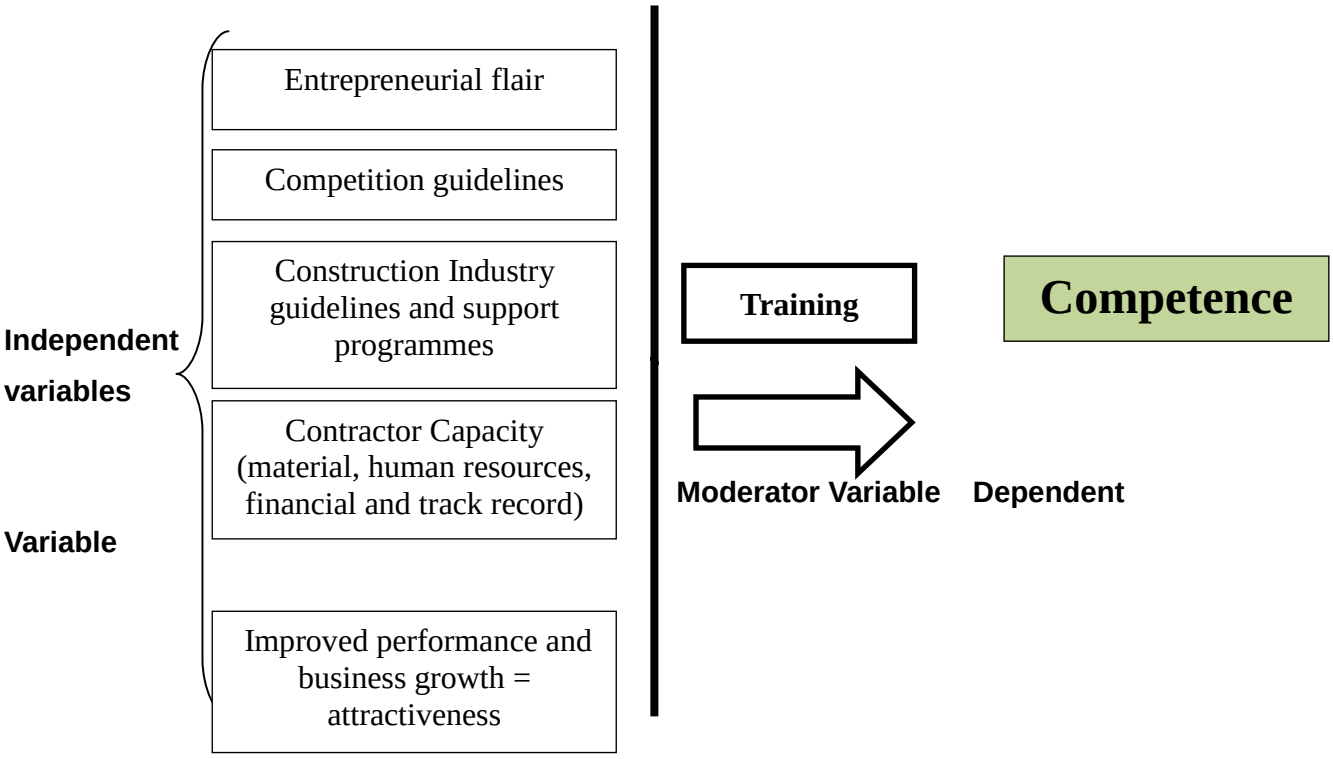


Figure 3.2: Developing a Theoretical framework: Independent + Moderator = Dependent variables.

Training herein as identified above and as a moderator variable; considered a suite of new exposures as opposed to the traditional programme offered through SMME contractor development programmes. As much as other studies have been conducted on contractor training, those closely reviewed were found to not adequately respond to or lobby for a focus on: innovation, business leadership, identification of “blue-sky” markets and entrepreneurship as opposed to the traditional technical training. It is a strong consideration of this research that future studies in the industry must cover these in more detail.

An intervening or intermediary variable is one that is affected by the independent variables and in turn affects the dependent variable. For example, the theory supporting this study is that if the targeted construction SMMEs were trained in competition theory, trained in the understanding of the resources they need to be competitive as is required through the cidb assessment criteria – the only other variable that would render them competitive is innovativeness. It therefore means that innovativeness in this instance would be the intervening variable and is hereunder highlighted in this way:

Figure 3.3: Developing a Theoretical framework: Independent variables + Intervening = Dependent variable.

In Figure 3.3 above, it is important to note that there is no arrow from the five independent variables plus the dependent variables of capability and competence and moderator variable: training, directly to competitiveness. This means that the absence of the ability of construction SMMEs to continually innovate would stunt the pace with which they are able to remain competitive notwithstanding their possession of and understanding of the components of all the independent variables.

Innovativeness is a very interesting intervening variable which has very strong linkages to the moderator variable of training – which constitutes learning.

The ability of construction SMMEs to accelerate both their technological competence as well as access to technological products which are new in construction has been proven to create opportunities for these firms with their clients for continuity of work and also being able to enter new product segments. In the absence of necessary core competencies, it creates instability in the construction economy and exposes the SMMEs to exploitation by more established firms. The focus of this study is not to go into a greater detail about how construction SMMEs can be innovative. The inference to innovativeness is insofar as highlighting that the institutions that support the formation of new, dynamic market segments would need to emphasise on the agility required by SMMEs, the efficiency and the dynamism that would help the targeted SMMEs to become competitive. This would enable them to discover new lines of comparative advantage. Technological innovation is but one part, (Mun and Kong, 1998)

Torres (2004) explains the concept of controlling for a variable as meaning ‘to hold its values constant’. For example, suppose this research measured each independent variable on its own or as a group, innovativeness and competitiveness of each SMME company within the selected grades looking at the relationship between the independent variables and competitiveness, the outcome of this study may find that the more of the independent variables an SMME contractor has on average the more competitive they would be than the SMMEs that have less of the independent variables.

Suppose also that this research divided the sample into two groups: innovative SMME firms and non-innovative SMME firms and within just the innovative group, the research could limit itself to looking at the relationship between the set of independent variables and competitiveness. The outcomes of the study as a result of being subjected to the theoretical framework underpinnings may be that there is no relationship between the independent variables and the dependent variables or the strength of the interrelationship may only exist between the intervening variable and the dependent variable. This would mean that regardless of the make-up of the set of independent variables, every SMME contractor can be competitive only after they

employed innovativeness into the mix of their individual capabilities and resources – not compared in quantum value with another SMME contractor either in the same grade or another grade in the grouping of the target sample. In Chapter 5 of this research, the true picture emerges with respect to what drives competitiveness within the selected grades and how it is measured.

3.4 Theoretical Concept Development

After formulating the theoretical framework as highlighted above, this research proceeded to develop the conceptual framework of the study. A concept is defined as an image or symbolic representation of an abstract idea. Jenkins (2004) cites the Chinn and Kramer (1999) definition of a theoretical concept as a "complex mental formulation of an experience". While the theoretical framework is the theory on which the study is based, the conceptual framework is the operationalisation of that theory.

Formulating a theoretical concept is sometimes referred to as a process of concept mapping, which is especially useful for further enhancements to the formulation of a problem (as already discussed under Section 1.3) in this research. Concept mapping is a general method that can be used to help any researcher to describe their ideas about the chosen topic in a pictorial form. Although concept mapping is a general method, it is particularly useful for helping researchers develop and detail ideas for research.

In this section this research formed its own position on the problem and in so doing gave direction to the rest of the study. The resultant outcome of this process was not an adaptation of a model used in a previous study, with modifications to suit the inquiry but it became a completely new model created. Aside from showing the direction of the study, through the conceptual framework, the researcher was able to show the relationships of the different constructs that needed to be investigated. The post-modern, constructivist theoretical frameworks surrounding the notions of learning, space and identity have informed the research design, methodology and methods which has been used to carry out this research. The following section attempts to clarify the assumptions made herein, as guided by Charmaz (2003).

3.5 Nature of methodology followed

Conceptual frameworks are formulated following the process hereunder outlined:

- Researchers cite their conceptual framework or paradigm;
- They identify variables underpinning the study (done in section 3.3 above);
- They highlight dependent, moderating and intervening variables (section 3.3 of this study); and
- Show the direction of the study (section 3.5.4 hereunder).

Arriving at a conceptual framework for a study is informed by following a structured process which is focused on a topic or a construct of interest, involving input from one or more disciplines or fields of expertise. This process having being duly followed produces an interpretable pictorial view, which is the concept, of the practices within those disciplines of fields which inform the behaviours of the target group or individuals which are central to the study. This helps the researcher to think more effectively about concepts affecting the paradigm of those interrelated disciplines or fields. This study has identified the following fields or disciplines which affect this research and they are indicated hereunder, (Howaldt and Schwarz, 2010).

3.5.1 What is the origin of the theory that is emerging?

- There are 6 (six) independent variables which are contributors to competitiveness of firms. These are: Competition Theory, Industry Guidelines, Contractor Resources, Capability, Industrial Flair and Improved Performance;
- Training and development is the moderator-variable to competitiveness;
- Innovation is the intervening-variable to competitiveness;

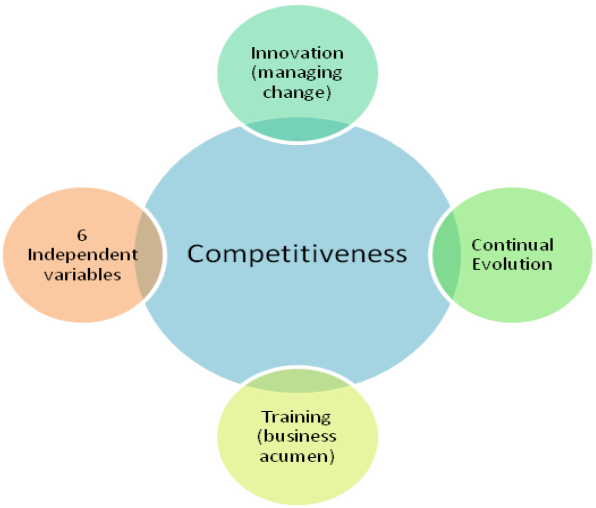


Figure 3.4: Underpinning Theory and Framework

3.5.2 What are the fields of research which influence this study?

There are a couple of fields of research, some an embodiment of knowledge areas, which have an effect on the dependent variable of competitiveness as it relates to the targeted group of SMME contractors, these fields are:

- Small Business Development
- Construction Management
- Competition Theory and Law
- Business Management and
- General Management.

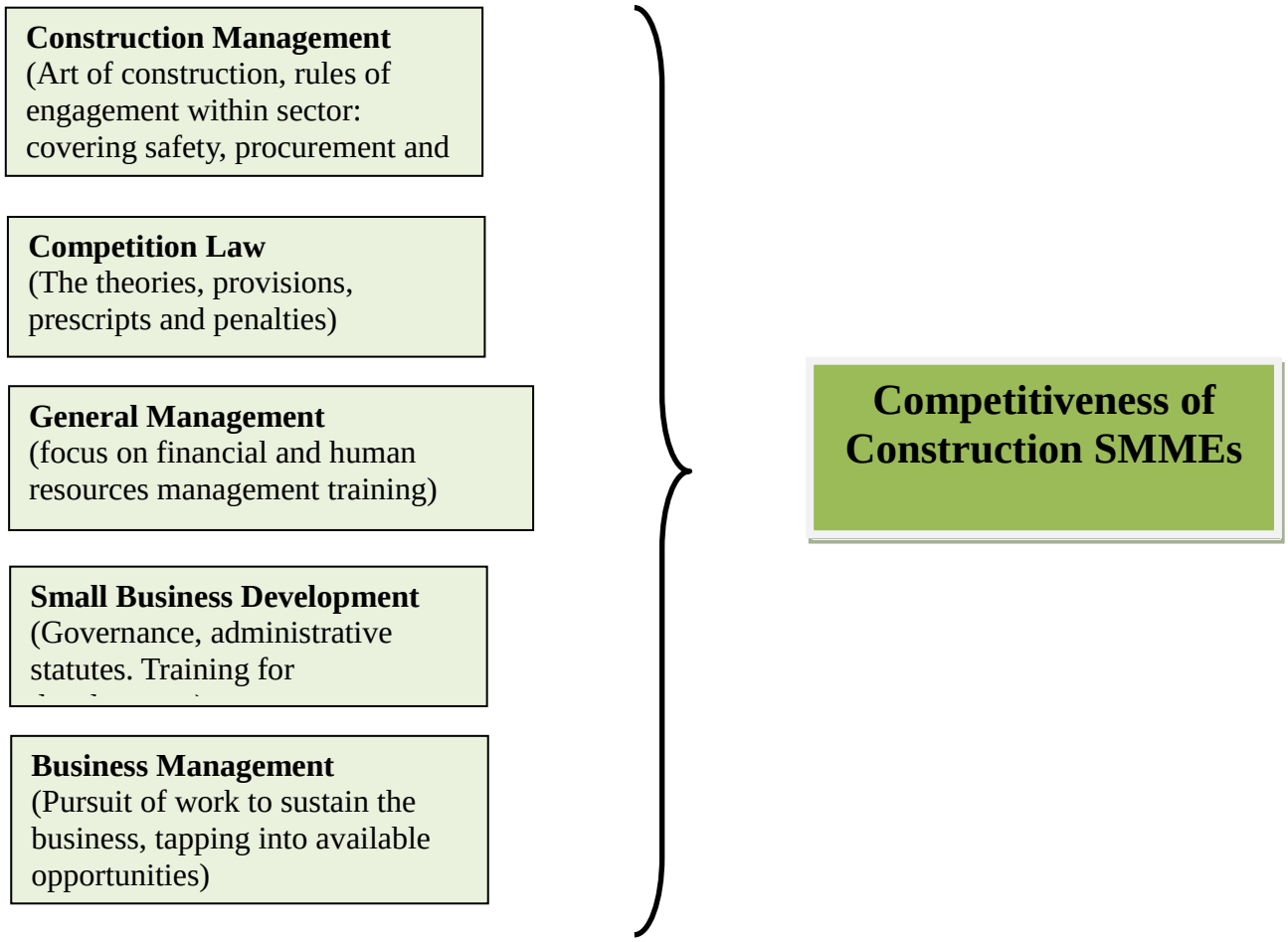


Figure 3.5: Disciplines affecting the conceptual framework.

3.5.3 What is the current focus of the RoC in relation to measurement of competitiveness?

The RoC was established so that it offers a basis for sustainable construction development and growth, through measuring the improved delivery on projects by all contractors, measuring performance and sustainable empowerment of contractors especially those that are in the entry levels of the RoC. The initial intention was that it would both shape and reflect progress in the capability and transformation of the South African construction industry (cidb, 2002). At present the RoC does the following:

- First and foremost the RoC stores and provides data on the size and distribution of contractors operating within the industry, and on the performance and development of contractors and target groups. Currently it

achieves both these intended ideals, although the measurement of performance is two-dimensional and requires further expansion if it were to appropriately measure competitiveness;

- It determines contractor grading designation through assessing financial and works capability of entities. Financial capability relates to the financial history or turnover of a firm, and the amount of working capital it can muster to sustain a contract, i.e. available capital. Available capital is determined from the liquid cash resources available to a contractor, loans that may be leveraged and any financial sponsorship;
- It measures works capability which determines the largest contract the contractor would have undertaken and completed in the class of construction works for which it is applying in the case of upgrades. The projects ought to have been completed during the 5 years immediately preceding the application, the number of registered professionals which that entity employs, and the fulfilment of relevant statutory requirements, is also assessed;
- The RoC reduces the administrative burden associated with the award of contracts;
- It supports risk management in the tendering process e.g. manage the risk exposure of construction clients wherein there is a plethora of responses to a particular tender where a great majority of the respondent contractors have no capability to undertake the work at hand. It currently achieves this.

All of the above the RoC currently achieves through a legislated process supported by instruments such as form CRS006, the cidb iTender and Register of Projects which jointly manage the production of credible data. The data contained therein is considered to be about 60% or more accurate and is constantly being improved.

3.5.4 What the RoC has not yet managed to achieve in relation to measurement of competitiveness?

- The RoC is meant to promote an enabling development framework for construction industry capacity, infrastructure delivery, and growth. The uppermost challenge with this is that not all construction clients are using this development framework and so it renders this ideal unattainable in so far as

having a concise framework for development which would have been availed to SMME contractors. What this means is that in relation to Figure. 3.5 above which reflects all disciplines affecting the conceptual framework, where it is argued that if all contractors received the similar sound basis of training around all the listed components, insufficient exposure of SMMEs to those development components, renders them uncompetitive and as such the RoC cannot measure what does not exist!;

- The RoC ought to reduce tendering costs to both clients and contractors although this has not been proven as achievable;
- It is meant to enable effective access by the emerging sector to available work, as well as development opportunities. At present not all construction clients exercise the discipline of registering their upcoming projects on the Register of Projects. This effectively results in contractors not receiving information about available opportunities, hence there is no cidb i-Tender alert which informs them and therefore there is no absolute guarantee of access to available work;
- The RoC is also meant to assess the performance of contractors in the execution of contracts and thus provide a record of performance for contractors. This assessment is not uniformly done by their clients and also there exists no standard process of assessment. It then becomes difficult to gauge the objectivity of the assessment of performance in relation to the contracts which the SMMEs undertake vis-à-vis the consultants' sometimes subjective assessment ;
- Finally, the RoC was designed to promote minimum standards and best practice of contractors. It currently does not do this and therefore it becomes extremely difficult to assess the extent to which the application of those best practices by SMME contractors would have lead to them being regarded as being competitive to not. There is no published framework at present which would be conducive to the RoC promoting the afore-mentioned minimum standards and best practices.

If the RoC were to be used as outlined in section 3.5.4 above it would be in a position to offer employers and contractors, alike, great benefits in identifying opportunities, challenges and growth sectors within the construction industry. The

RoC is ever-evolving and not static; it should never be viewed only as a repository of information on all participants in the value chain of construction, whatever their grade or disposition is. In its un-transformed state the RoC will remain only but a repository and will fall short of effecting the transformation of an industry that is one of the mainstays of the South African economy.

Currently, public sector spend accounts for about 25% of total general building activity and about 80% of civil engineering activity, and it is common cause that lower grade contractors, and in particular emerging contractors, are more dependent on public sector contracts. The study's interest was in seeing how what we know from the statistics of the RoC can be used to measure the competitiveness of a sector that stands to gain 50% of construction activity at any given point in time! Typically, direct public sector contracts to contractors in Grades 2 to 5 which accounts for about 10% of total turnover in general building and about 20% in civil engineering. How does one tell the serious construction SMMEs from those that are in it for a quick return with nothing vested further in contributing to the growth, development and transformation of the construction industry? The rationale for this study was premised on having to precisely answer that question.

3.5.5 What is the evident concept which is beginning to take shape?

Charmaz (2003) advises on the importance of having the research highlight predominant concepts and looking at the theory behind these concepts. This however can only happen after the variables which would be part of the concept, having had first been identified. It is understood that once the conceptual framework has been determined, the next step for the research is to determine what methods to employ to best answer the problem through the proposed framework. The conceptual framework of competitiveness is centrally located and influenced by the disciplines shown above in Figure 3.5.

To answer the question posed by this subheading, the research noted that all of the independent variables listed in section 3.3 are external and can either be taught through

formal instruction to construction SMMEs or they can be availed by stakeholders in the construction delivery value chain. This in itself however does not claim to prove that construction SMME firms that would have received the same amount of exposure would all be competitive in the same measure. There are inherent traits that are beginning to emerge and are supported by prior research conducted. These traits which are required from construction SMMEs over and above the identified variables are emerging as what could enable SMMEs to stay ahead of their peers within one grade. Burke (2006) lists these traits as follows:

(a) Ability to spot opportunities in the construction industry and responding to availed opportunities;
(b) Self-confidence of construction SMMEs to pursue and acquire work;
(c) Being passionate about one's product and service offered to construction clients;
(d) Above-average decision-making skills;
(e) Networking
(f) Determination and
(g) Risk appetite traits.

The above traits are an embodiment of **Entrepreneurship**! So even though the study began with the process of formulating a theoretical framework, from which the variables became
apparent and then the determination of fields which influence the paradigm from which the researcher is influenced: this was all a means to arrive at the thread from which all the theory was brought to bear on the research. From this, the concept is articulated as entrepreneurship which has a bearing on the measurement of competitiveness. Entrepreneurship is the concept upon which this research is hinged and is highlighted in the diagram hereunder.

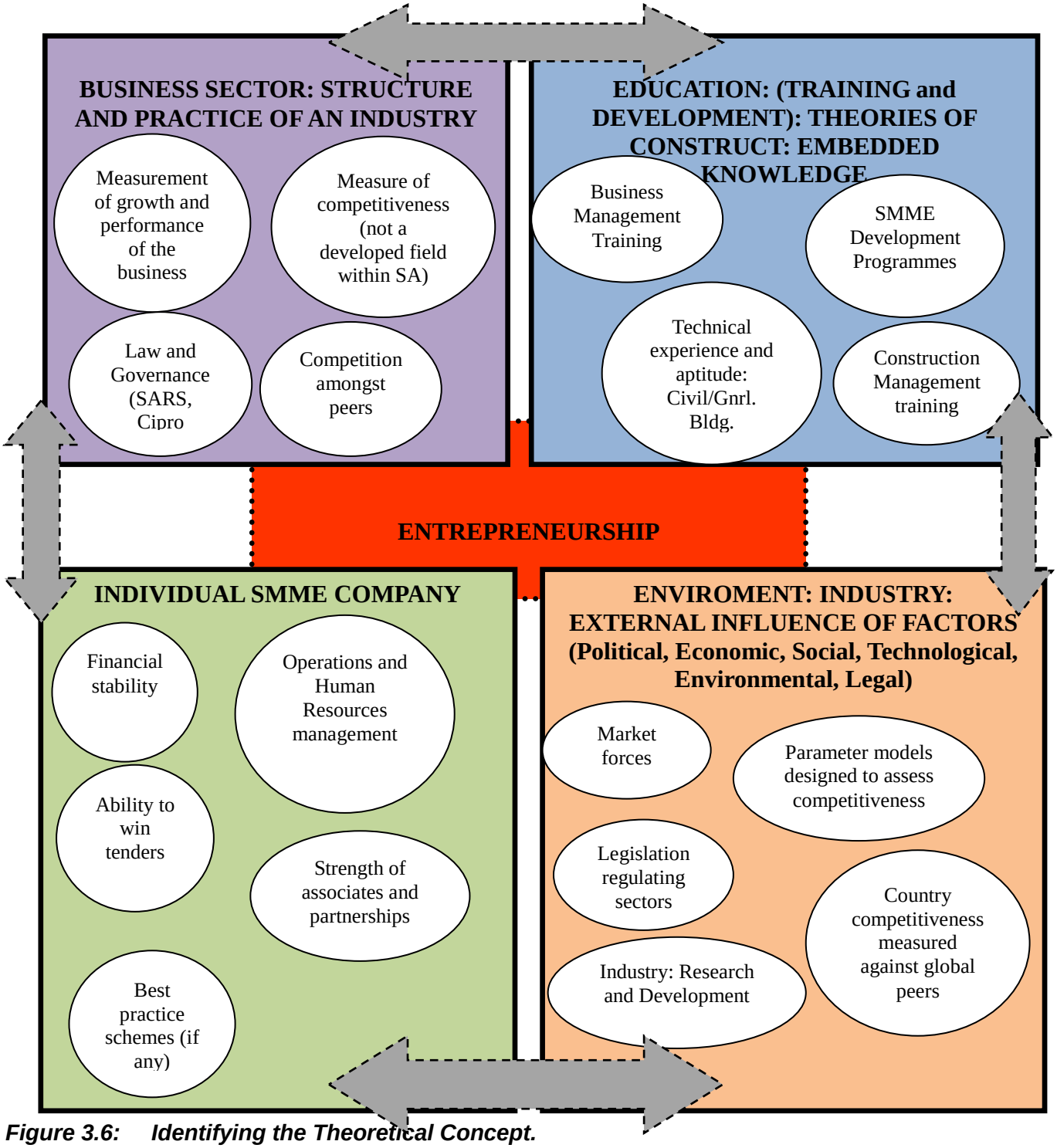


Figure 3.6: Identifying the Theoretical Concept.

3.5.6 Forward and Backward linkages of theoretical concept into pursued study.

As much as above the research highlighted the process which it took to arrive at the articulation of the predominant concept as advised by Charmaz (2003) and it located the driving spheres [in respect of fields] within which the study is located; it is rather important that the process is not left “hanging”. That in fact the research is mindful of

the centrality of the predominant concept throughout the study: Entrepreneurship. With the variables forming part of the theoretical framework having had first been identified, the conceptual framework having been determined, the next step for the research was to outline the backward linkages to the main problem identified in section 1.4. The step which followed the articulation of those backward linkages pointed to an initial omission in the literature review on Entrepreneurship and specifically what it aids towards enabling construction SMMEs to be competitive. It is for that reason that the researcher studied business literature on entrepreneurship and strengthened this study through section 2.5 looking at Entrepreneurship and its effect on contractor competitiveness. The final stage then became the determination of the appropriate research methods with which to best answer the research problem through the proposed framework.

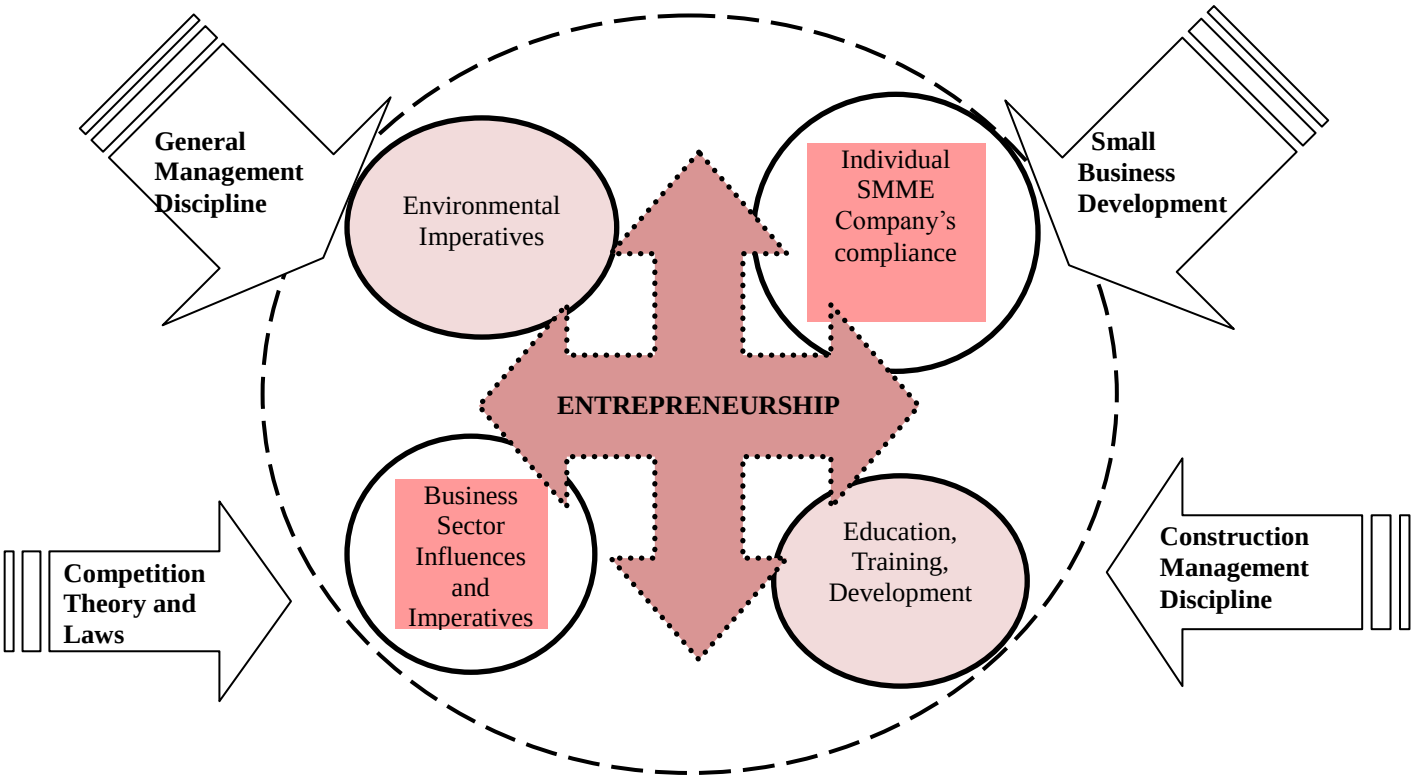


Figure 3.7: Linkages of Theoretical concept into main variables of study/disciplines and environmental influences

Entrepreneurs are usually associated with the small business environment (Burke, 2006). In this research competitiveness has been defined as an: '…aggressive willingness to compete'. The definition of contractor competitiveness for the purposes of this research has also been referred to as contractor capability, their

capacity, their competence, the appropriateness of the training they receive and finally, the innovativeness of contractors registered in the RoC in as much as the quality of being bold and enterprising and the degree to which an enterprise can, under free and fair market conditions is essential, it is also important that construction SMMEs produce goods and services which meet the test of international markets, while simultaneously maintaining and expanding real incomes over the long term (OECD, 2006). All that which holds these concepts together is depicted in Figure 3.7 above. Porter, the great American economist, advised that innovation and entrepreneurs are at the heart of economic advantage. Michael Porter has also been quoted as having said that the success of a company is directly related to achieving competitive advantage. This confirms that entrepreneurs and innovation are the driving force behind companies striving to achieve competitive advantage.

Entrepreneurship and competitiveness are not divorced from the participants enabling them. Beyond the definitions of entrepreneurship, what is key is to understand the skills that firms should possess to unleash the flair which makes them competitive. These essentially are always deemed as business skills which enable SMMEs to venture into avenues of business otherwise regarded as blue sky ventures.

3.6 Concluding Remarks

This chapter outlined the theoretical framework and its accompanying concept. It also expanded in detail on the underpinning theory versus areas or fields of specialisation within which the study is located. Theoretical frameworks were defined and an outline of the fields of expertise underpinning this study and its theoretical location was given. It concluded by providing backward linkages to the literature reviewed for the study (especially in relation to entrepreneurship and contractor development programmes which are key for training and enhancing contractor capability) and forward linkages for the extraction of data.

Leading to the next chapter on methodology it was critical to establish the appropriate instruments and which analysis methods should be used.

4.0 RESEARCH METHODOLOGY

This chapter surfaces the issues which inform the research methodology for this study as it pertains to where the research is coming from and finding location of that paradigm within the context of the South African construction industry. The reader will find value in the following being covered:

- *Introduction;*
- *Research Philosophy and Methodology Design;*
- *Reasoning of the Research;*
- *Data Collection and Analysis, and*
- *Conclusion.*

4.1 Introduction

In discussing research methodology, there are three major dimensions that need to be considered, namely the research philosophy, reasoning of the research, and data. The philosophical stance of the researcher strongly influences the reasoning of the research and both will influence the data required by the research and the analysis of that data. Research methodology refers to the principles and procedures of logical thought processes which are applied to a scientific investigation (Rudestam and Newton, 2001). Thus research methodology can be considered the overall strategy to achieve the aim and objectives of the research. Research methods, on the other hand, are merely tools. Thus within a research methodology, different research methods including tools, may be used to achieve the aim and objectives of the research.

Rudestam and Newton (2001) also advise that research at a PhD level is always about the learning process and it is an apprenticeship for the art of doing research. This view is confirmed by Sutrisna (2010). Sutrisna takes the view further by adding that there exists a distinct difference between the methods or tools and the methodology itself. Sutrisna (2010) also contends that a balance always needs to be struck between: the philosophical level at which the research is predisposed, the reasoning level underpinning it and finally the data level. In considering to embark on

this journey the research considered in what way this particular topic would be viewed as contributing ‘significant achievement in the discipline’.
Added to that, was a consideration of the way in which the subject under study would demonstrate the creation and interpretation of new knowledge of a quality to satisfy peer review, extend the forefront of the discipline and merit publication.

The research is mindful of the importance of proceeding along this journey, following a methodology that which first considers all existing research regarding SMME contractor development as reflected on in Chapter 2. Using statistical data, the research proceeded to consider all the variables including competitiveness that have been advanced as crucial in enhancing growth and sustained participation of construction SMMEs in the mainstream economy. The research then conducted a comparative analysis of all available tools of measurement and made a case for why the RoC is one such tool that can be used to measure the improvement of competitiveness in the contracting fraternity, particularly within the SMME grades.

Fu *et al.* (2002) suggest the impossibility of describing construction management as a generic type of study rather than as a discipline. The challenge with research is that it approaches construction management’s sources of problems as if they were along the same lines as sectors which have established academic disciplines and supporting data. As a result the industry’s nuances get ‘lost’ in the process and the suggested recommendations remain academic as opposed to being practically possible to implement. Noting this potential difficulty means that in how the research undertook to solve the problem expressed in Section 1.4 the approach taken was that of first exploring the nature of any new problem that may arise.

Linked to the methodology, there was a ‘testing’ phase to reflect upon the limitations of previously proposed generalisations. Thirdly, the research underwent the problem-solving stage, in which the solution to the identified problem was proposed utilising the intellectual resources that were marshalled. It was only at that stage that the research witnessed the identified problem being fully defined and the method of solution discovered. The scientific underpinnings of this research are qualitative and throughout the research there was a justification made for settling on this methodological framework.

The qualitative research methodology was chosen for this study because out of all the others it seeks out the ‘why’, not the ‘how’ of the chosen topic through the analysis of unstructured information. The methodology does not just rely on interview transcripts and open-ended survey responses, but the enquiry is explored further through:

- What the respondents say;
- What the respondents actually mean over and above what they say;
- The culture or paradigm which informs their thinking;
- What the aspirations of those interviewed are; and
- What they then do with what they know.

Furthermore the qualitative research methodology was chosen because it does not just rely on statistics or numbers, which are the domain of quantitative research. Therefore the nature of the problem articulated in Section 1.4 of this study and the data that would have been required to arrive at suitable answers or solutions to the problem required a choice on qualitative methodology as opposed to the other methods.

Research methodology describes the procedures to be followed in realising the aim and objectives of the research. However, conducting qualitative research is not considered to be an easy task after all. Denzin and Lincoln (2008) warn that a complex, interconnected family of terms, concepts, and assumptions surround the term ‘qualitative research’. When conducting research especially at a doctoral level, and in particular qualitative research, there is an expressed necessity to have a robust understanding of research methodology. When looking at research methodology, the research was structured into three main components namely:

- its underpinning research philosophies;
- the reasoning of the research, and
- how this study would be pursued at a data level.

The qualitative research methodology followed by this study was used to gain insight into the construction SMMEs’ attitudes towards the sector within which they trade, their behaviours, their value systems [to the extent where this was possible], their concerns, their motivations and aspirations. All of these, the study concluded that they inform the business decisions which the SMMEs make, how they craft their business strategies, how they then communicate these and how they conduct further

research into what would be required to grow their entities. It was appreciated throughout this study that collecting and analysing unstructured information can be messy and time consuming when faced it came to the synthesis of volumes of materials, finding themes and extracting meaning. However, the process followed emerged with a simplified ‘research methodology continuum’ from the study. The final part of this chapter deals with the credibility of research findings including ethical issues. The approach followed by the study is therefore in line with methods usually applied when one is pursuing qualitative research.

4.2 Research Philosophy and Methodology Design

Shakantu (2010) explains the philosophy which the research undertakes as an approach to knowledge generation. Shakantu (2010) also refers to this as a process of answering unanswered questions, creating that which does not currently exist and expanding the boundaries of our ignorance. Shakantu (2010) further talks about such a discovery and creation of knowledge as being a systematic quest for undiscovered knowledge emphasising that the steps leading to the production of good research entail observing, theorising, experimenting to test the theories, drawing conclusions and reporting on the results which result in a scientific method being applied. The research reported on applied research as it seeks to solve a specific practical problem. The practical problem being: There is a general lack of competitiveness within construction SMMEs. Most construction SMMEs can hardly demonstrate management competencies and resources (or capability) which could enable them to compete in a growing construction economy. The ultimate goal of the research is to measure the level of competitiveness or lack thereof so that solutions to this lack of competitiveness can be designed. Any other outcome of a theoretical significance would indeed be a bonus outcome to the study.

At a philosophical level, the study was premised first from the understanding of the definition of philosophies in research. This was important as a first step because once the philosophies underpinning a study are weakly articulated, extraction of data becomes next to impossible. To arrive at the appropriate understanding, the research first had to review ontology and epistemology as shown in Table 4.1:

Table 4.1: Definition of Philosophies of Research

RESEARCH PHILOSOPHY	ITS INFLUENCES ON THE APPROACH ADOPTED BY RESEARCHER
Ontology	How the reality of the chosen topic is perceived, which will influence the way the research is conducted? How is the reality perceived in one particular research? Would this influence a change in the research OR are things the same between one research area to the other? What is the assumed reality?
Epistemology	Epistemology being the study of knowing and it dealing with the questions of how what is known is known: What are the claims of what is assumed to exist? The theory of knowledge and how it ought to be validated?

Source: Sutrisna, 2010

The definitions highlighted above assisted in appropriately locating the chosen study. Hereunder is a continuum which outlines the difference in extremes within each philosophical underpinning of the study:

4.2.1 Ontological Position/ View

Objectivism:
An ontological position which asserts that phenomena and their meanings have an existence that is independent from the actors

Constructivism:
An alternative ontological position which asserts that phenomena and their meanings are continually being accomplished by the actors. A constant state of revision applies

Figure 4.1: The extended 'continuum' in research methodology

Figure 4.1 above shows that at an ontological level this study is constructive because there is a set of variables already identified in Chapter 3 and these are phenomena that exist with meanings attached to them. However, in and of themselves they are influenced by actors which in this case are construction SMMEs. Without that continual interaction between the players and phenomena, the identified problem in the form of a lack of competitiveness, would remain unresolved. At a point in time when the actors not only influence the phenomena, but they totally embrace them and they move to resolving the identified problem, a new state of play may emerge which would at that stage require a revision to the rules of competitiveness. So the ontological underpinning of this study is Heraclitean ontology because it emphasises the primacy of a fluxing, changeable and emergent world.

4.2.2 Epistemological View

Figure 4.2: The extended 'continuum' in research methodology

At an epistemological level, this research is based on the interpretive epistemological philosophy purely because there is evidence of a lack of competitiveness on the part of construction SMMEs [this as an outcome of the interviews conducted]. Well-documented research exists to prove this claim and as such it was not the intention of this research to re-prove that claim. Secondly, Chapter 2 reflects on some of the literature which is available for review to look at how the main problem as stated in Section 1.4 affects most sectors of the economy and not just construction. For that

reason this research did not dwell on the extent to which the various sectors are affected.

The philosophical underpinnings of this study at an epistemological level commenced from the premise of what is assumed to exist: lack of competitiveness of construction SMMEs. It then proceeds to look at an available tool which was designed with particular parameters in mind and it argued for its use to measure this 'missing' competitiveness which at the time of commencing the study was not self-evident as being missing. The study further looked at the theory of knowledge and how it could be validated to solve a new claim, namely: the efficacy of the RoC as a tool used for measurement. This philosophy therefore can only mean one thing, that in the continuum, the research was confronted by a leaning towards interpretivism as can be seen and explained hereunder.

Also at a philosophical level, this study argued that the phenomena (entrepreneurship and competitiveness) are not divorced from the actors/ participants causing or enabling them – a new truth needed to be constructed out of pursuing this research. It therefore rendered the study interpretive looking at the behaviours of the 'actors' and the cause-and-effect relationship that they have with the phenomena that were being investigated.

4.3 Reasoning Level

4.3.1 Deductive versus Inductive Reasoning

The next step in arriving at the appropriate research methodology was to look at the reasoning behind the chosen study. The reasoning level had both deductive and inductive aspects to it. At a deductive level the logic of research: it is the order that mattered and reasoning was based on the output of other research. At an inductive level the research was encouraged to collect new data and arrive at its own discovery on the new phenomenon. The main difference between deductive and inductive research lies on the use of the current body of knowledge and the role of their data collection methods. Researchers performing deductive research compose hypothesis based on the current body of knowledge and then conduct data collection

and data analysis to test the hypotheses (Sutrisna, 2010). Researchers performing inductive research, on the other hand, conduct data collection and data analysis to come up with findings while using the current body of knowledge to inform their data analysis they see appropriate. Deductive research can be considered in line with objectivism, the ontological level and positivism, which is the epistemological level, due to its reliance on the current body of knowledge in composing the hypothesis. Thus, because there is only one objective truth, researchers can base their investigation on the existing body of knowledge as they have been scientifically proven and therefore, must represent the one objective truth.

In order to better understand the matter, an analogy to completing a jigsaw puzzle can be used (Sutrisna, 2010). A deductive research will use existing pieces of the jigsaw puzzle and then deduce the missing pieces to complete the picture. An inductive research simply rejects the other pieces of the puzzle as correctly representing the truth acknowledging that the other pieces of the puzzles are products of different construction and interpretation of reality that are not necessarily compatible. Figure 4.3 below shows the positioning of deductive and inductive reasoning of the research within the extended version of the original 'continuum' of research methodology discussed above.

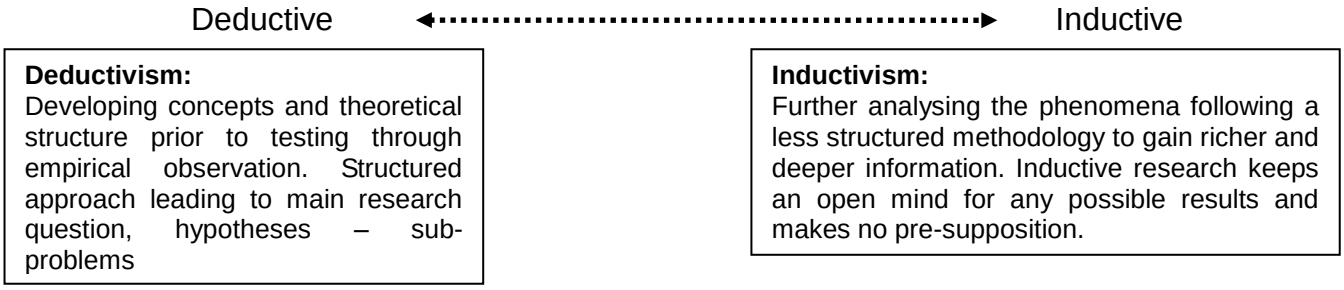


Figure 4.3: The 'continuum' in reasoning of study

For the purposes of this study, the research followed inductive reasoning [as explained in Figure 4.3 above] to arrive at the answers. The inductive reasoning methodology is explained as one that moves from the examples of work currently done; to the rule of how this work ought to be done. It also involves conducting data collection and analysis to come up with findings while using the current body of knowledge to inform data analysis as and when appropriate. What it also makes an

allowance for is the emergence of new truths. By comparison the inductive methodology is different to the deductive approach whose premise moves from the rule to the example.

This research became purely an investigation into the usability of the RoC as a tool with which to measure the competitiveness of SMME contractors. The process that was followed to arrive at such answers involved the collection of relevant data through the RoC and the interrogation of the assessment process applied by the cidb, which in turn led to the answering of the main question. The evidence of whether or not the collected data was sufficient to assist in arriving at the right answer validated the claim made. In essence the research started off by looking for evidence that would validate the claim of non-competitive SMMEs. The authority upon which this claim was based was supported by industry-specific publications already mentioned in the introductory chapter.

Qualitative methods focus on the qualities of phenomena being investigated rather than their numeric measurement. Qualitative research believes that real-world phenomena need to be assessed from within the context of that reality, taking into account the subjective dimension of reality (Sutrisna, 2010). Naturally emerged from the constructivism and interpretivism side of the ‘continuum’, qualitative methods are based on the assumption that there is no singular objective reality and hence the observed reality will be related to the researchers’ interaction with the phenomenon. Sutrisna and Barrett (2007) contend that the main strength of qualitative methods is the potential of qualitative research to yield rich, but complex data which certainly was not a product of isolation within a single reality or generalisable quantified relationships among the variables. Qualitative methods are inductive by nature and may yield unanticipated findings based on the evidence gathered along with the explanations of its dynamics. Therefore the paradigm of this study is phenomenological.

A pre-research and post-research comparative analysis was made. This research was not merely a collection of observations and insights. The data was marshalled and linked with arguments that shed light on the new class of problem that had been identified. The aim was to show which theories and concepts are useful in dealing with the identified class of problems. This research followed a qualitative

methodology which involved understanding; reporting on and evaluating the meaning of structured events specific to competitive and non-competitive behaviours of SMMEs. This is why the focus of this research was the way in which participants, rather than the research, interpreted their experiences and constructed a new reality. The method of extracting the data which was used included structured interview discussions.

4.4 Data

The last level of importance in research methodology is the extraction of data. On the data level, the collected data based on the characteristics can be generally grouped into quantitative and qualitative data as shown in Figure 4.4. As a general rule of thumb, quantitative methods require quantitative data and the qualitative method requires qualitative data in the collection and subsequent analysis (Creswell, 2003). Leedy and Ormond (2005) state that facts or data are needed to solve any research problem. These facts contain desirable aspects of truth and to extract the meaning of the data, certain methodologies are needed. Leedy and Ormond (2005) also list four types of data, each of which has relations to the research methodology pursued by the study. Denzin and Lincoln (2002) support this by adding that at the methodological level, the research chooses techniques of investigation that are: hermeneutical which is interpretive, dialectical, phenomenological, ethno-methodological or symbolic interactional. All these methodologies emphasise that through interpretation or debate the research is able to construct a transient truth of the phenomenon being observed.

Data collection is the process of obtaining data. In this study, data had to be obtained for independent variables as well as dependent variables as identified and expressed in Chapter 3 of this study.

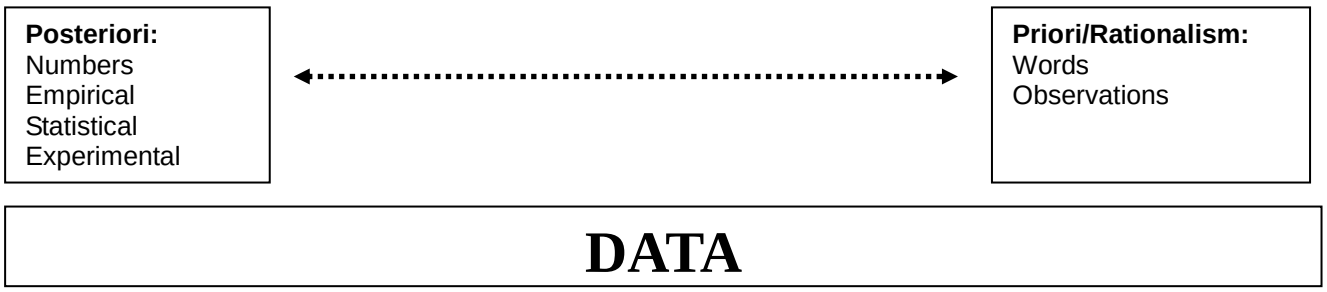


Figure 4.4: The 'continuum' in data of study

Data about the moderator variable has automatically been included during the collection of data on the independent variable both as reflections of the exposure of the participants. The research appreciated that the participants were able to assess

their experience in relation to areas that can improve their competitiveness, using the RoC.

This research used both ends of the continuum only in the collection of data [posteriori and priori – as can be seen in Figure 4.4 above]. The respondents used words both written and spoken and recorded. At the same time, the interviewed guide had sections that required numeric entries, as much as the body of the guide required entries or responses in words. The research followed the qualitative methodology using phenomena that were explored until the chosen subject had become saturated. Words and observation then become the premise of the data collected for the purposes of this research. It is evident from the discussion of the research methodology carried out above that this research lent itself to a qualitative approach being followed by the researcher because it was right-leaning in its philosophical reasoning and data levels. The difference between its stance and the quantitative one is that the quantitative approach seeks to gather factual data and to study relationships between facts. This approach is also replicable and capable of isolation from reality without compromising the cause and effect being researched. On the other hand the qualitative approach affords a means of providing distinct data and evaluation of theorising problems and approaches as advised by McKie (2002).

The observations included data in the form of physical readings, phenomena, occurrences, interactions, processes and behaviours. These became a recordal for subsequent analysis and interpretation such as experiment on processes, methods for undertaking certain interventions such as productivity studies for performing various construction operations, interactions between persons or groups during meetings, when conducting negotiations or when exposed to specific conditions and reactions of persons or groups during specific conditions.

The systematic collection of data derived from direct observation of the everyday life of a particular group of SMME contractors is what was targeted by the research. This methodology required that the researcher be immersed in the culture or subculture of the SMME contractors through an interactive process. The process of selecting the population of interest was limited to SMME contractors all of whom are registered in the RoC, so that by studying the sample there was a fair generalisation of the population from which the sample was chosen. As this research was a

phenomenological or qualitative one, it was expected that the research questions be addressed to the participants in the sequence which seems most appropriate. Most of the data as presented in Chapter 6 is in the form of tables and graphs. The use of diagrams and other illustrations is balanced throughout the thesis.

4.4.1 Data Design

Figure 4.5: The 'continuum' in data design of study

In the design of the data, the type that this research landed itself on was that of action research as opposed to field studies and experiments [as explained through Figure 4.5]. A citation on the Betts and Lansley (1993) work acknowledges that in the construction management profession there comes a point where with the passage of time, the methodology becomes more predictable and established. They assert that there should be a gradual move from the exploratory, concept-building type of work to the more routine application of recognisable techniques. Such an evolutionary view is implied in their review of the first ten years of the journal *Construction Management and Economics*.

Having discussed the research paradigm and the study's reasoning and how the data would be collected, the subsequent process was to conduct qualitative research using the requisite method. The process of triangulating data was inclusive of perspectives, data sources and collection methods where feasible (Babbie and Mouton, 2010). The importance of construction SMMEs perceptions of their own reality can never be undervalued as it added such richness in the outcome of this study.

- In view of the problem and sub-problems advanced in this study, data was derived from both primary and secondary sources. The collection of existing

or new data on the basis of which the research questions could be answered, hypotheses tested, objectives fulfilled and, ultimately, the problem solved was achieved using data collection techniques namely interview discussions.

4.4.2 Data Recordal

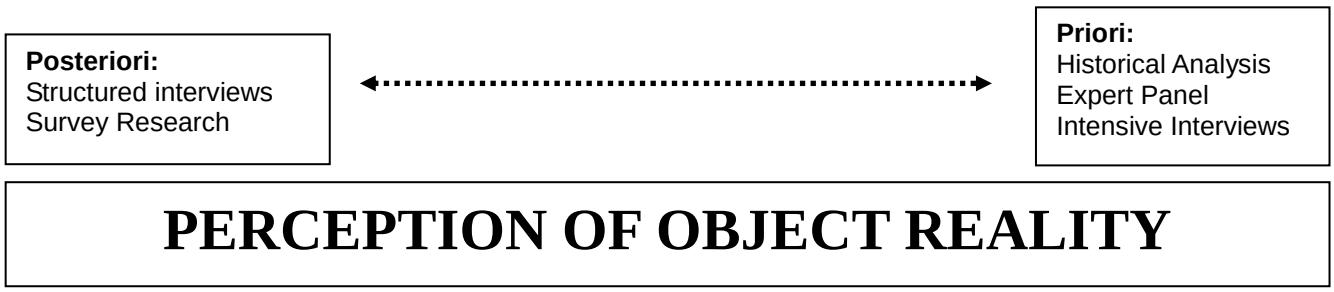


Figure 4.6: The 'continuum' data recordal within study

Figure 4.6 demonstrates a leaning towards posteriori from a data recordal and perception of object reality point of view as derived from the structured interviews which were conducted. The interviews provided the key elements into which there was one focus out of the qualitative data that flowed from the interview guide. When conducting the interviews, the discussions were based on a pre-arranged list of statements whose central theme was competitiveness enhancement.

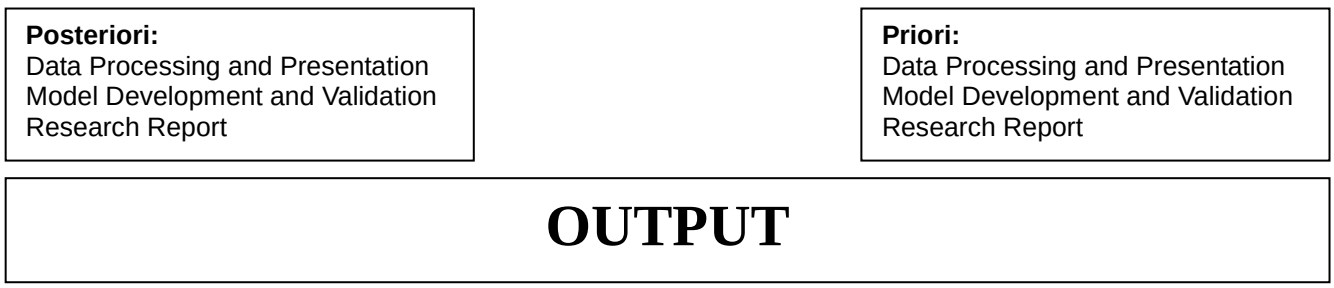


Figure 4.7: The 'continuum' data recordal within study

4.4.3 Primary data

The primary data was derived from the empirical study as opposed to theory or non-empirical classification. The research sourced as detailed in Chapter 2, original data which centred on the following themes: (i) contractor development; (ii)

competitiveness, (iii) small business development and entrepreneurship. This study focuses mainly on the primary data which included investigation, observation and interviews. The discussions were recorded and focus group discussions held with construction clients, small business development managers, heads of infrastructure departments and SMMEs themselves to obtain a holistic view of what actually happens in practice. In its nature, this research is qualitative; therefore it used an inductive form of reasoning: developed concepts, insights and understanding from patterns in the data. In relation to the output, both leanings of posteriori and priori applied as indicated in Figure 4.7 above.

4.4.4 Secondary data

Secondary data was used to lay a theoretical foundation for the study. These included published and unpublished books, theses, journals and conference papers relating to small contractor development, business competitiveness and performance enhancement tools.

4.4.5 Criteria governing the admissibility of the data

There was no bias or unethical issues around both the primary and secondary data and responses that would have been acquired through investigations and interviews. Data was collected according to accepted rules of research methodology. The review of the literature has highlighted the competencies that needed to be focused on more closely during the collection of data to arrive at the answers that the research was seeking.

Due to the methodological approach which was followed by this research it was not necessary to design a questionnaire. In its place there was an interview guide which was designed taking into consideration the population that was to be surveyed. Other key points of consideration in the design of the interview guide were the use of language or content, vocabulary and grammar that most SMME contractors are familiar with. Asking questions that are beyond the respondent's capabilities was avoided at all times.

4.4.6 Data collection

This process consisted of examining, categorising and combining the evidence to address the initial propositions of the study. For this purpose this study analysed the input from the interviews which was subsequently appropriately edited, coded and tabulated in order to facilitate the analysis and the interpretation of results. The data assisted in identifying basic and meaningful trends in the results, compatible with both the conceptual and the research design approaches followed in the study. Results and findings are presented in Chapter 6.

The analysis and treatment of data is defined as “examining data to interpret meaning, make generalisations and extrapolating trends.” (Neuman, 2000) Included in this process was a thorough explanation of data that needed to be collected and the methods by which this data would be obtained. The collected data was analysed to determine whether it can be used for analysis and whether there is any evidence of correlations or patterns. This was followed by interviews of SMMEs and the questions as phrased in the interview guide were responded to by such SMME contractors. Included in the explanation mentioned above was a definition of the subject population, namely SMME contractors. The research has not only identified the subject population, associated demographics and resulting data, but has also acknowledged any possible biases or irregularities resulting from gender, age, race, and educational level.

4.4.7 Population and sampling

McBurney (2001) posits that sampling methods may be divided into two broad categories, namely probabilistic and non-probabilistic sampling. A probabilistic sample is one in which every element has a known non-zero probability of being selected. Non-probabilistic samples rely on the judgment of the researcher. The non-probabilistic sampling approach was adopted by extracting themes through content analysis for this research as recommended by McBurney (2001).

Pre-testing or piloting the instrument is what is done to collect the data in order to determine whether it is relevant and effective (Du Plooy, 2001). Reliability and

validity of data, which form part of a pilot test is discussed in the research. The interviews were standardised, tightly structured and conversational. Through this methodology, the researcher and the interviewees engaged in a one-to-one discussion and in itself the process was quite time consuming. However, the positive outcome of such a process was in that the input is more qualitative than quantitative which is appropriate when dealing with contractors that operate in a complex and dynamic environment. The research interviewed several people at different times using the same interview guide and schedule.

As much as this research used non-probabilistic sampling it was also purposive. The focus of its subjects - those SMME contractors who have worked on projects which have afforded them the opportunity to grow and demonstrate competitiveness – was informative for the purposes of the research as it used the qualitative methodology approach. It was not necessary to have a cap on the number of SMME contractors to be interviewed as the research's basis was 'qualitative methodology'. Therefore, the research entailed conducting of interviews regarding informative subjects and only ceasing when a point of saturation was reached and there can be no further outcome of interest to be extracted from the interview process. A citation of work conducted earlier by Strauss and Corbin referred to qualitative methodology as "that data which is developed inductively from a corpus of data" and identify it as the resulting theory which at least fits one dataset perfectly. This contrasts with theory derived deductively from grand theory and which could therefore turn out to fit no data at all.

Qualitative methodology takes a case rather than a variable perspective. This meant in part that the research at times took different cases to be wholes, in which the variables interacted as a unit to produce certain outcomes. A case-oriented perspective tends to assume that variables interact in complex ways, and is suspicious of simple additive models.

The respondents included SMME contractors graded between 2 and 5 on the cidb construction register service and active in the GB and CE classes of works only. There are at least 13 905 registered SMME contractors within the chosen geographical area (cidb, 2011). It would have been impossible to interview all of them and also manage to have their work assessed. The interviews tested the GB and CE sectors' understanding of performance, competitiveness and what is required to remain consistently productive in the business of construction. These

SMME contractors were all based in the Eastern Cape with the aim of them representing the national footprint. Since the methodology for this study has its bearings on qualitative methodology there was no requirement to use a questionnaire as a quantitative instrument through which to obtain data from the target population. Also managers that are responsible for SMME Development programmes within state-owned enterprises were interviewed for the triangulation of data to be achieved.

4.4.8 Validity/Reliability of data

This section in the research addresses the extent of authenticity of the data and the application of the instrument insofar as it should demonstrate that regardless of the situations in which the tool could be used, there will be an achievement of similar results. Testing the validity and reliability of data refers to measuring the way an idea fits into actual reality and to what extent the research findings accurately reflect the situation in the question. In other words, reliability deals with the accuracy of the measuring instrument. This means that the data must be validated by subjecting it to the process of measurement. Lastly, the quality of the research would be gauged against four criteria which according to Yin (2003) are the ‘construct validity’, ’internal validity’, ‘external validity’ and ’reliability’.

Also according to Yin (2003), construct validity refers to the degree to which correct operational measures for evaluating the concept under study, are applied. Construct validity is upheld when the research uses multiple sources of evidence as well as establishing a chain of evidence during the data collection phase. Due to the fact that this research tested the information given by construction SMMEs against the results as captured by construction clients and also against the evidenced growth in the construction sector as a result of enhanced competitiveness – the full circle of applying construct validity to the data was therefore achieved.

4.5 Summary of Research Methodology for this study

Table 4.2: Summary of research methodology pursued by this study

Topic of Research	Measuring the competitiveness of SMME Contractors through the use of the RoC
Main Research Problem	There is a general lack of competitiveness within construction SMMEs. Most construction SMMEs can hardly demonstrate management competencies and resources or capability which could enable them to compete in a growing construction economy.
Category of Research	Applied Research
Type of Research	Action Research
Philosophical Position of Research	Rationalism / Priori Knowledge Ontological - Heraclitean Epistemological - Interpretive
Paradigm of Research	Phenomenological
Data collection method	Observation of subjects in a natural setting and under controlled conditions. Participant observation in natural field setting
Self-reporting	Personal and group face-to-face interviewing Numbers of construction SMMEs and their transition through the assessed grades in the form of upward mobility through RoC. Structured interviews
Data Format	Text
Data coverage	Sample of subjects due to the methodological consideration of qualitative methodology

Source: Shakantu, 2010

The research problem underpinning this study is specific and yet narrow enough to ensure focus and produce a practical answer. Otherwise had it been too narrow a research problem, data extraction may have produced an answer which is of an academic nature and would not have been suitable for the built environment discipline and its attendant paradigm.

This serves as a foundation upon which the reader would be able to evaluate the quality of the research undertaken for the purposes of this particular study. The issues of paradigm, epistemology and methodology are detailed above and the motivation as to why a qualitative research method has also been employed throughout this study. Therefore the summary of the process of structured interviews which the researcher undertook, served to:

- Enable a personal rapport to be established with the respondents, which was particularly useful in that it enabled free responses to be obtained from construction SMMEs as opposed to structured responses in the case of questionnaires;
- The interviews also enabled quantification and analysis of responses. As much as it is appreciated that interviews can be very time-consuming and costly, the ultimate benefit for the length of time it took to complete this study, lay in that it ensured good response rates and was extremely useful in many respects, depending on the type of data which was required;
- Interviews were also useful in augmenting data or aspects of data that may have been obtained by other means, and finally;
- Some interviews were conducted telephonically, due to logistical difficulties of certain SMMEs and this was considered appropriate.

Data on the dependent variables as explored in Chapter 3 was obtained through interviews with the SMMEs. The same factors that influence data collection in the case of the independent variables influenced data collection on the dependent variable. The steps that were taken to mitigate these influences are described in Chapter 6.

The data was collected directly by the researcher (through the structured interviews) and also triangulated by the use of reporting already captured within RoC. The

collected data was analysed to determine whether it can be used for analysis and whether there is any evidence of correlations or patterns emerging. The process was objective and observations were recorded non-judgementally.

4.6 Concluding Remarks

This chapter defined the research philosophy and methodology design, located the reasoning of the research and data. It surfaced the issues which informed the research methodology for this study as it pertained to where the research was coming from. This paved the way to outline criteria for a sound methodology for competitiveness which was to be developed in the design of the interview instrument stage. The outcome of which would direct the study and in turn evaluate the success of the designed methodology.

5.0 INSTRUMENT DESIGN AND FIELDWORK

This chapter addresses the research instrument that was designed for use at the interviews which were conducted with the respective construction SMMEs. It is also about the detail in how the study was undertaken. The type of study pursued strikes the balance between being a social group study and a study of organisations and institutions. The reader will find value in the following being covered:

- *Introduction;*
- *Existing measurement instruments;*
- *Review of the assessment criteria in relation to the RoC;*
- *How the instrument was designed;*
- *Biographical information;*
- *Analysis and results of study, and*
- *Conclusion.*

5.1 Introduction

This Chapter acknowledges that ultimately all scientific enquiries evolve and lead to making observations and interpreting what has been observed (Babbie and Mouton, 2010). However, before the research can observe and analyse, a plan which outlines what would be observed and analysed, is required. Qualitative research studies human action from the perspective of the participants themselves. Babbie and Mouton (2010) make an argument for qualitative or naturalistic evaluation approaches and in that they share epistemological and methodological principles of qualitative research. They further say that depending on how the participants answer the list of questions posed to them, their answers determine whether a naturalistic approach is deemed to be the most appropriate or not.

Naturalistic evaluation is used under circumstances when it is important to obtain insider perspectives, values and knowledge of respondents and have them integrated into an evaluation design. This type of evaluation is also invaluable where the researcher seeks to study a phenomenon in its natural setting and preferably through its entire lifecycle, as was the case through this research (Babbie and Mouton, 2001).

Through naturalistic evaluation, the researcher observes events and actions as they happen without any interference or intervention with the aim of blending in and becoming a participant observer of the events that the researcher is investigating. As recommended by Babbie and Mouton (2010), in the context of this study the naturalistic approach embodied a set of assumptions contrary to the approach which emphasises controlled and artificial settings.

The field work in the instance of this research took place in a natural setting. A specially designed interview guide, as an instrument for this research, was circulated amongst the participating SMMEs a month prior to the interviews being conducted with each of those who responded. The qualitative approach that this research undertook was aimed at presenting insights into the everyday lives of construction SMMEs and does so in a holistic fashion. The strength of that qualitative paradigm was in that it provided an opportunity to study the subjects in terms of their own understanding of competitiveness and it focused on the subjective experiences of SMMEs. There were selected cases as opposed to sampling which then formed part of the analysis of results due to their ability to shed new insights and perspectives on the identified problem.

5.2 Current Measurement initiatives within the construction industry

This research is purely an investigation into the usability of the RoC as a tool with which to measure the competitiveness of SMME contractors. The process that was followed to arrive at such answers involved the collection of relevant data through the RoC and interrogating the assessment process applied by the cidb which in turn led to the answering of the main question. The evidence of whether or not the collected data is sufficient to assist in arriving at the right answer would validate the claim made. In essence the research started off with searching for evidence that would validate the claim of non-competitive SMMEs. The authority upon which this claim was based was supported by industry-specific status-quo publications already mentioned in the introductory chapter. The data was a collaboration of sources from various subject matter experts.

The RoC's assessment criteria provide two outcomes post the application for registration by any contractor:

- Contractor Grading Designation; and
- The status of the contractor – potentially emerging enterprise.

On the latter, the industry gauges the ability of the contractor to access projects a value higher than their designation on the basis of there being support from the construction client to provide support within the framework of a targeted development programme some of which are detailed in Section 2. 9.

A review of the literature presented in Chapter 2, revealed that previous research studies normally reported on small business development, contractor development mainly technical aptitude, contractor capacity to handle projects relying on the financial and works capability of the said construction business. These concepts are usually reported in terms of content, construct and specific criterion determined by somebody else other than the SMMEs themselves. However, competitiveness of construction SMMEs is seldom researched and reported on. Yet it is an important kind of validity. It indicates the ability of a concept to distinguish between variables outlined in Chapter 3 of this study: Theoretical and Conceptual Frameworks.

The Department of Science and Technology through its National Advisory Council on Innovation (NACI) also has measurements designed to peg innovation in a country. However these are geared more towards Science, Technology and Innovation Indicators whose purpose is that of reviewing the scope and objectives of the South African innovation survey and to evaluate other indicators that need to be monitored to better inform policy making in this area. The methodology and approach followed through this measurement initiative is one which draws on learning from international practices regarding innovation through surveys conducted. The typical components of such a survey involve the following:

• International practices for measurement and monitoring of innovation performance;
• Interface between innovation measurement and policy making in South Africa; and
• Strengthening the national capacity for data collection and indicator monitoring.

In the case of this study the above-mentioned measurement initiative is inappropriate purely because it is pegged at a country assessment level and makes assumptions that at a unit/organisation level there exists capacity to innovate such that the country's aggregate places South Africa at par across all sectors of its economy, if it were to be compared internationally. Such a study has never been undertaken; the research found no evidence of this being the case whatsoever.

The interview guide which was designed as a data-extraction instrument needed to distinguish differences in advancement of entrepreneurial flair of SMMEs on the one hand as well as the expectation of construction clients in relation to a normal group of organisations. This through the interviews is what was being examined. It is important to be able to identify these differences before designing the interview guidelines. If only to emerge with a truth which will say: it is in the uniqueness of a company where its competitive advantage or disadvantage lies. Knowing its unique characteristics can help SMME contractors to improve their "way of doing" business.

According to the grounds of the theory of frameworks in practice as outlined in Chapter 3: "groups emerge around a discipline or problem." (Stewart, 2001) An industry is regarded as a distinctive group. Hence, it was assumed that the firms in the sample would respond differently.

5.2.1 What is the South African Construction Industry measuring?

The South African construction industry is moving towards a point, under the guidance of the cidb, where construction clients would be soliciting tender offers through introducing the evaluation of expressions of interest or tender offers' quality criteria relating to the score obtained from contractor performance reports in terms of the regulations from a date determined by the Minister of Public Works in the Gazette in accordance with the requirements of the cidb Standard for Uniformity in Construction Procurement. In that regard there would be an expectation that the tender data indicates which of the following indicators are to be scored as part of quality expression on the part of construction SMMEs:

(a) skill and commitment in managing time;

(b) skill and commitment in managing cost;
(c) skill and commitment in managing quality on site;
(d) skill and commitment in managing health and safety on site; and
(e) skill and commitment in managing conditions on site.

Moreover, the cidb *Best Practice Contractor Recognition Scheme* accredits the competencies in terms of knowledge, skills and experience of contractors inclusive of the qualifications and experience that are deemed to be minimum standards necessary for running a construction enterprise and for supervising building and construction works in the various categories and sub-categories within the fields of:

- business management which is construction management;
- building and construction management which is operational and supervision;
- building and construction technology; and
- legislative issues.

The generic competence requirements for the various Classes of Works and Categories are published by the cidb. The minimum prescribed qualifications and experience required for staff responsible for the management and supervision of construction works is also published by the cidb. These minimum qualifications can also be used in accrediting the competence of a contractor in business management. The prescribed qualifications are indicated in Table 5.1

Table 5.1: Required Qualifications linked to the grades of contractors

Category	Grade	Minimum qualifications for building and construction management	Minimum experience
GB: General Building	5 and 6	National Certificate: Management of Building Construction Processes	5 years
CE: Civil Engineering	2 to 4	National Certificate: Supervision of Construction Processes	3 years

Source: cidb, 2010

Where this latest development in industry is encouraging for this research is in that there will be no need to focus on competence of contractors as this phenomenon is already dealt with through the Best Practice Scheme of the cidb.

5.3 The cidb Assessment Criteria

The South African construction industry is littered with a plethora of programmes aimed at contractor development. The latest wave of contractor development programmes are linked to the Expanded Public Works Programmes (EPWP) of government. The National Department of Public Works is the custodian of this programme and implements it through the nine provinces of the Republic of South Africa (RSA). The programme is a structured formal learnership programme which is a joint initiative aimed at developing SMME contractors into becoming sustainable construction entities able to execute labour intensive projects.

The emphasis of the programme is to develop SMMEs' administrative, contractual, managerial and entrepreneurial skills. The contractors must be able to demonstrate that they have the best chances to succeed in the construction industry. During the course of developing this research, the construction industry did not remain static – there were significant industry developments and/ or advancements. Some of these had an effect on how this study was going to evolve. On the other hand the Construction Industry Development Board Act (Act 38 of 2000) requires the Board to establish a *Best Practice Contractor Recognition Scheme* already referred to in Section 5.2 above which achieves the following:

(a) enables organs of state to manage risk on complex contracting strategies; and
(b) promote contractor development in relation to best practice standards and guide lines developed by the cidb.

The cidb *Best Practice Contractor Recognition Scheme* already referred to above achieves this through:

- recognising the competence of contractors;
- encouraging best practice and performance improvement of contractors; and
- providing a platform for clients to reward best practice and performance improvement.

The key competencies are already highlighted in Section 5.2 of this chapter and they are required to ensure that construction SMMEs run successful contracting enterprises. In a small firm, these competencies may all be held by a single person, but in general these competencies are held by different people, with the owner providing overall management control (cidb, 2010).

5.3.1 Setting assessment criteria as a methodology for competitiveness

Criteria for a sound methodology for competitiveness were developed to direct the study and to become assessment criteria to evaluate the success of the designed methodology. Guidelines for the crafting of the criteria were found in the methodologies of disciplines such as engineering, information technology and training. There are particular characteristics that the researcher has identified as counting in the favour of those included/ assessed through this research and these are shown in Table 5.2 hereunder:

Table 5.2: Assessment Criteria per group per output

CRITERIA CATEGORY (DOMINANT CONCEPT)	WHAT IS BEING MEASURED	OUTCOME
Theoretical	Higher qualifications than the minimum specified: at least a 3 year National Diploma	Contractor literacy and numeracy in both English and Mathematics
		Certificate of prior learning
Technical/ Practical	Experience in the construction industry or contracting sector	Trade Certificates
		Built Environment qualification
		Work portfolio of evidence (POE)
Leadership	Experience in running or managing a small business	Financials Company Documents Company Results Industry Association

		membership
	Access or ownership of capital or assets that would be useful for the contracting company	Credit Lines

Source: Research Archives: Gasa, 2011

5.4 Assessment Criteria of Construction SMMEs

Contractors who wish to have their competencies accredited submit a completed application to the cidb, providing full details of their qualifications and experience that is relevant to assessing the contractor's knowledge, skills and experience in the Categories and sub-Categories being applied for.

The contractor accreditation is undertaken by a cidb Accreditation Committee. Contractors are notified of the outcome of the cidb Assessment Committee within 30 working days of submission of their compliant application forms. Where necessary, an applicant may need to attend an interview by the cidb Accreditation Committee, and will be notified of such an interview within 30 working days of submission of compliant application forms. The cidb determines whether an interview takes place at the cidb or on-site, and may include the following:

- the tabling of documentation, including: site plans or drawings and site induction plan;
- a business plan or financial plan;
- an on-site assessment, involving a visit to a current work site;
- establishing the plant and equipment owned by the contractor;
- establishing the human capital of the entity and verifying the competence; and
- investigating the membership of professional or industry associations with an enforceable Code of Ethics or Code of Practice.

Where contractors meet or exceed the minimum competence requirements as set out by the cidb, the contractor will be entered into the cidb *Best Practice Contractor Recognition Scheme* as a cidb Accredited Contractor (Code I). Where a contractor

does not hold the required minimum formal qualifications, the cidb will accept a recognised external assessment verifying that the applicant has been assessed as having adequate knowledge, skills and experience that are deemed to be minimum standards necessary for running a construction business and for supervising building and construction works within the classes of works applied for. Such an assessment can be undertaken by a cidb recognised industry representative association or by a registered SACPMP Mentor, supported by an assessment based on a modified SACEM assessment.

Such assessments are usually limited to Grade 2 and 3 contractors applying for accreditation in the Limited categories, and Grade1 to 3 contractors in the Trade Contractor categories. Construction clients are then encouraged to procure work from contractors with cidb competence accreditation.

As mentioned earlier, the competence of contractors is accredited within a cidb Class of Construction Works, and Construction Category and where relevant within a sub-Category. Accreditation within a Construction Category / sub-Category satisfies the accreditation criteria for all lower construction categories within a Class of Construction Works. At present, competence accreditation can only be done in GB, CE and selected trade contractors within Special Works (SW), and is undertaken within the following Categories of the Class of Works:

- Limited (Grades 2 to 6): being a contractor who has adequate knowledge and experience to carry out work within the sub-categories described in the record of accreditation; and
- Trade Contractors (Grades 1 to 5): being a contractor who has adequate knowledge and experience to carry out work within the trade-categories described in the record of accreditation. Contractors graded in the RoC at Grades 7 and above in GB and CE and Grade 6 and above in Special Works are required to show evidence of built environment professionals in their employ for registration with the cidb, and by implication they are assumed to have the necessary competence to undertake the relevant construction works contracts they are registered in.

The first group highlighted as Limited is the appropriate one which has been targeted for the purposes of this study as they are the exact match of the selection already expressed at the beginning of this study. This is only with the exception of grade 6 contractors within the Limited Grouping because grade 6 does not fall within the category definition of SMMEs in relation to annual turnover which is between R13 million and R40 million.

Notwithstanding the above, cidb accreditation of a contractor's competencies is required to be taken into account as a quality factor or functionality in construction procurement on all public sector contracts.

5.5 Designing the instrument: Considerations for the Research

The purpose of the interviews was to conduct an assessment of competitiveness using the RoC. This was done in two phases. The respondents were asked, firstly, to weight the three perspectives shown above in Table 5.2 as criteria categories, and secondly, to assess the outcome in terms of each of the perspectives. This analysis removed some of the subjectivity of a single overall assessment. The perspectives and their relevance to competitiveness were explained to the respondents before they were asked to perform the weighting and the assessment.

The 'why' and 'what' questions have been addressed in the preceding chapters. However, to evaluate how this research can contribute to the already existing body of knowledge, an account of the road chosen to reach the documented outcome was stated prior to the interviews taking place. The 'how' part of the research were stated and this chapter gives a detailed analysis of how the research was conducted. Further, the paradigm of the research is based or grounded on the ontological assumptions made about truth. The paradigm is also based on the epistemological orientation or the relationship with the phenomenon being studied. Lastly, the paradigm influenced the methodology used to investigate the phenomenon. This too was explained to the participants for transparency and fairness purposes. If the construction SMMEs were expected to be vulnerable through providing information, the very least that they deserved was to have a sense of the paradigm underpinning the study and have confidence in knowing that this paradigm is not going to unduly

influence the outcome of the study – but would truly reflect on the state of play with a view to finding solutions for this lack of competitiveness.

Research design focuses on the end-product: determining what kind of study is being planned and what kind of results are aimed at. Research design also highlights the point of departure whether it be the research problem itself or a research question (Babbie and Mouton, 2010). In the context of this study the point of departure was the research problem as articulated in Section 1.4, Chapter 1: There is a general lack of competitiveness within construction SMMEs. Most construction SMMEs can hardly demonstrate management competencies and resources or capability which could enable them to compete in a growing construction economy.

A suitable instrument was especially designed, constructed and piloted. The instrument was not a regurgitation of something that already existed. In so doing, there was great consideration for pre-testing and a discussion with the supervisors on the ideal sample size for the pre-test. Ambiguous or vague items meaning were avoided. The use of words which are either undefined or too vague or those that assume too much about the respondents was also avoided (Neuman, 2000).

Babbie and Mouton (2010) go to a level of detail in describing the processes that need to be followed in qualitative research especially related to the conceptual analysis of the data as it is extracted from the participant. They encourage researchers to begin with the end in mind. They mention two types of analyses permissible in qualitative research with respect to how the content of study would be analysed:

- Conceptual analysis; and
- Relational analysis.

The difference between the two types of analyses being that conceptual analysis of content requires that the research decides beforehand what the study's code set would look like. This the researcher can do by determining the key terms or codes having had looked at the relevant literature related to the research problem. Whilst relational analysis of content focuses on the relationship between the elements of the research data rather than on the elements themselves. This study was analysed

using the conceptual analysis. According to Palmquist (1993), the process of conceptual analysis comprises eight steps, namely:

1. Deciding on the level of analysis;
2. Deciding how many concepts to code for;
3. Deciding whether to code for the existence or frequency of a concept;
4. Deciding how to distinguish among concepts;
5. Developing rules for the coding of texts;
6. Deciding what to do with irrelevant information;
7. Coding texts, and
8. Analysing results.

5.5.1 Dominant questions of The Research

The biases of the research cannot be disregarded. Awareness of biases allows the research to take deliberate steps to remain objective. Yet, it would be impossible to determine the effect of the research's biases on the respondents. The research was, for example, biased towards certain competitiveness attributes, and had certain expectations from the study, which could easily have influenced respondents during the interview. The research could also have been seen as something with a specific role and therefore socially acceptable answers could have been given (not the truthful ones).

The questions that the research posed prior to conducting the interviews were:

- How were the SMME contractors to be selected, which ones would be the most appropriate for this study?
- What analysis methods should be used?
- How would the most appropriate instrument to use be selected?
- What are the most relevant questions to ask?
- What analytical methods are appropriate for the purpose of this research?
- What would be the most appropriate strategy or justification for the mix of field versus analytical methods chosen for the study if at all?

5.6 Designing the instrument: Consideration for the SMME Contractor

Asking the SMMEs about the variables to assess the outcome of the competitiveness would have been very subjective. Respondents could easily have been motivated by personal motives that would have distorted the outcome. To overcome this, the respondents were informed about the purpose of the study and that no individual competitiveness measure was to be identified. Emphasis was placed on realistic assessments. In spite of the controls that were put in place, some respondents had a more optimistic outlook than others. The research was not in a position to know whether personal bias or personality styles were influencing the results, as the individual SMMEs were not familiar. In all cases the respondents were asked to review their answers once they have had the opportunity to work through the entire assessment.

Due to the fact that this study utilises the qualitative method, there was a need to keep all field notes of the interactions with the construction SMMEs. As far as the interview guide was concerned the researcher considered it appropriate to use an intensity response scale against a group of concept-specific questions as captured and depicted on Annexure E: The Interview Guide.

Some of the questions which were posed to the SMMEs are hereunder listed:

- Have you experienced OR have been exposed to any contractor measurement methods?
- How often do you use innovative methods in your projects?
- Could you share relevant examples of these innovations?
- Do you use a multi-disciplinary team? For example, a team consisting of subcontractors/suppliers of material and plant?
- Describe how your company analyzes problems with a view of offering unique solutions to clients?
- How do you ensure that the quality of the solution offered to your clients is sufficient to meet the client needs?

5.7 Designing the instrument

Fictitious constructs and leading questions were avoided as advocated by Babbie (2004). Both these either measure constructs that do not exist or ask respondents about matters for which they have no knowledge. They also influence respondents to give a particular response due to the nature in which the questions would have been constructed.

5.7.1 The research instrument

This study is non-standardised, which increased the complexity and decreased the reliability of the study. The theoretical base was to a large extent derived from observations made in respect of contracting businesses. This form of data collection is in itself acceptable, but there is a tendency to report only successful cases. This tendency was carefully avoided as
much as possible by the research. Research freedom was however further limited by predefined business objectives. The problem statement and general hypothesis of the study necessitated the creation of a methodology that would ensure that business results are achieved because of competitiveness and not in spite of competitiveness.

Hereunder in Table 5.3 is the categorisation of the instrument in relation to the components of interest mentioned in section 5.3.1 above defining the assessment criteria per group per output.

Table 5.3: Instrument design according to the categories of interest

THEORETICAL	TECHNICAL/ PRACTICAL	LEADERSHIP
SECTION A: Coding Information	**SECTION C:** Legal and Environmental Compliance	**SECTION E:** Awareness of the Environment
SECTION B: Personal Particulars of Entrepreneur	**SECTION D:** Performance Management	**SECTION F:** Business Growth
	SECTION G: Quality	**SECTION H:** Innovation

Source: Interview Guide

Hereunder in Table 5.4, is a depiction of the types of questions asked per section of the interview guide (the instrument) and the number of questions per section of the guide. Through the qualitative methodology, the research did not pretend to have formulated the hypotheses in advance and did not aim for the 'truth' but conceptualised what was going on by using empirical data.

Strauss and Corbin (1998) explain the qualitative methodology as not being a descriptive method but instead it generates concepts that explain the actions of informative subjects regardless of time and place. To this respect, the qualitative methodology approach followed by the study enabled the research to make informed judgements on complex issues raised by the contractors interviewed often in the absence of complete data and was able to communicate the ideas and conclusions clearly. This is based on sound principles provided by the QAA (2008).

Table 5.4: The Interview Guide and typical questions asked

SECTIONS OF INTERVIEW GUIDE	TYPE OF QUESTIONS	NO. OF QUESTIONS
SECTION A: Coding Information	General information regarding the interviews for audit trail purposes	3
SECTION B: Personal Particulars of Entrepreneur	Built Environment education acquired by SMME Knowledge gathering techniques and methodologies Trade Certifications and Association Membership Continuous Learning of SMME	4
SECTION C: Legal and Environmental Compliance	Form of ownership of entity Awareness of business legal prescripts Observance of occupational health and safety statutes Respect for people: Fair labour practices, PPE and workmen's compensation Understanding of the prescripts of construction procurement insofar as avoidance of fraudulent practices Environmental management aptitude of entity in light of both social responsibility and in observance of sustainability issues	11
SECTION D: Performance Management	The understanding of the SMME of performance standards within their grade of trade Upward and onward mobility of SMME Knowledge and application of performance measurement methods both in general and those specific to the trade/grade	9

SECTION E: Awareness of the Environment	The role played by the SMME within the construction industry Networking capabilities of SMME and the value that such networks bring to the furtherance of the entity's business Awareness of support programmes and the ability of the entity to extract value from such Understanding of industry and its peculiarities in general Understanding of the attendant risks Understanding of the operating environment	11
SECTION F: Business Growth	The extent to which the entity understands how location enhances competitiveness The extent to which information-gathering plays a role in increasing the attractiveness of entity with potential clients Exploitation of opportunities The frequency of bidding The observance of business planning processes The ability to extract value from diversity and the strength of teams (multi-disciplinary teams)	14
SECTION G: Quality	Exposure to quality assurance standards Performance of SMME in previous contracts viz. quality of workmanship	4
SECTION H: Innovation	The use of innovative methods in construction projects The application of technological advances and decision-making skills Procurement strategies The analytical ability of the SMME Alliancing and partnerships Enhancing business attractiveness to clients	8

Source: Interview Guide

5.8 Biographical Information

5.8.1 The respondents and context of the observations

According to Babbie and Mouton (2003), there is no one "neat and tidy approach…" to qualitative data analysis. However, Hitchcock and Hughes (1995) state that within the hermeneutic tradition, which is based on the philosophical works of Droysen and Dilthey, there is an acceptance that the human sciences should be concerned with the 'inner' understanding of 'meaningful' conduct. As the pursuit is for an understanding of the human phenomena, there is an appreciation that to truly understand, the research must look for meaning. The research should therefore strive to understand the 'lived experiences' of the being; that is to strive for an

interpretative understanding or Hitchcock and Hughes (1995) of the human phenomena.

Respondents to this study had personal opinions about competitiveness and the extent to which it impacts on the development of their businesses. Their opinions were understandably subjective because the view was that these enterprises either stand to benefit from having this competitiveness or they could be unduly disadvantaged for failing to attain it. To manage this subjectivity during the interviews was difficult. For the focus groups, the study was structured so as to divide the respondents into two groups. The first group assessed the participation in competitiveness in other words they assessed the independent variable while the second group assessed the entrepreneurial outcome which is the dependent variable. With this split in the responses, manipulation of the evaluations was to a large extent controlled. This yardstick ensured that a standard and objective assessment of the performance of SMMEs was maintained.

5.8.2 The research process

The research used firms that are especially informative. Purposive sampling was appropriate for the study and intensive interviewing was conducted. Thirty (30) interviews are usually the minimum required at PhD level (Dunleavy, 2003), however this study achieved more than that number. Keeping the respondents motivated was not difficult as the subject of competitiveness is becoming topical within the targeted grades and their curiosity was around how the RoC would be used in future as a tool with which to measure competitiveness and how this would have an impact on their grading by the cidb.

To ensure that the respondents were prepared for the interviews, appointments were secured in advance and made at their convenience. Notices were sent to the Construction Contact Centre in East London detailing what the interview would be about. However, the model was only explained during the interviews. Where the interview sometimes began to ‘drift’ away from the discussion, the respondents were brought back to the subject by repetition of the question that would have been asked prior to the ‘drifting’.

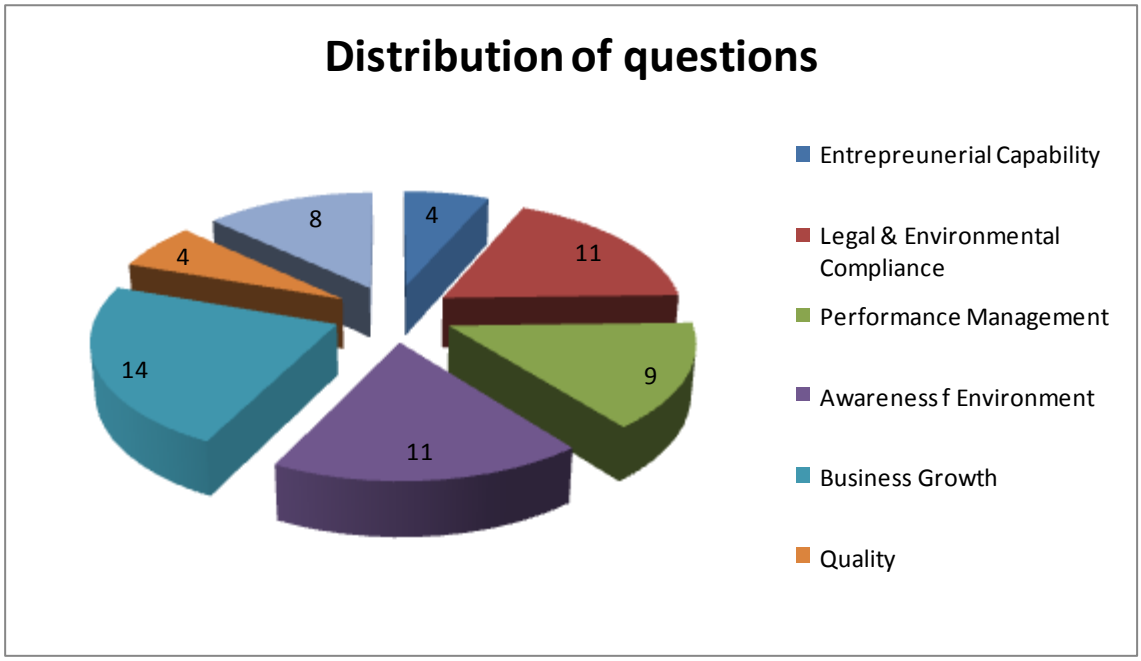


Figure 5.1: Distribution of Questions

Again in summary this is how the spread of questions against each section of the interview guide played out:

Table 5.5: Distribution of Questions

	No of questions per section
Section A: Coding Information	3
Section B: Particulars of Entrepreneur	4
Section C: Legal and Environmental Compliance	11
Section D: Performance Management	9
Section E: Awareness of the Environment	11
Section F: Business Growth	14
Section G: Quality	4
Section H: Innovation	8

Source: Research Archives: Gasa, 2011

The opinions of experts in the field were relevant for this study. But because these opinions are not equal to theory they were therefore critically evaluated.

5.9 Analysis and results of study

Inductive inferences were made when organising and analysing interviews, documents and observation data for this research. An inductive inference would be related to the observance by SMME contractors of industry prescripts and 'sector house-rules' and regulations within which they are expected to operate. Inductive conclusions raise questions of uncertainty about the inferences. Secondly there is a risk of drawing wrong conclusions although the premises are true, constituting an internal limitation. This was avoided at all costs throughout the interviews. Lastly, there was a possibility of external limitations to inductive inference regarding the knowledge that cannot be reached with induction which meant that this study could never be certain that what was observed was true also of the unobserved occurrences.

5.9.1 Interpreting the results

The patterns in the data identified were interpreted with the objective of giving meaning to it. Information from the literature study, which pertains to the existing body of knowledge, was integrated with the findings of the study.

5.9.2 Writing the Thesis

The final step which the research undertook was to inform others by writing the thesis that describes the background to the study, how it was conducted, and what was discovered as suggested by Neuman (2000) and Mouton and Marais (1996). Strauss and Corbin (1998) articulate qualitative methodology's goals as those of formulating hypotheses based on conceptual ideas, and the other being the discovery of the participants' main concern and how the subjects will proceed to have this main concern resolved.

For the purpose of this study, primary data processing and analysis involved transcribing interviews, typing up field notes, sorting and arranging the data into different types depending on the sources of information (Creswell, 2003).

5.10 Concluding Remarks

This chapter was about the research instrument that was designed for use in the interviews which were conducted with the respective construction SMMEs. It was also about the detail in how the study would be undertaken and which questions are pertinent to ask. The type of study pursued strikes the balance between being a social group study and a study of organisations and institutions. Through it, the fundamental questions that needed to be asked – using the instrument: interview guide, are hereunder listed:

- How many contractors out of those that would be interviewed, will be found to have moved or upgraded?
- Of those upgraded, what competitive traits do they exhibit?
- Would there be contractors who show ‘competitive’ traits and yet are not upgraded?
- Is the RoC an effective tool for measuring competitiveness?
- How does the theory of competitiveness link to that of the RoC?
- Can the RoC be used to measure contractor competitiveness in its current form or not? If not, how can it be enhanced to be able to be used for such? What is its potential?

6.0 DATA PRESENTATION, ANALYSIS AND INTEPRETATION.

This chapter addresses the presentation, analysis and interpretation of the data collected from the interviews and testing the hypotheses. It seeks to draw conclusions to the arguments made in Chapter 1 and also to provide an answer to the main problem identified also in the same chapter. The reader will find value in the following being covered:

- *Outcome of interviews;*
- *Testing the hypotheses;*
- *Analysis and Results of study, and*
- *Conclusion.*

The primary objective of the literature review was to determine the various acceptable ways in which SMME contractor competitiveness can be reliably and validly measured. There was a set of research questions which were developed as a result of the extensive literature review in Chapter 2 which then led to the design of both the theoretical and conceptual framework. It was as a result of this that the research instrument: interview guide, was prepared in order to guide the enquiry ensuring that it leads to an appropriate treatment of the main problem identified for this study.

6.1 Geographical context of the Eastern Cape

The Eastern Cape is a province that forms the southeast part of South Africa with Bisho being the capital of the province. It was formed out of 'independent' homelands of the Transkei and Ciskei, as well as the eastern portion of the Cape Province. The Eastern Cape Province covers an area of just over 169,000km², with a total population of 6,279,666 as documented by the 2001 Census Population Group (DEDEA, 2010) and is divided into the following:

- 2 Metropolitan municipalities (Nelson Mandela Bay and the recently gazetted Buffalo City);
- 5 District Municipalities, and
- 38 Local Municipalities.

There are currently 13 905 registered contractors in the Eastern Cape Province (cidb, 2011). This number includes all grades (1-9) and all categories of works. It also is inclusive of suspension type – both the active and those who are currently suspended, primarily due to expiry or lapsing of their memberships within the construction register service (CRS). Active Contractors are those that are in good standing with the cidb in relation to: (1) Tax Clearance Certificates being in order, (2) Annual updates in relation to requisite fees paid and also (3) who have no impending legal or disciplinary matters. The current statistics of Contractors in the Eastern Cape (note: of active contractors) especially in relation to the group targeted for this study are hereunder depicted in Table 6.1:

Table 6.1: Number of active registered contractors in the Eastern Cape (within the grades targeted for this study)

Cidb Grade	Category of Works	Number of Registered Contractors (Active)
Grade 2 Contractors	Civil Engineering	125
	General Building	213
Grade 3 Contractors	Civil Engineering	68
	General Building	53
Grade 4 Contractors	Civil Engineering	113
	General Building	90
Grade 5 Contractors	Civil Engineering	62
	General Building	57
TOTAL NUMBER		**781**

Source: cidb, 2011

6.2 National context and comparisons

The Gauteng and Kwazulu Natal Provinces have a larger pool of construction SMMEs comparatively speaking within the grades targeted for this study. Where the

Eastern Cape has 781 active contractors in the selected areas of specialisation: CE and GB as can be seen in Table 6.1 above, Gauteng has 1719 and the KwaZulu Natal Province has 2014. The Eastern Cape has a GINI co-efficient which is similar to that of Limpopo and KwaZulu Natal. At the average ratio of income of the richest 10% to the poorest 10% within countries, South Africa is already declared one of the most unequal societies at a ratio of 33.1 (United Nations Development Programme, 2010). Both the GINI co-efficient of KwaZulu Natal and that of the Eastern Cape provinces are at 0.64. This study is not research aimed at measuring the impact of inequalities in Provinces and the extent of the relationship between economic growth, poverty and inequality, however, it is worth reflecting on the assumed capabilities as a result of similar conditions albeit that being an unfair generalisation. It is also worth noting that the trends of investment by the government of South Africa from the national fiscus has tended to have a bias skewed towards the provinces that have the highest rate of poverty and unemployment. To this end: KwaZulu Natal, Eastern Cape and Limpopo have benefitted far greater than the other six provinces.

Table 6.2: Regional breakdown of active registered contractors in all Provinces of South Africa

Grade									
Region	2	3	4	5	6	7	8	9	Total
Eastern Cape	422	166	255	184	114	45	14	1	1201
Free State	268	54	78	82	75	24	9	4	594
Gauteng	824	259	533	646	468	216	99	85	3130
Foreign	4	0	0	1	2	7	1	6	21
Kw aZulu-Natal	1152	523	568	407	283	103	34	9	3079
Limpopo	343	128	239	256	191	55	7	0	1219
Mpumalanga	394	137	203	200	160	28	8	3	1133
North West	259	82	118	88	60	22	4	0	633
Northern Cape	75	20	29	28	17	2	2	1	174
Western Cape	385	167	226	181	119	65	28	12	1183
Total	**4126**	**1536**	**2249**	**2073**	**1489**	**567**	**206**	**121**	**12367**

Source: cidb, 2011

That notwithstanding what becomes more important is the measure to which the provincial administrations are best able to channel infrastructure investments to meaningful development programmes and do so efficiently. It is important to reflect

on this, for the following reason only: if infrastructure is duly considered as an enabler of development -which it is - and there is growth potential for those active within the built environment sector, surely the contractors engaged in the delivery chain would be given a lifeline not only to respond to the needs within the societies in which they work, but they would also have scope to grow as they improve their performance and as they acquire greater work and are given greater responsibility to deliver on complex projects but also those conventional.

6.3 Context of Research Pool

The competence of contractors is accredited within a cidb class of Construction Works, construction category and where relevant within a sub-category. Accreditation within a construction category or sub-category satisfies the accreditation criteria for all the lower construction categories within a class of construction works. At present competence accreditation can only be done in GB, CE and selected trade contractors within SW due to the fact that the above-mentioned areas of specialisation have standards that have been generated against which measures for competence accreditation can be made. This is discussed in Section 5.4 of this study.

6.4 Interviews and presentation of Data

The interviews provided the key elements grouped into focus areas which were presented as sections of the interview guide. These became the focus out of which the qualitative data was extracted through the interviews. When conducting the interviews, the discussions were based on a pre-arranged list of statements whose central theme was competitiveness enhancement as can be seen in Annexure E. The interviews were meant to test the GB and CE sectors' understanding of performance, competitiveness and what it involves to remain consistently productive in the business of construction. The SMME contractors highlighted both above and below are all based in the Eastern Cape; however the comparisons done with other Provinces which have the same socio-political make up as the Eastern Cape

assisted with the national triangulation of common areas of either strength or weakness on the part of the construction SMMEs.

6.4.1 Section A and B: Presentation of Data

The ultimate number of SMME contractors which were interviewed are highlighted in Table 6.3 hereunder and Table 6.6 summarises all of the responses from Sections A and B of the Interview Guide:

Table 6.3: Contractors interviewed per grade and per area of specialisation

SMME Grading (cidb)	General Building	Civil Engineering
Grade 2 Contractors	14	10
Grade 3 Contractors	6	7
Grade 4 Contractors	8	7
Grade 5 Contractors	8	6
TOTAL NO. INTERVIEWED	**36**	**30**
	66	

Source: Research Archives: Gasa, 2011

The spread in percentage terms of contractors that responded is hereunder reflected:

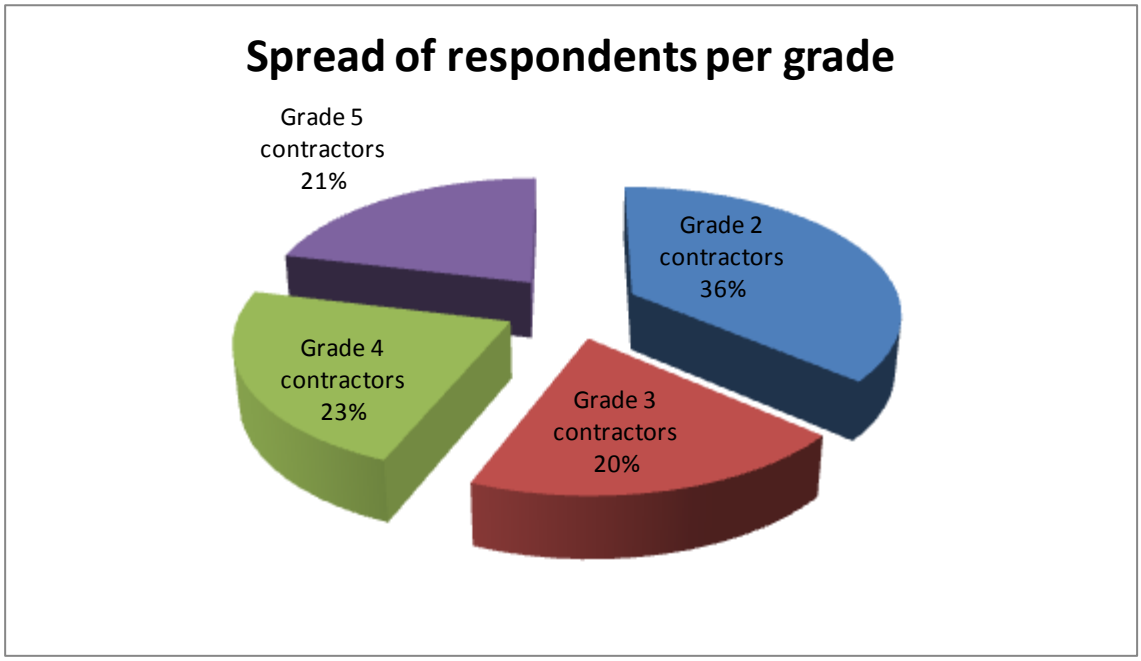


Figure 6.1: Percentage of sample: Contractors interviewed per grade

Hereunder is a summary of the interview process. Details of construction SMMEs within the grades targeted for this study were received from the cidb. Notification letters (Addendum C) were sent out in December 2010 to 80 SMMEs spread equally amongst the grades 2-5 and in the areas of specialisation of CE and GB. The letters were sent via both email and facsimile and a request for acknowledgement of receipt was made. Follow-ups to secure interview appointments were made by the researcher with each and every contractor and the eventual 66 that were successfully interviewed, attended different sessions with the researcher at the premises of SEDA in Deal Party, Port Elizabeth. With respect to preparation for the interviews, there was a creation of each file for the construction SMMEs to whom the notification letter was sent and research was done in terms of the cidb registration history – the programmes of development they may have been enlisted on. The interview preparation also involved studying the advancement of policy geared towards this sector of the economy and in particular the prescripts of government related to the contractor development programmes of the sector so as to best provide leadership throughout the interviews.

The numbers of contractors interviewed in each category are presented in Figure 6.1 below. The interview guide was printed and made readily available for construction SMMEs for them to fill it in during the course of the interviews. A dictaphone was

used for interview discussions and the tapes have been archived as research material.

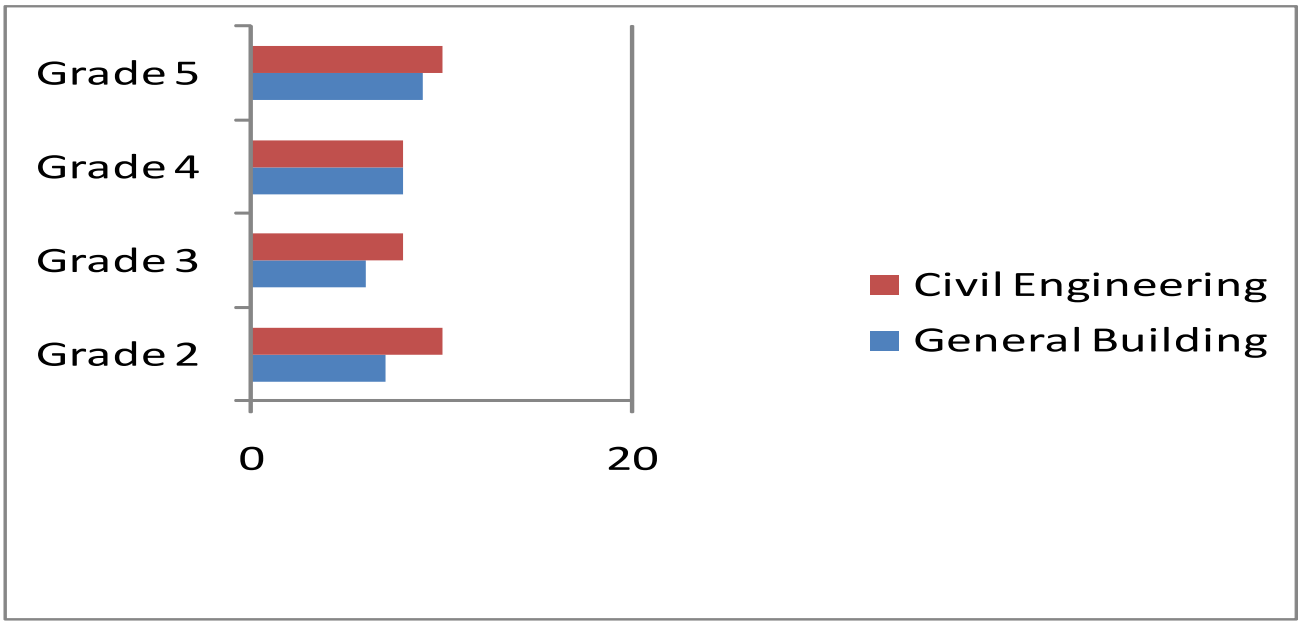


Figure 6.2: Contractors interviewed per grade and per area of specialisation

Out of the total number of registered contractors on the cidb CRS, especially between grades 2-9, 77% of the entities registered are black-owned firms. The national statistics of a gender split indicate an average of 43.5% for women-owned firms registered on the CRS and 56.5% made up of male-owned firms as can be seen in Table 6.4 hereunder.

Table 6.4: National representation of women-owned construction firms against male-owned construction entities per grade.

Women Owned by grading			
Grade	**Total**	**Women Owned**	**% of the Total**
2	4136	2080	50
3	1539	724	47
4	2251	946	42
5	2074	736	35
6	1490	501	34
7	567	132	23
8	206	28	14
9	121	1	1
Total	12384	5148	42

Source: cidb, 2011

In relation to this research the women-owned construction entities that were interviewed amounted to seventeen (17) representing only 25.8% of the sample and the male-owned construction entities that were interviewed totalled 49.

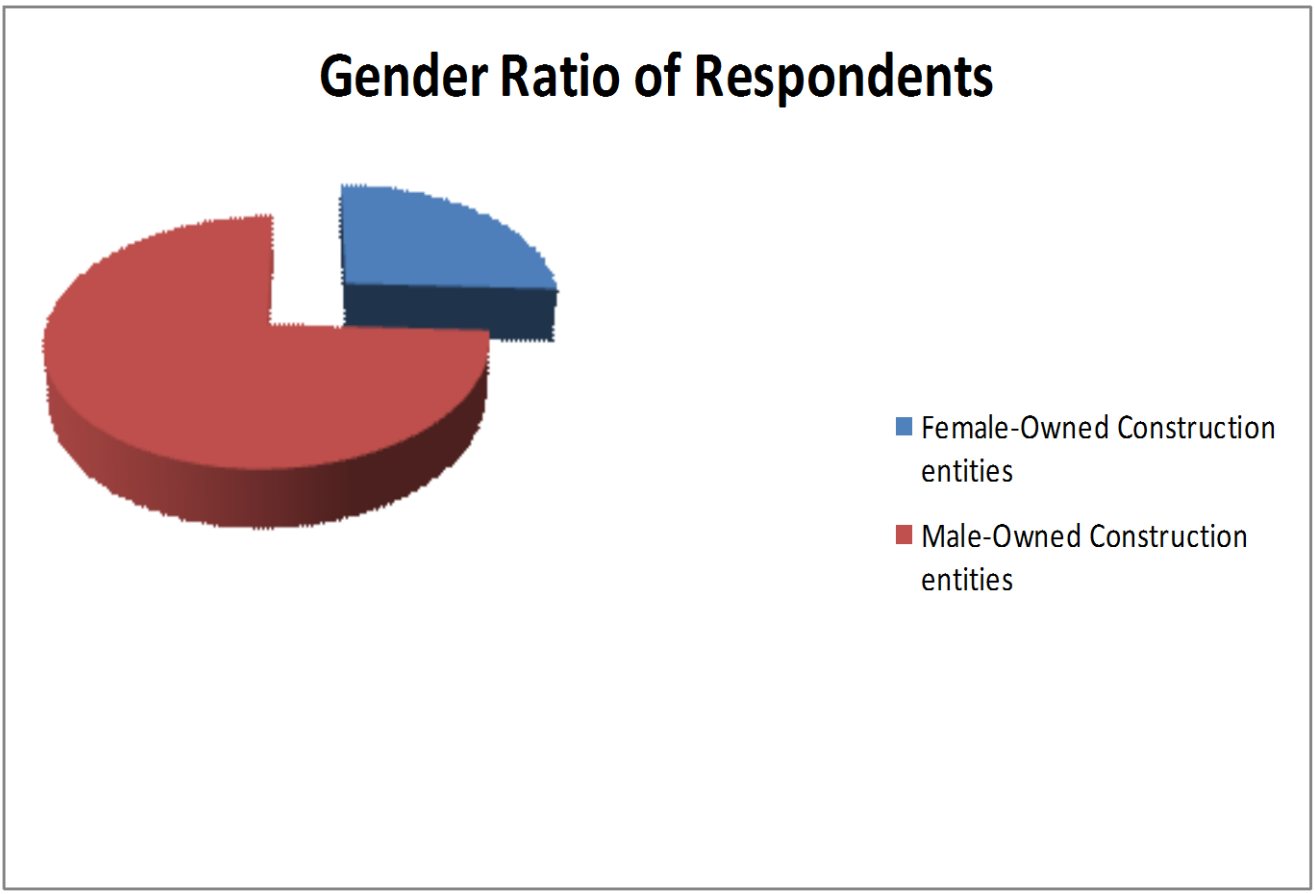


Figure 6.3: Gender Split/ ratio of the total number of Contractors interviewed

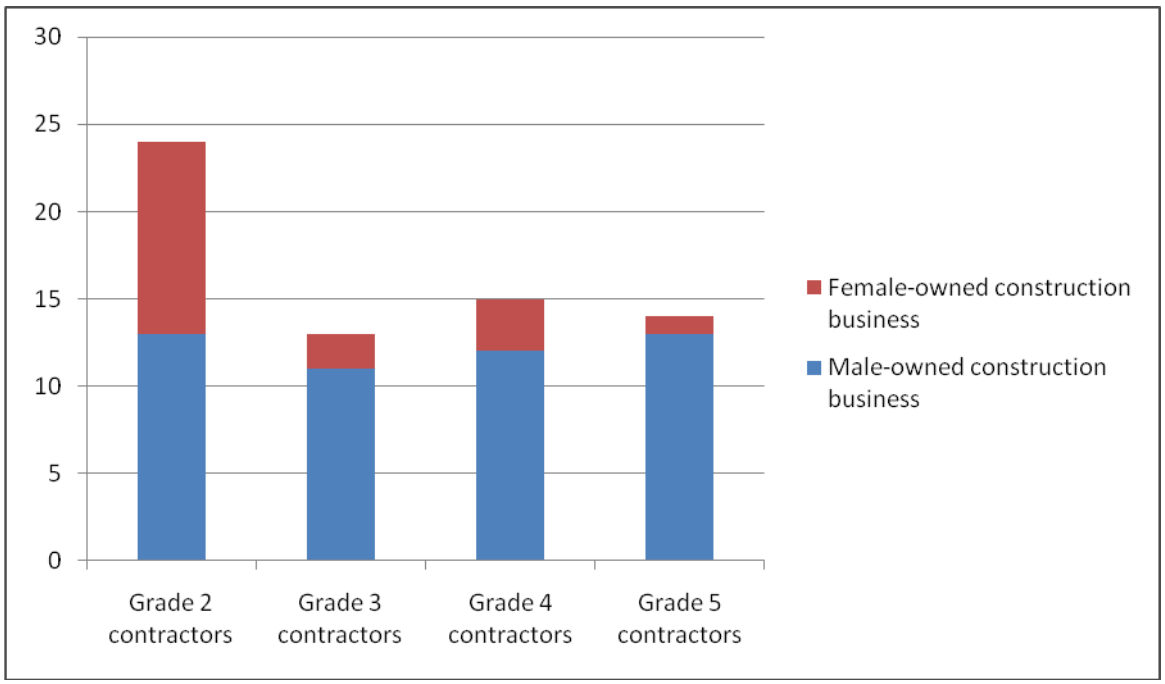


Figure 6.4: Gender Split/ ratio of the total number of Contractors interviewed

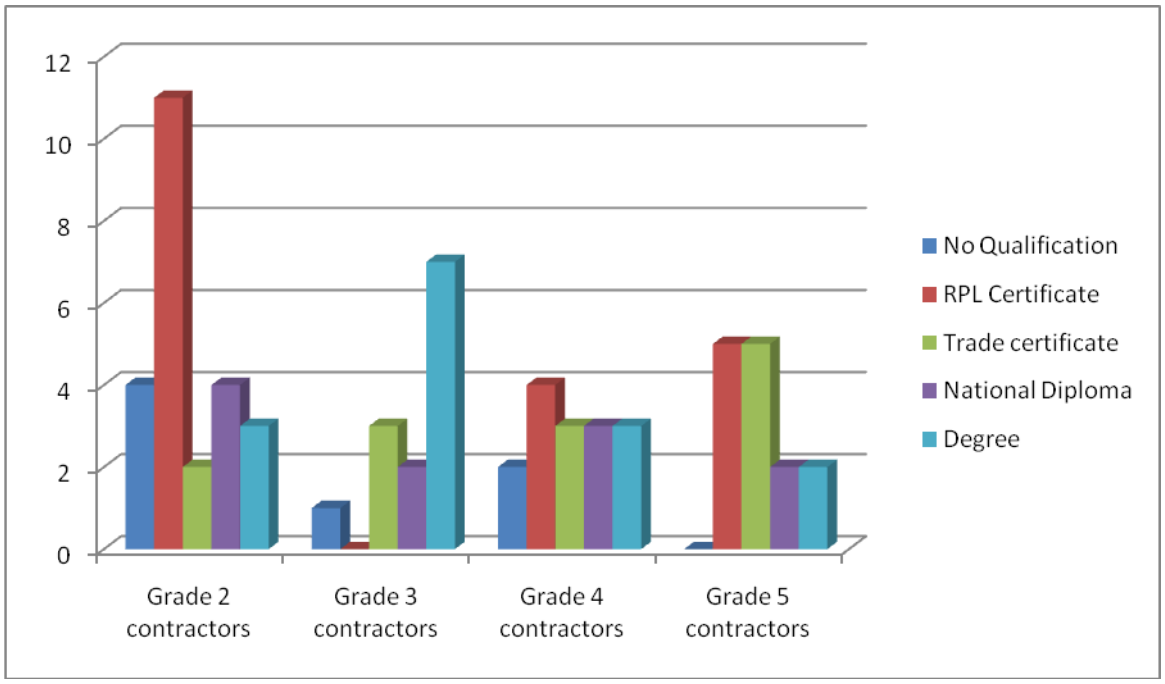


Figure 6.5: Contractors interviewed relative to their qualifications

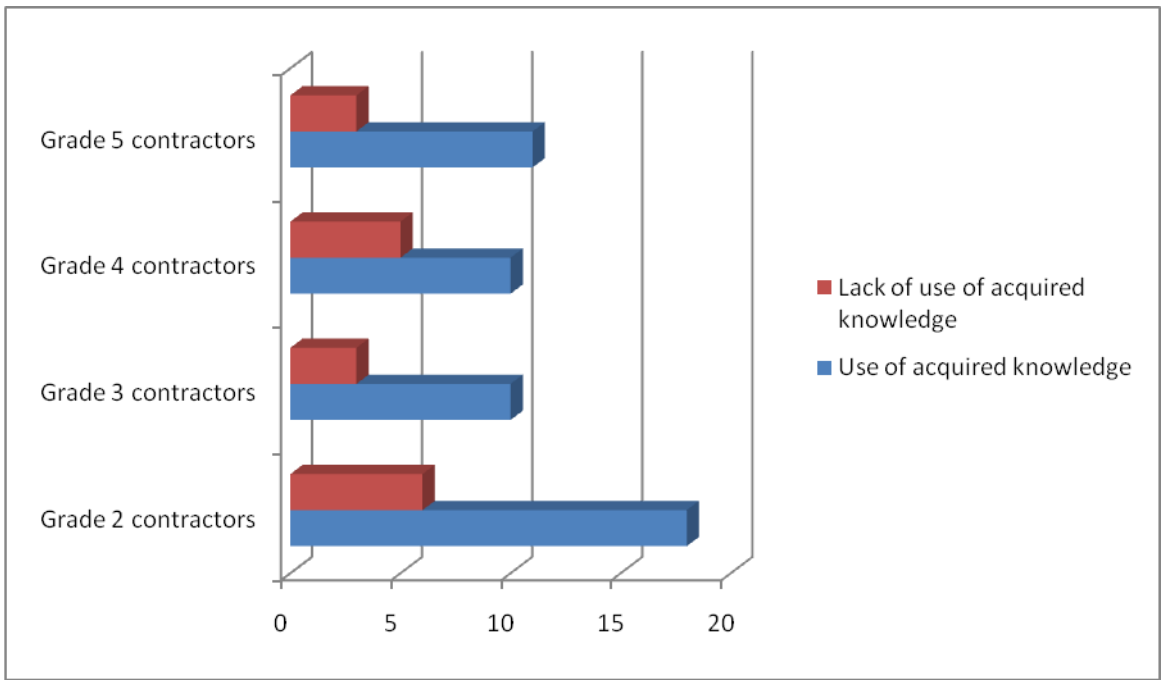


Figure 6.6: The extent to which SMME contractors use the knowledge acquired through their qualifications

6.4.2 Section C: Presentation of Data

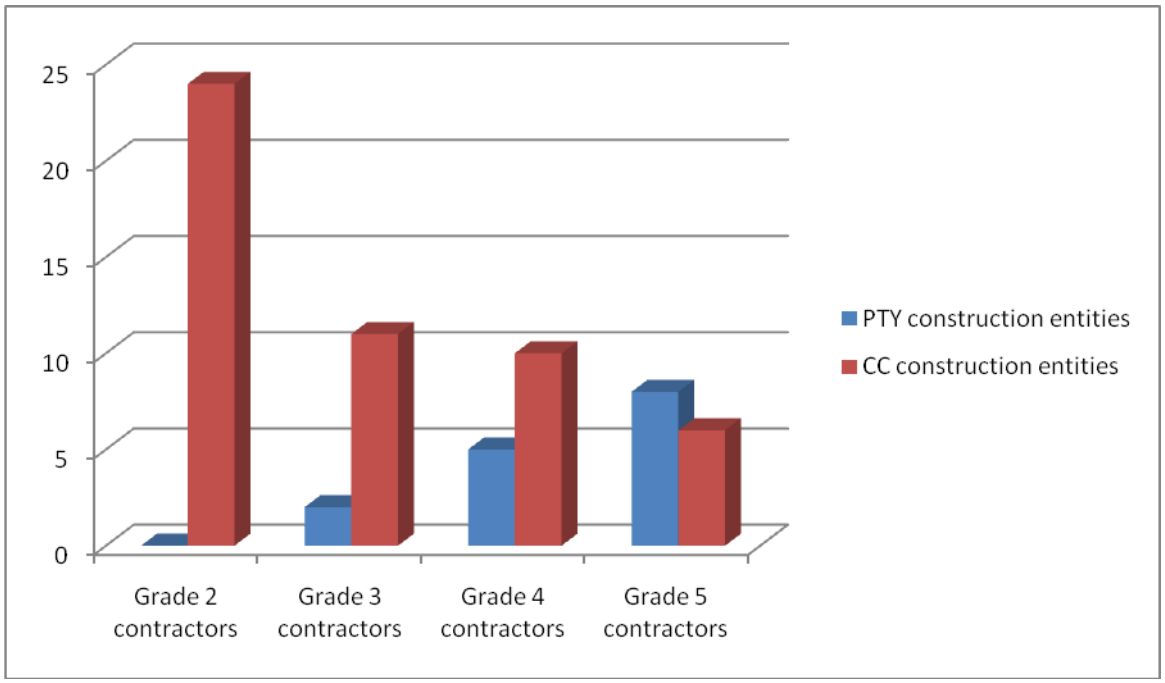


Figure 6.7: The legal form of ownership of construction businesses interviewed per grade

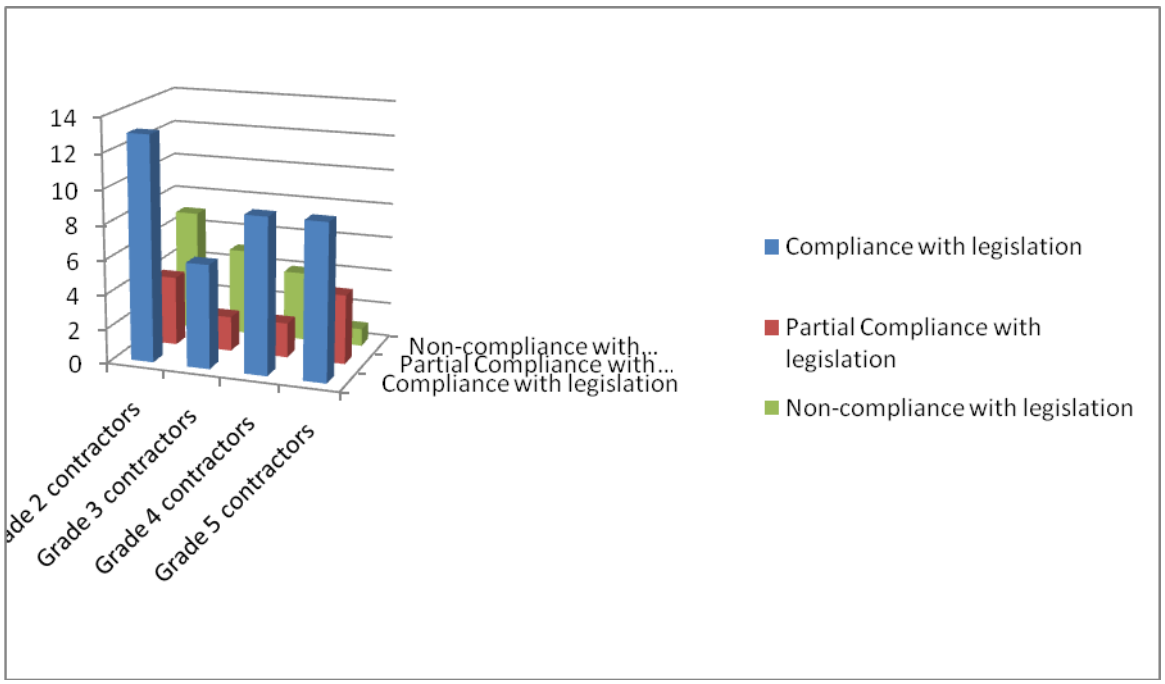


Figure 6.8: Contractors' compliance with legislation per grade interviewed

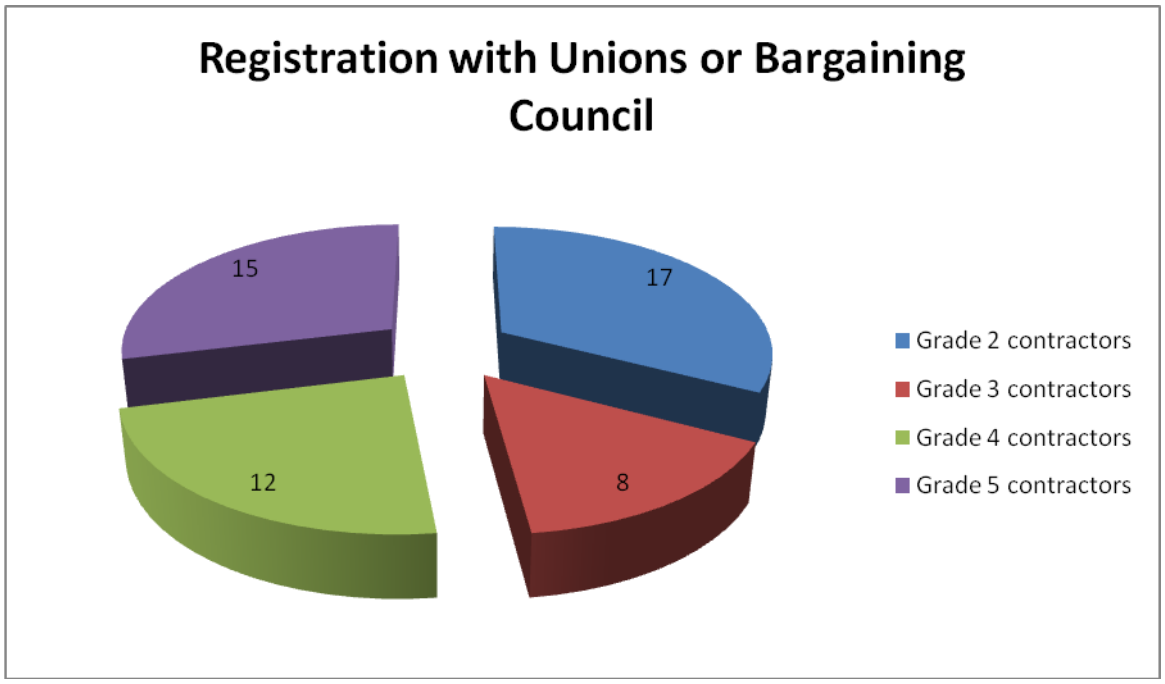


Figure 6.9: Contractors' registration with representative labour unions or the bargaining council

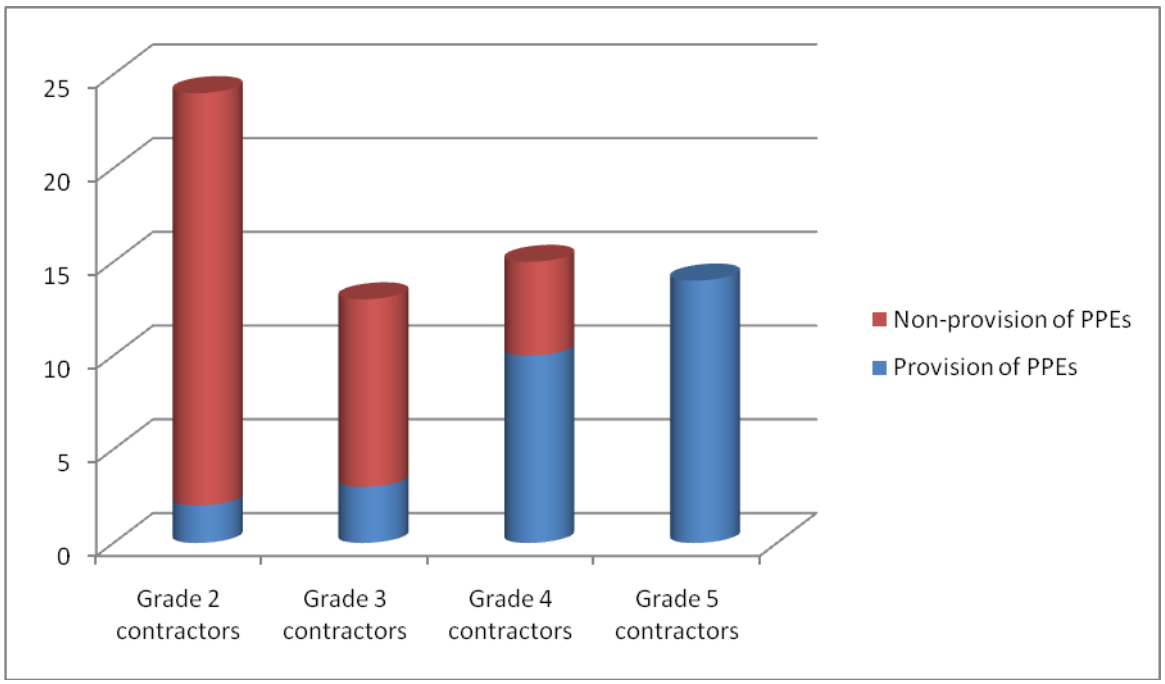


Figure 6.10: Respect for people: the extent to which the contractor observes safety and health statutes on site through the provision of protective equipment.

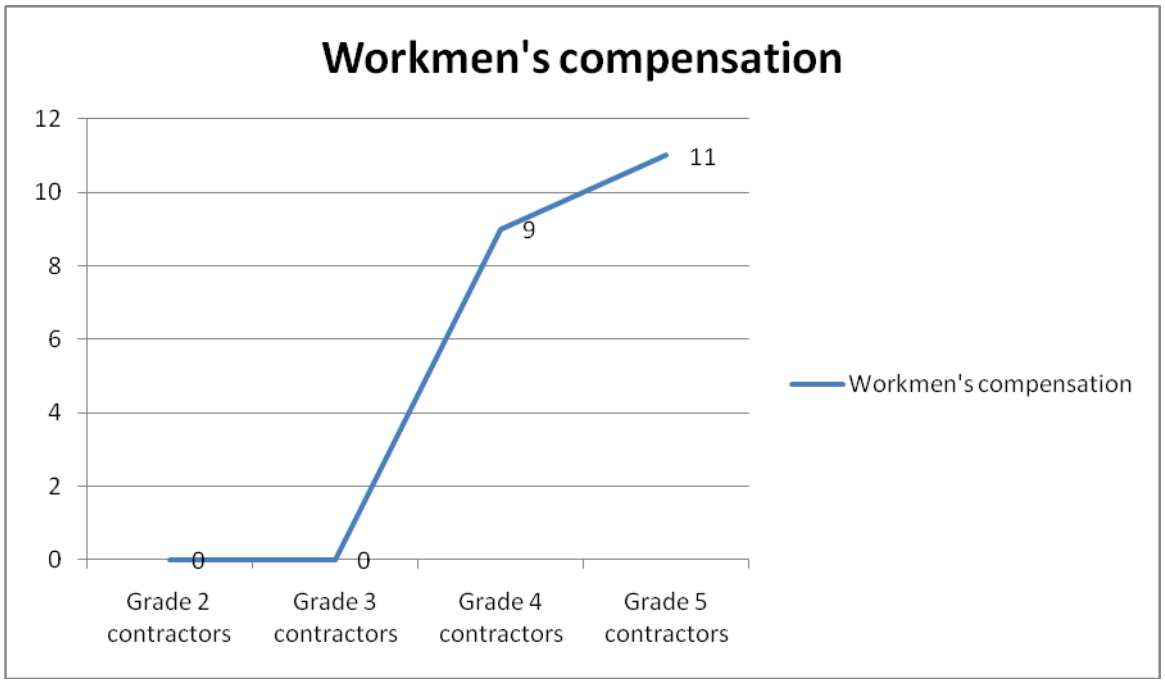


Figure 6.11: Results on contractors who have workmen's compensation in place

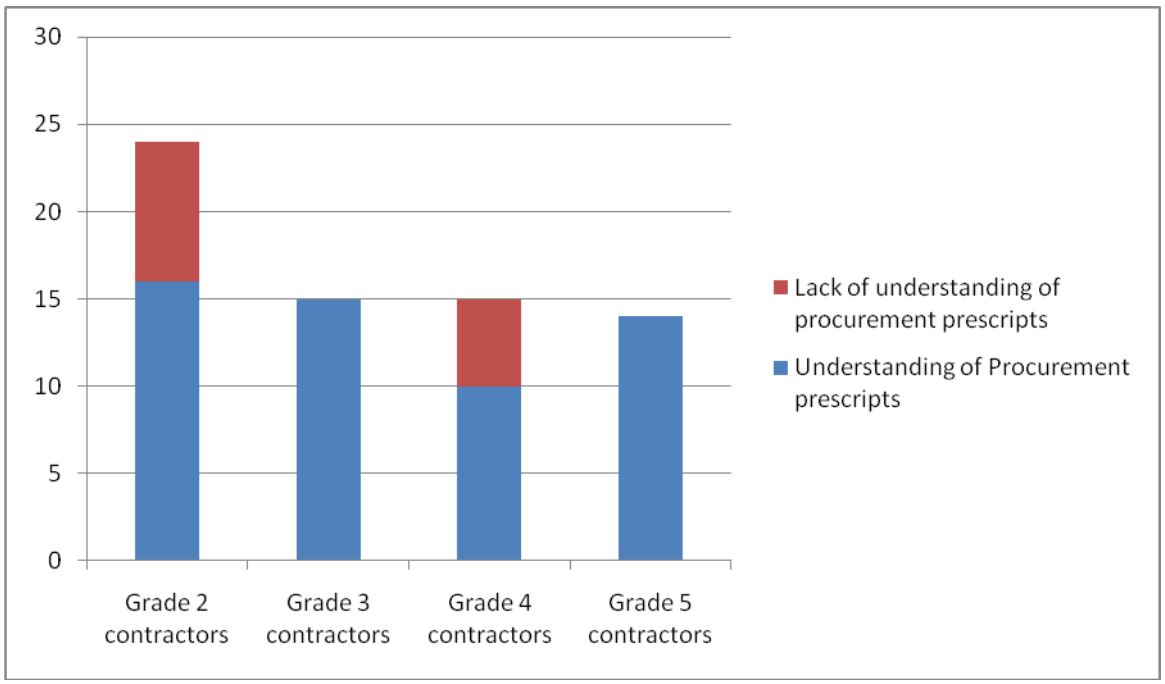


Figure 6.12: Contractors' understanding of and compliance with Procurement prescripts

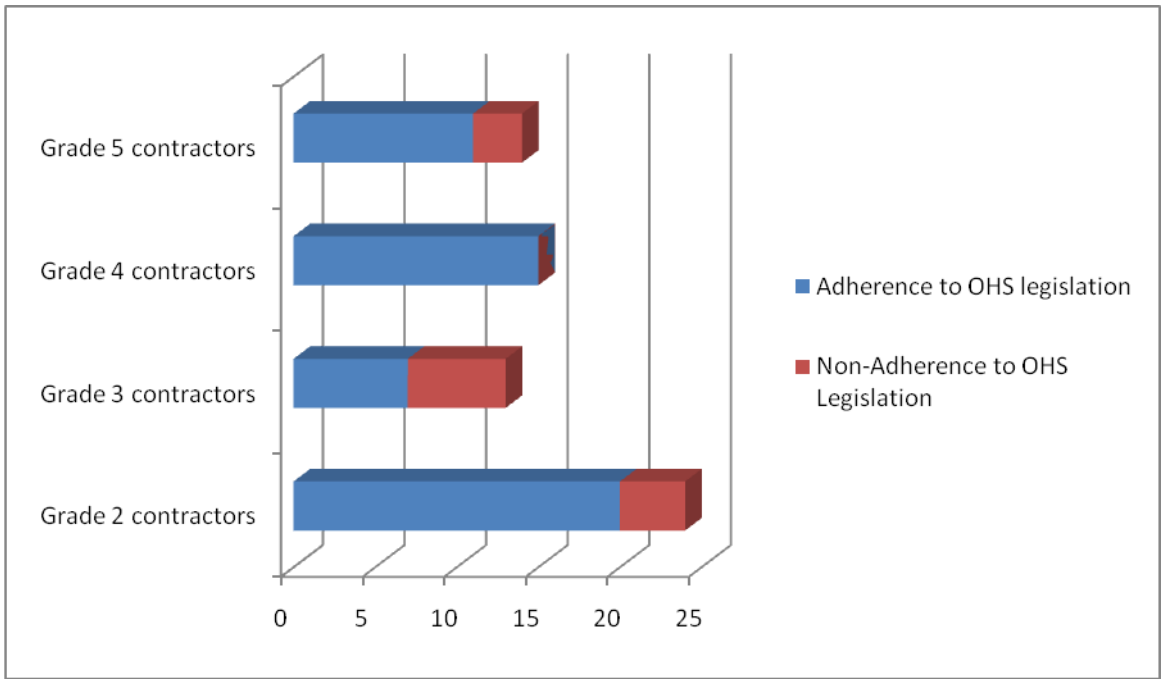


Figure 6.13: Adherence to Occupational Health and Safety Legislation within the construction industry

Table 6.7 hereunder is a table which summarises all of the responses from Section C of the Interview Guide.

6.4.3 Section D: Presentation of Data

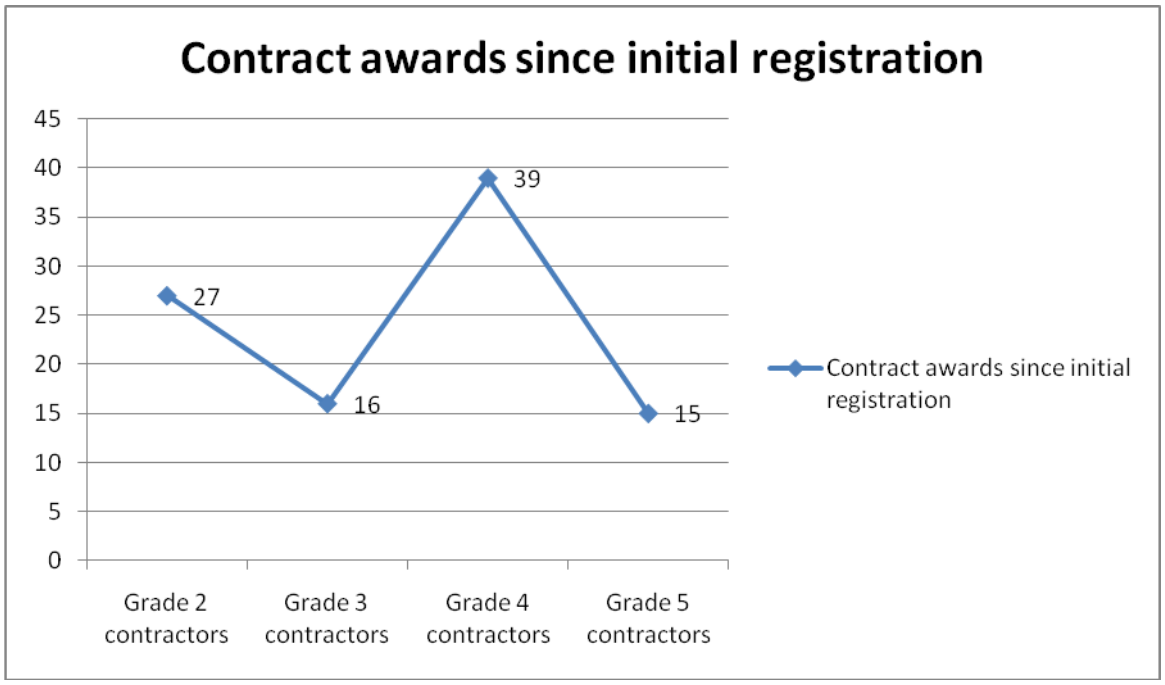


Figure 6.14: Number of contracts awarded since their initial registration on the RoC

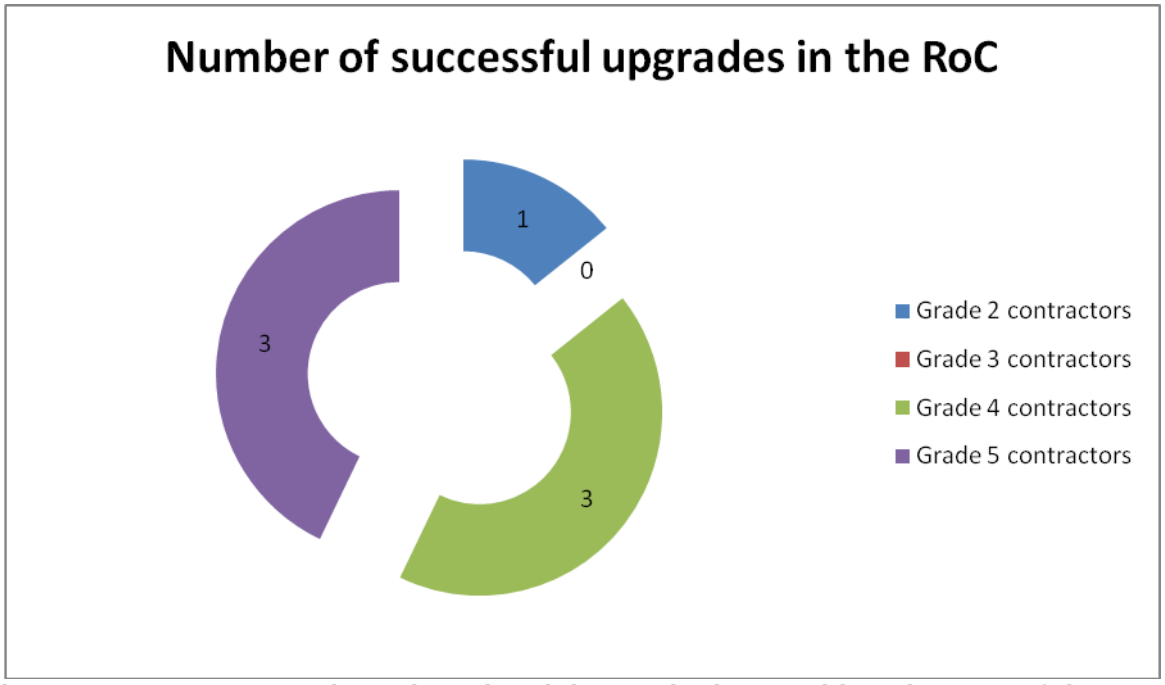


Figure 6.15: Contractors interviewed and those who have achieved successful upgrades

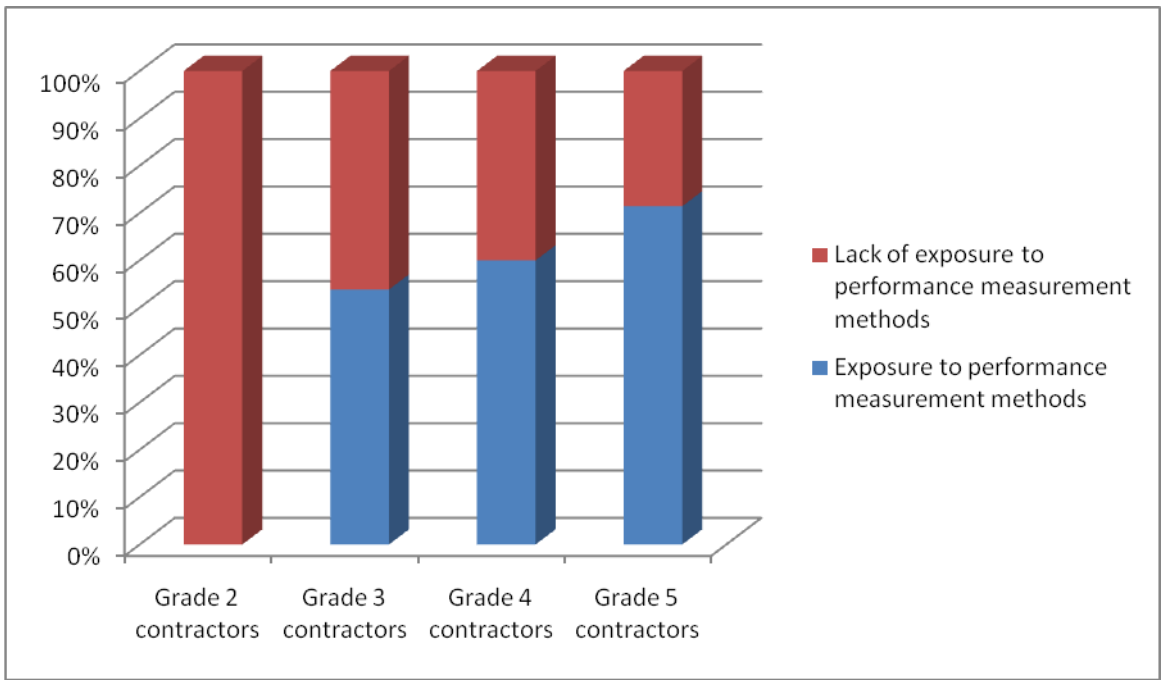


Figure 6.16: Contractors' exposure to performance measurement methods

Table 6.8 hereunder is a table which summarises all of the responses from Sections D and E of the Interview Guide.

6.4.4 Section E: Presentation of Data

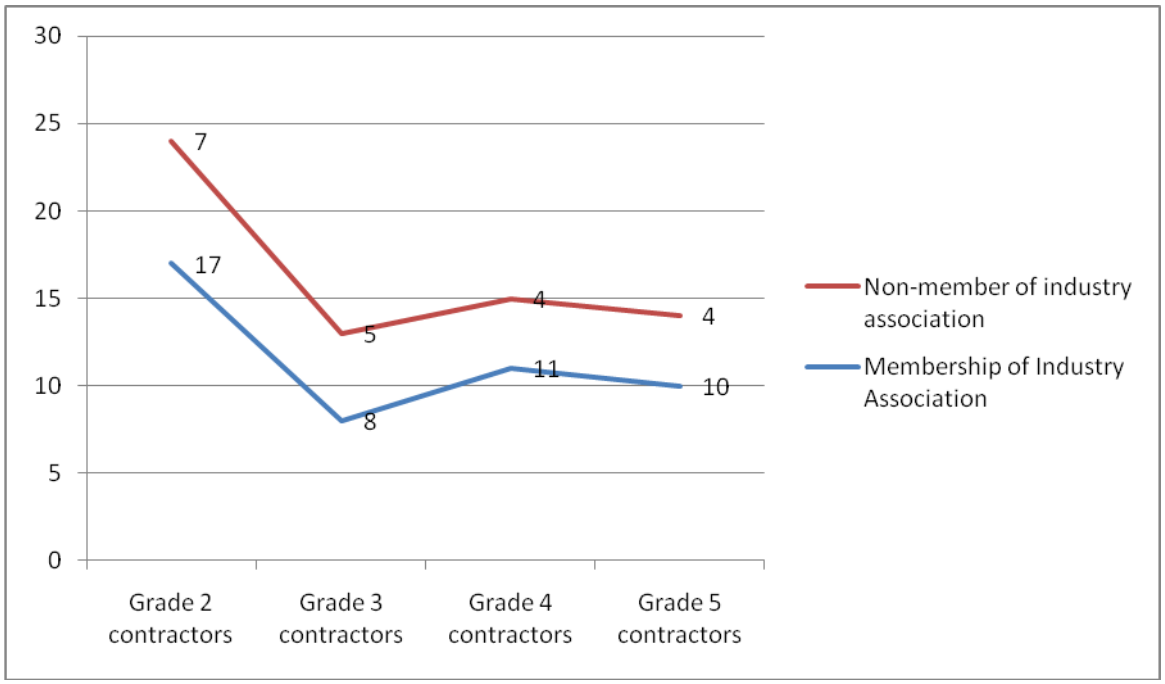


Figure 6.17: Membership of industry Associations

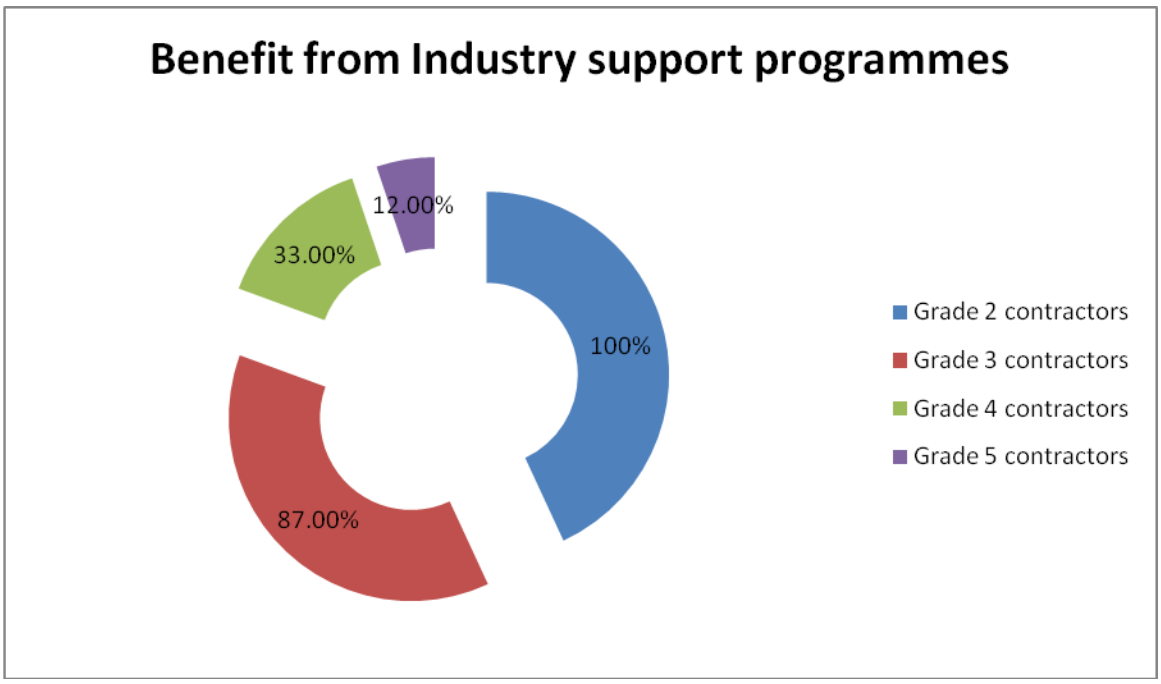


Figure 6.18: Benefit from Industry support programmes

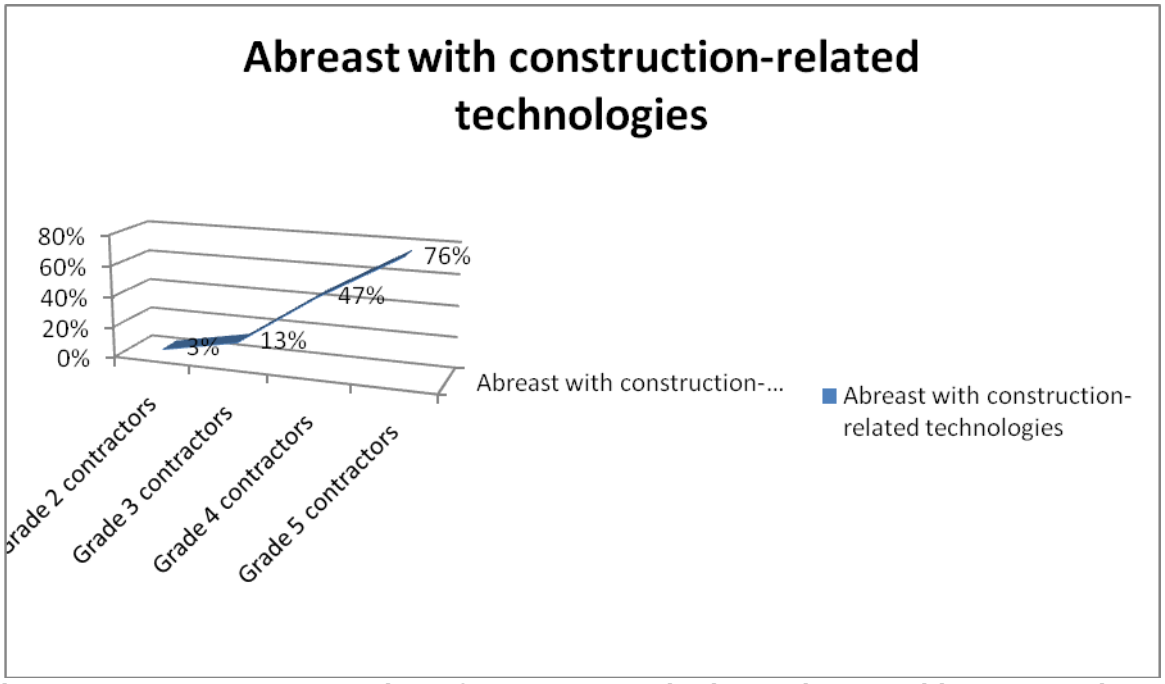


Figure 6.19: Percentage number of contractors who keep abreast with construction-related technologies.

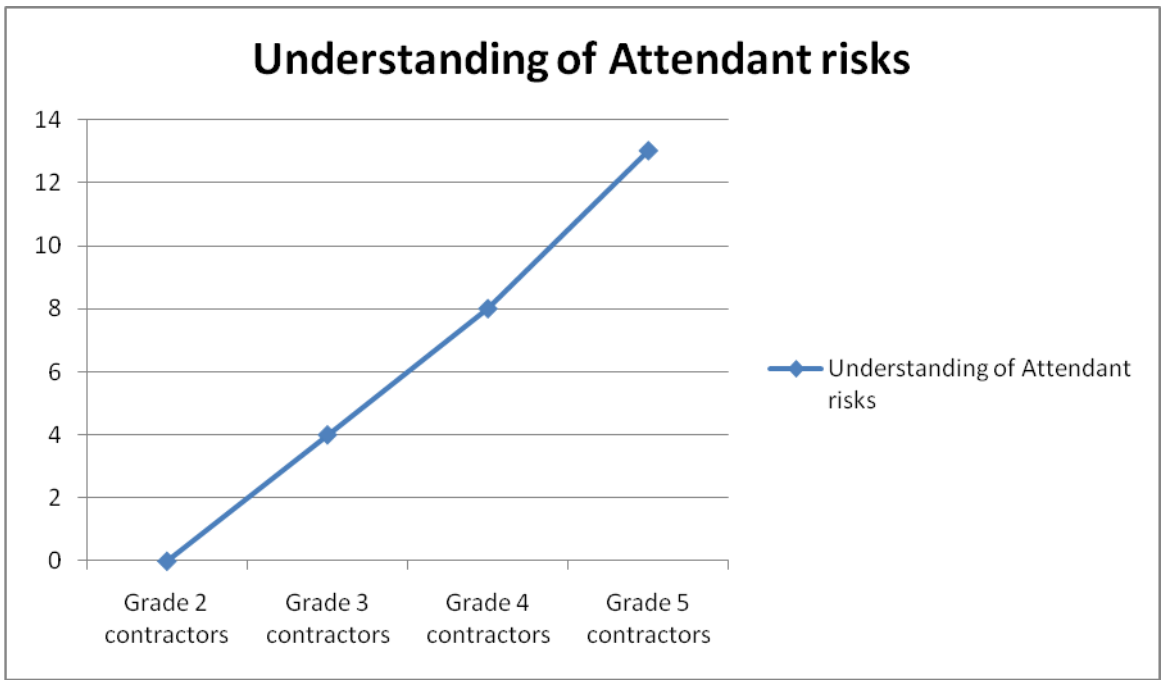


Figure 6.20: The degree to which the interviewed contractors understand the attendant business and commercial risks.

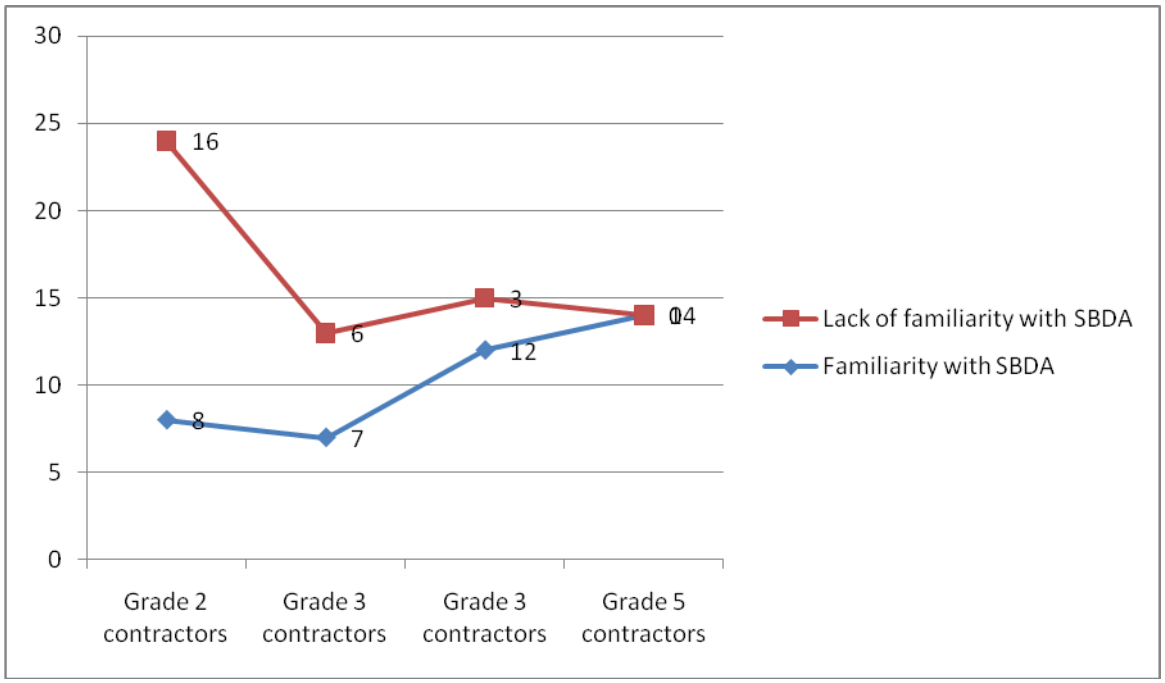


Figure 6.21: The degree to which the interviewed contractors are familiar with the Small Business Development Act.

Table 6.8 hereunder is a table which summarises all of the responses from Sections D and E of the Interview Guide.

6.4.5 Section F: Presentation of Data

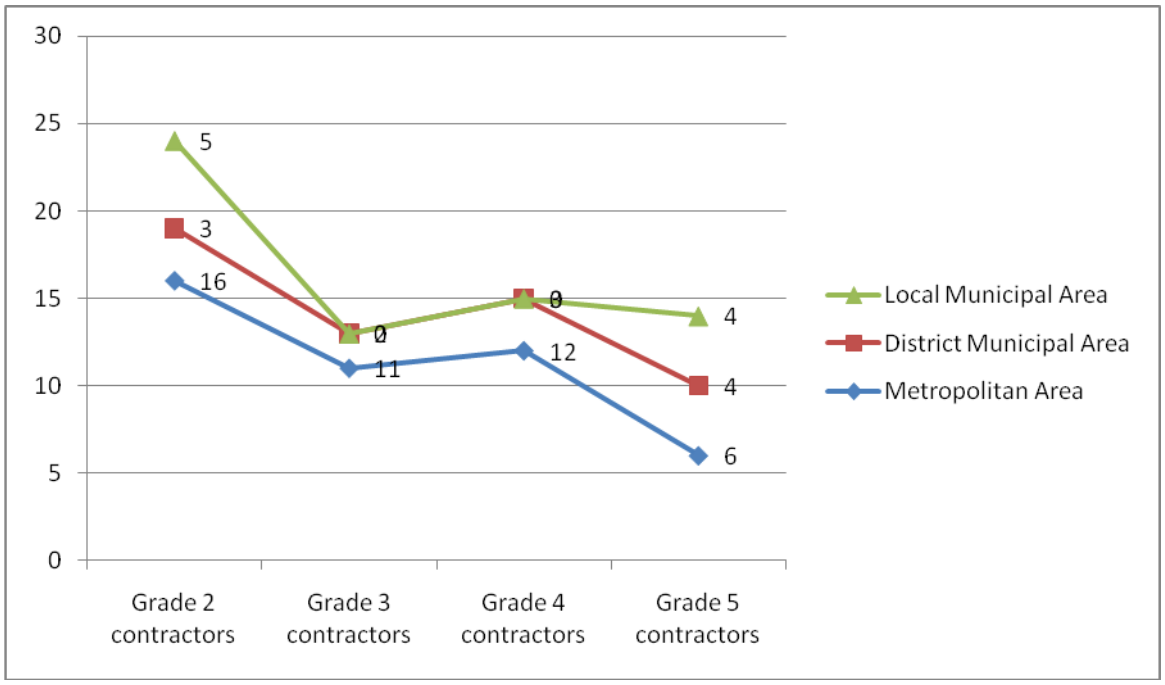


Figure 6.22: Location of businesses per grade

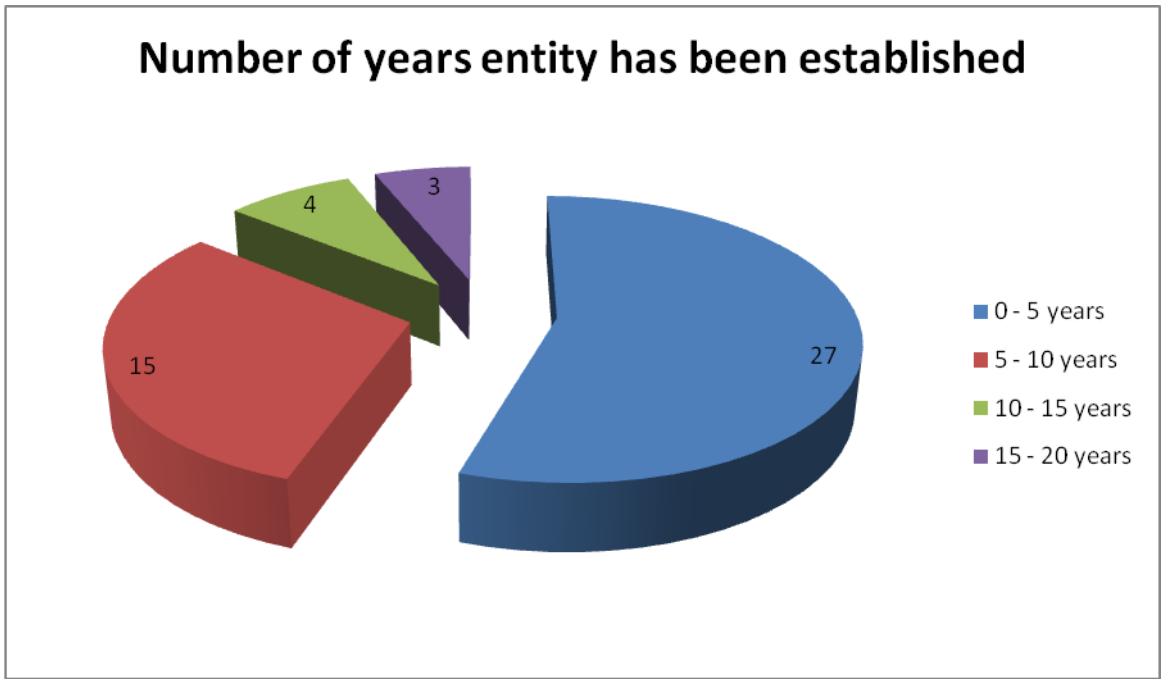


Figure 6.23: The number of years over which the construction businesses have been established (interviewed contractors per grade and per area of specialisation)

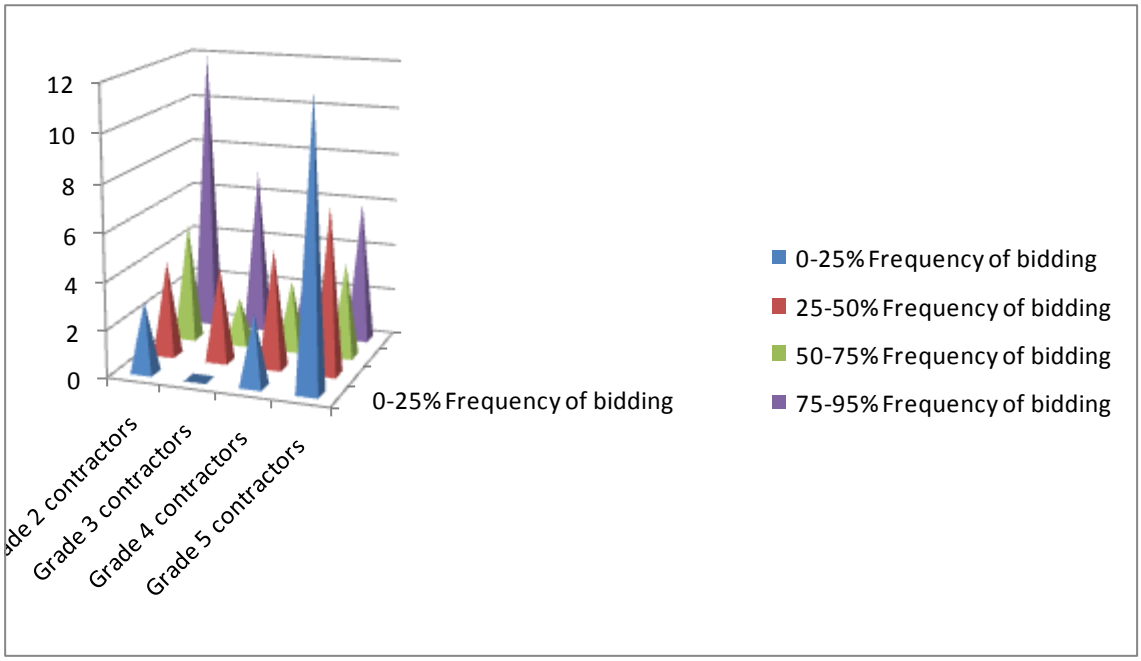


Figure 6.24: The frequency of bidding of Contractors interviewed per grade

Table 6.5: Frequency of bidding percentages for contractors interviewed per grade.

	Grade 2 contractors	Grade 3 contractors	Grade 4 contractors	Grade 5 contractors
0-25%	**3**	**0**	**3**	**3**
25-50%	**4**	**4**	**5**	**4**
50-75%	**5**	**2**	**3**	**1**
75-95%	**12**	**7**	**4**	**6**

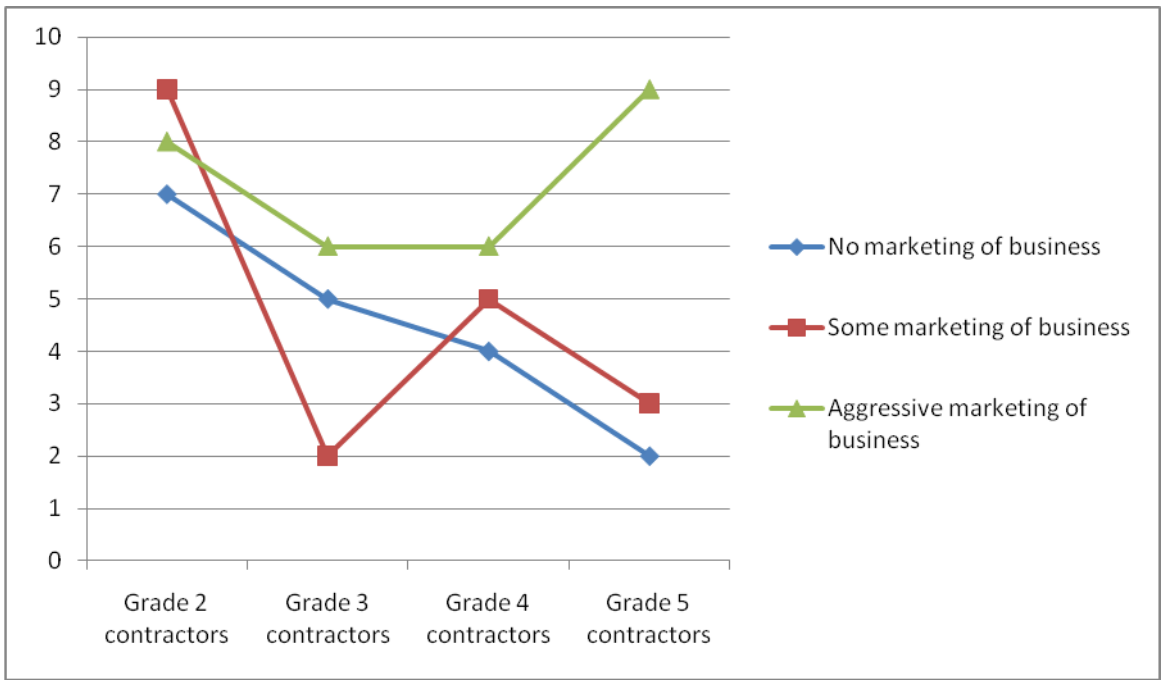


Figure 6.25: The extent to which the interviewed contractors aggressively market their business and promote their value propositions

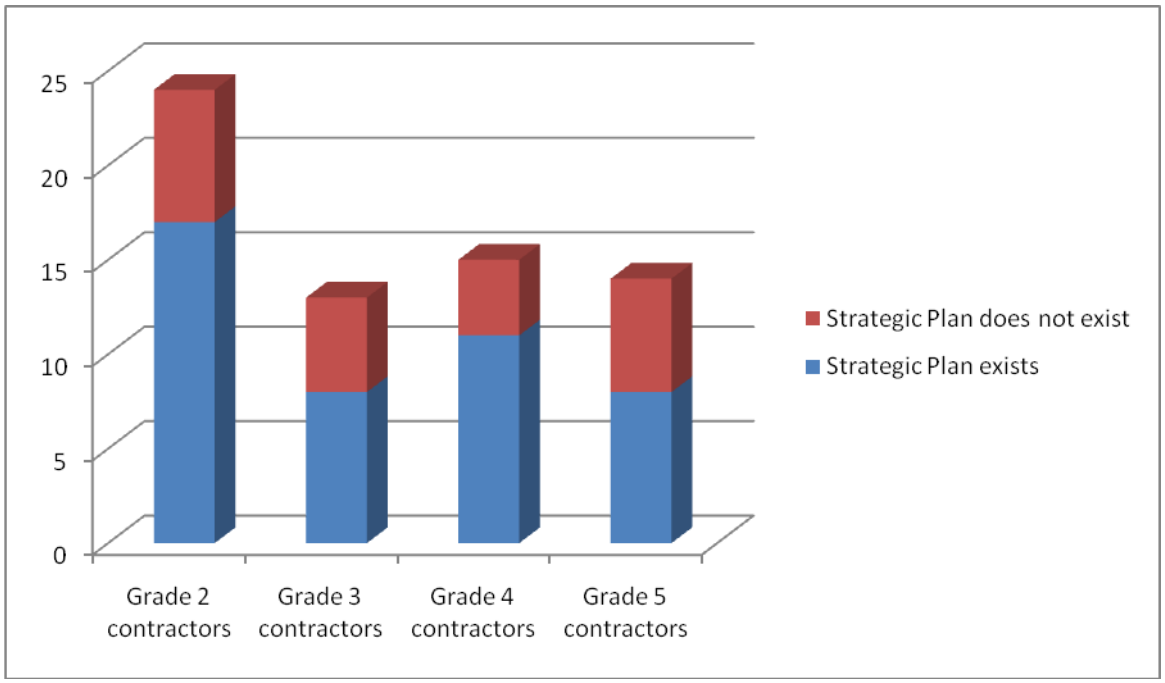


Figure 6.26: Existence of Business Plan

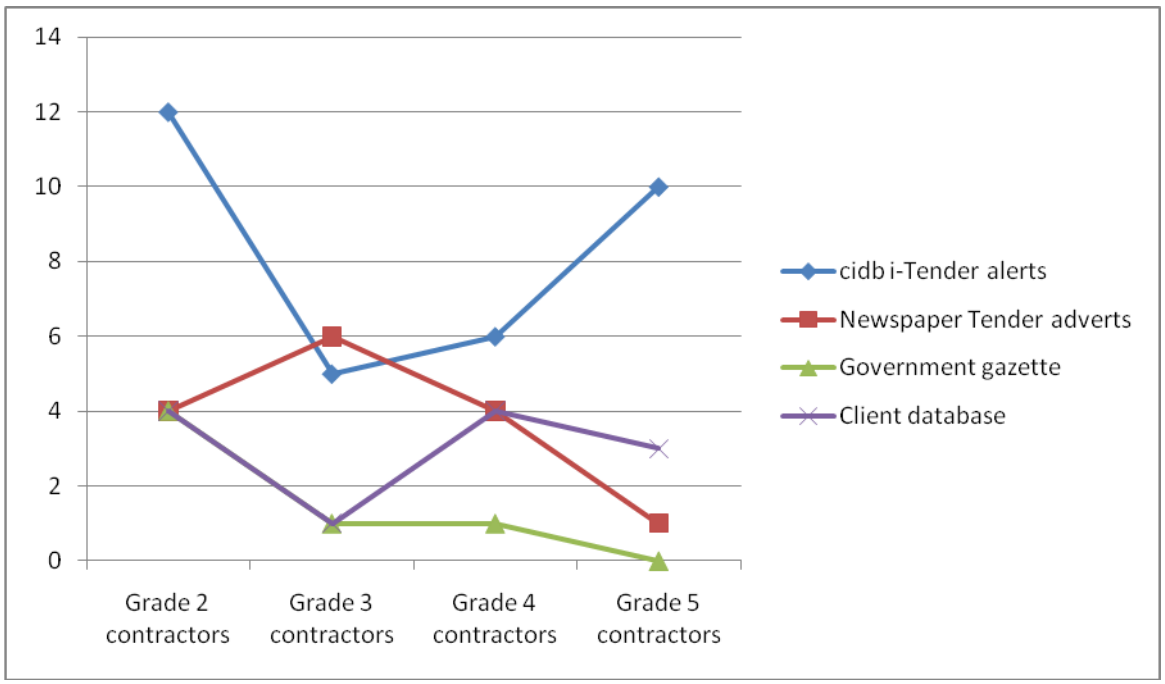


Figure 6.27: The avenues used by construction SMME to source available work opportunities

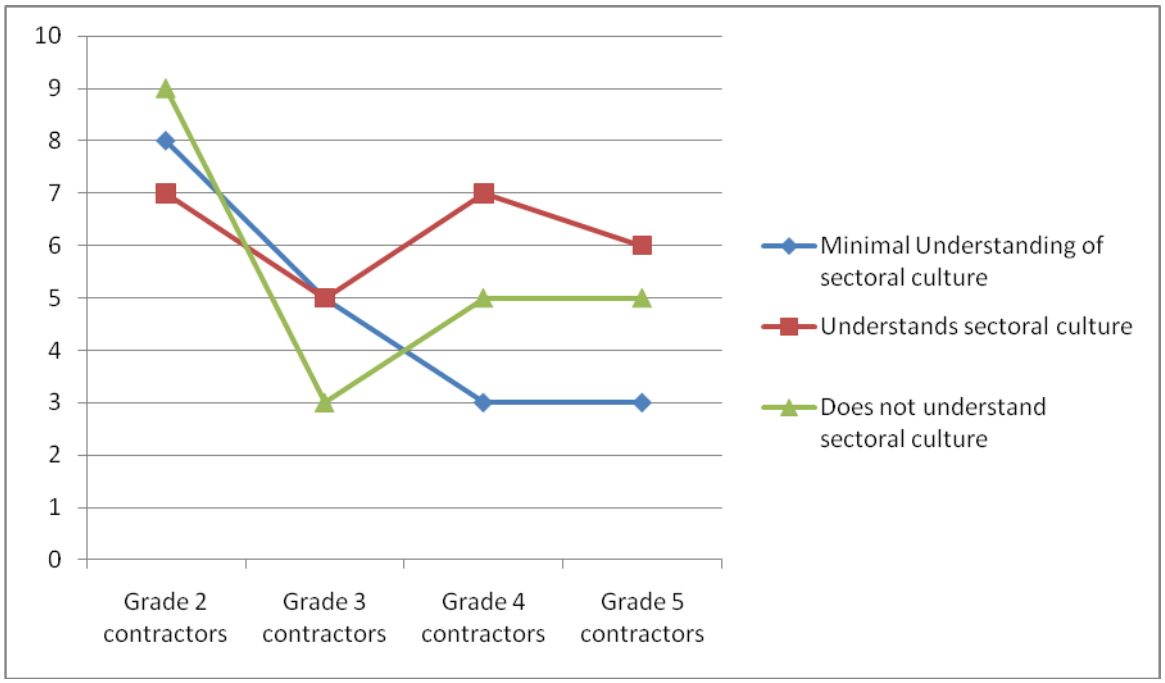


Figure 6.28: The construction SMMEs' understanding of the culture within the sector in which they trade

Table 6.9 hereunder is a table which summarises all of the responses from Section F of the Interview Guide.

6.4.6 Section G and H: Presentation of Data

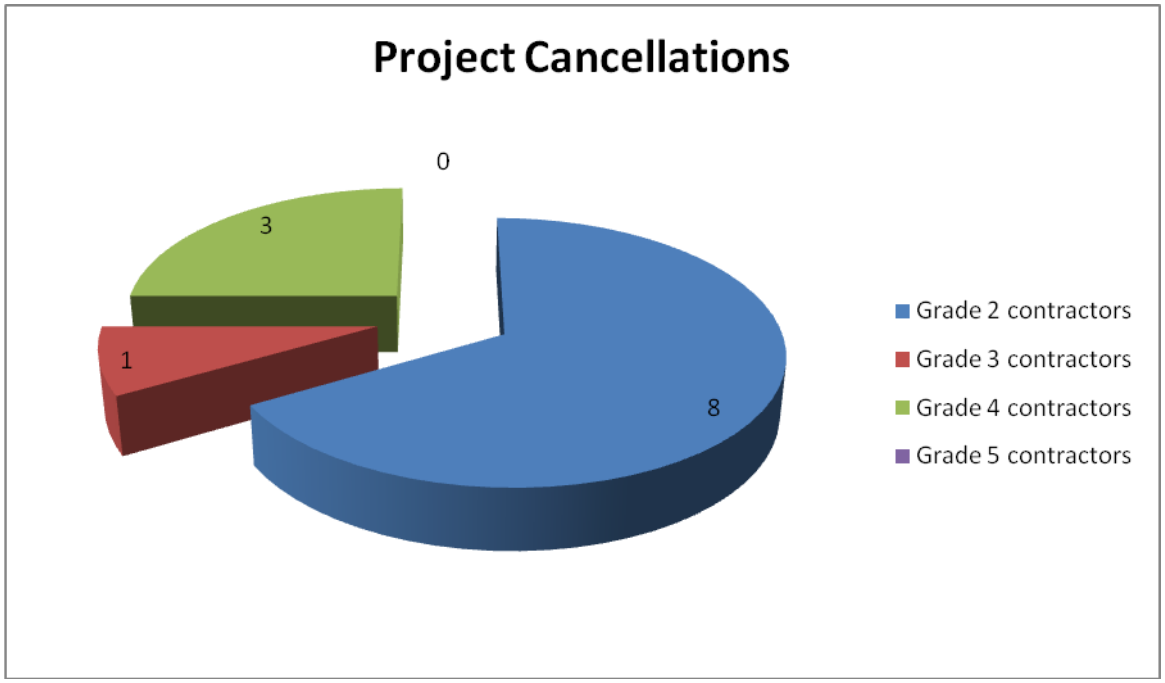


Figure 6.29: Contractors interviewed per grade and their experience of contract cancellation

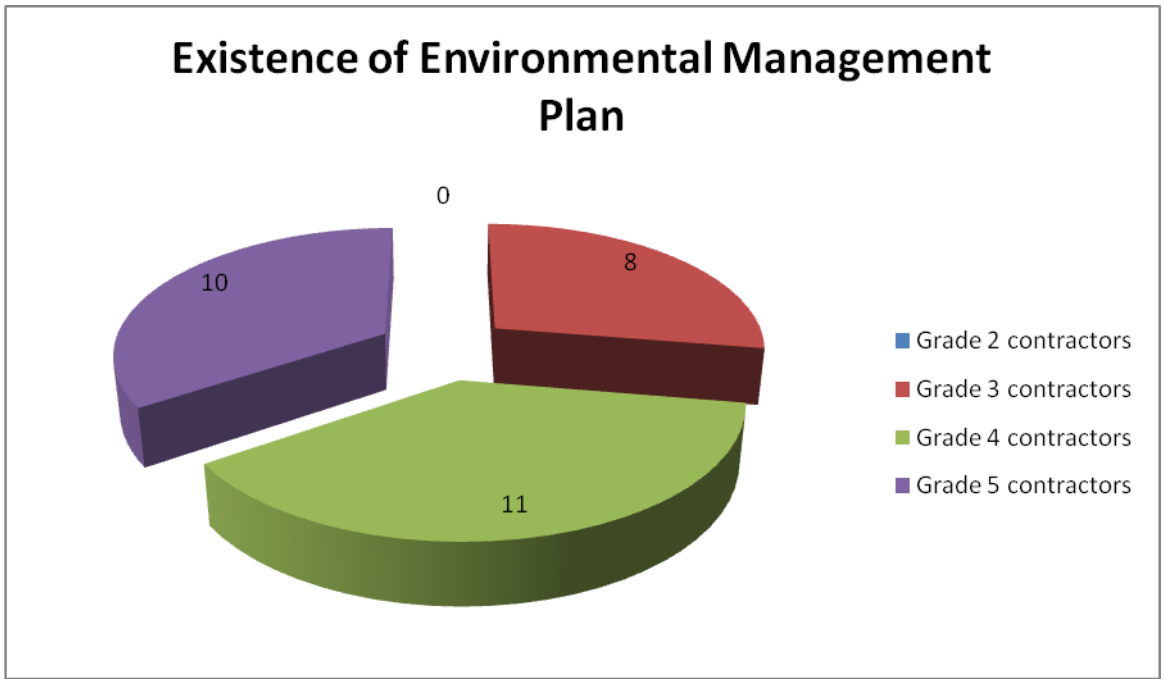


Figure 6.30: Existence of environmental management plan

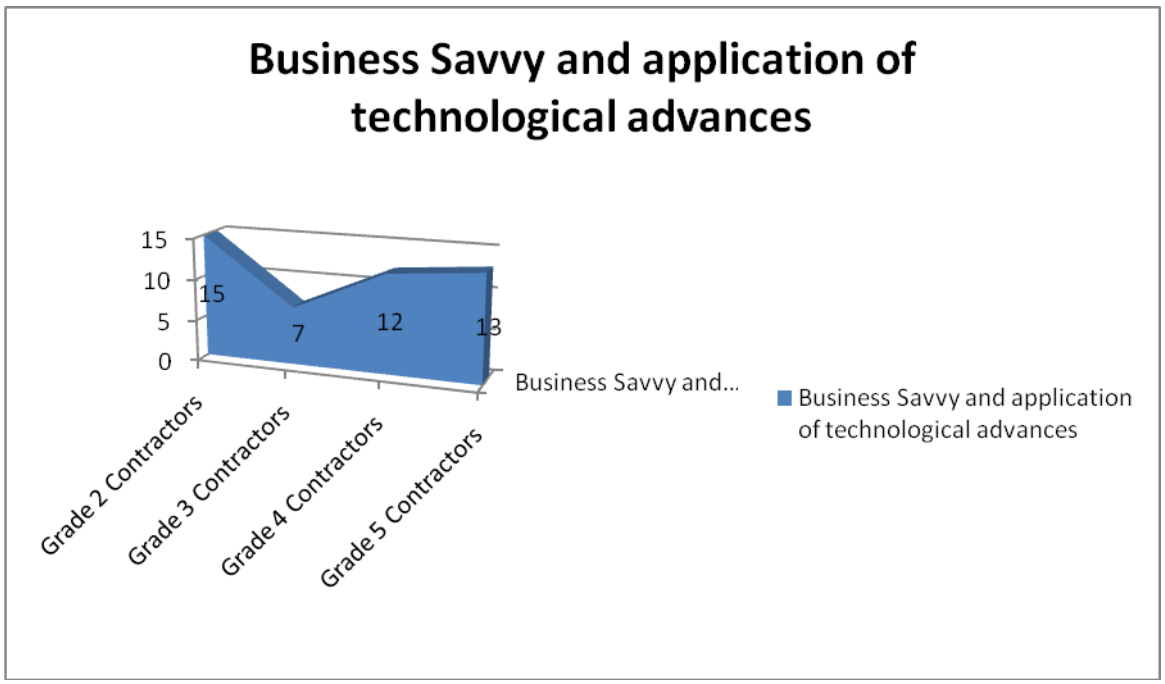


Figure 6.31: The application of technological advances and business savvy

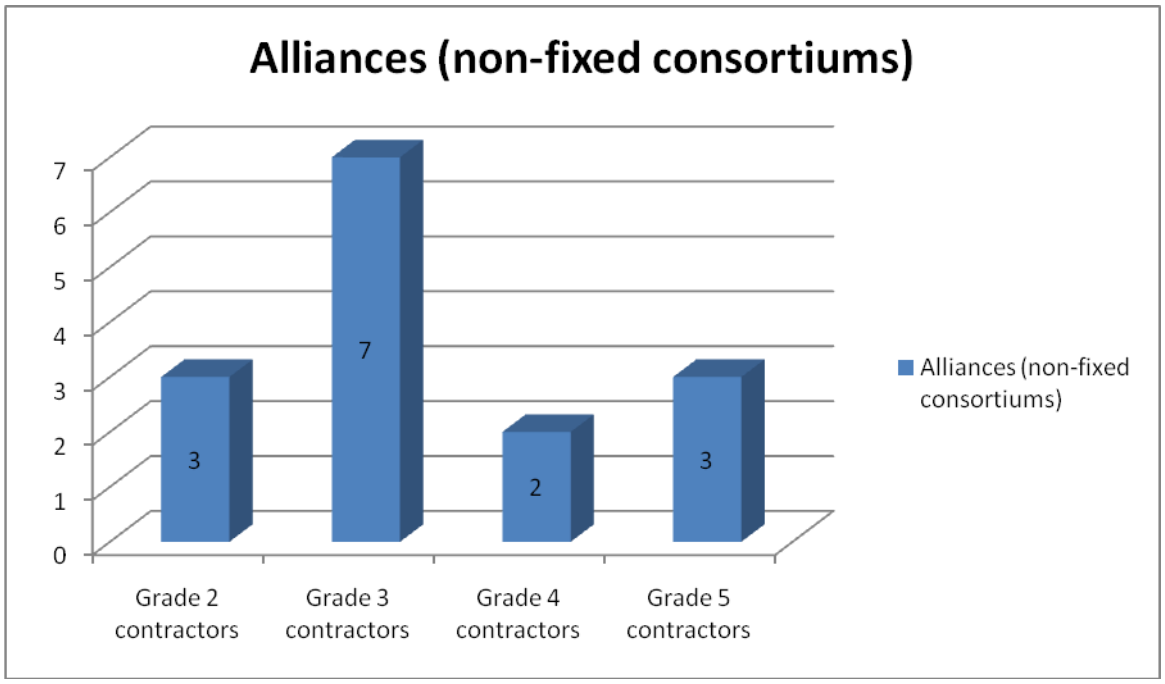


Figure 6.32: The number of contractors who have formed Alliances with others to benefit from greater opportunities

Table 6.10 hereunder is a table which summarises all of the responses from Section G and H of the Interview Guide.

6.5 Results from interview discussions

Hereunder, is a summary of how the interviewed construction SMMEs faired against each of the outcome areas or sections of the interview guide.

- SMME demonstrated knowledge and articulated responses that added value to the study. There was a truthfulness and sincerity in the responses and the contractors were able to furnish evidence to support claims made;

- SMME demonstrated ambivalence and responded in a manner that highlighted areas needing further research beyond the scope of this study. In some instances, they were not able to back up their claims; and

- SMME could not articulate responses that would add value to the study.

Table 6.6: Contractors Interviewed and the conclusiveness of their responses

CIDB CRS NO	NAME OF CONTRACTOR	Section B: Certification and Legal Environment	Section C: Legal and Environmental Compliance	Section D: Performance Management	Section E: Awareness of Environment	Section F: Business Growth	Section G: Quality	Section H: Innovation
CIVIL ENGINEERING GRADE 2								
190876	Contractor A							
204719	Contractor B							
1138030	Contractor C							
193467	Contractor D							
191087	Contractor E							
105013	Contractor F							
417569	Contractor G							
GENERAL BUILDING GRADE 2		**Section B: Certification and Legal Environment**	**Section C: Legal and Environmental Compliance**	**Section D: Performance Management**	**Section E: Awareness of Environment**	**Section F: Business Growth**	**Section G: Quality**	**Section H: Innovation**
111396	Contractor H							
165911	Contractor I							
130573	Contractor J							
109514	Contractor K							
131016	Contractor L							
160118	Contractor M							
179171	Contractor N							

CIVIL ENGINEERING GRADES 3

CIDB CRS NO	NAME OF CONTRACTOR	Section B: Certification and Legal Environment	Section C: Legal and Environmental Compliance	Section D: Performance Management	Section E: Awareness of Environment	Section F: Business Growth	Section G: Quality	Section H: Innovation
141831	Contractor O							
156639	Contractor P							
160304	Contractor Q							
172611	Contractor R							
160303	Contractor S							
168336	Contractor T							
107534	Contractor U							
GENERAL BUILDING GRADES 3		**Section B: Certification and Legal Environment**	**Section C: Legal and Environmental Compliance**	**Section D: Performance Management**	**Section E: Awareness of Environment**	**Section F: Business Growth**	**Section G: Quality**	**Section H: Innovation**
182230	Contractor V							
139809	Contractor W							
186744	Contractor X							
209680	Contractor Y							
112128	Contractor Z							
107234	Contractor AA							

CIVIL ENGINEERING GRADES 4

CIDB CRS NO	NAME OF CONTRACTOR	Section B: Certification and Legal Environment	Section C: Legal and Environmental Compliance	Section D: Performance Management	Section E: Awareness of Environment	Section F: Business Growth	Section G: Quality	Section H: Innovation
131016	Contractor BB							
179171	Contractor CC							
120843	Contractor DD							
115787	Contractor EE							
119821	Contractor FF							
117302	Contractor GG							
157165	Contractor HH							
124139	Contractor II							

GENERAL BUILDING GRADES 4		Section B: Certification and Legal Environment	Section C: Legal and Environmental Compliance	Section D: Performance Management	Section E: Awareness of Environment	Section F: Business Growth	Section G: Quality	Section H: Innovation
123749	Contractor JJ							
109324	Contractor KK							
109990	Contractor LL							
174369	Contractor MM							
172013	Contractor NN							
113832	Contractor OO							
184377	Contractor PP							

CIDB CRS NO	NAME OF CONTRACTOR	Section B: Certification and Legal Environment	Section C: Legal and Environmental Compliance	Section D: Performance Management	Section E: Awareness of Environment	Section F: Business Growth	Section G: Quality	Section H: Innovation
141019	Contractor QQ							
108942	Contractor RR							
127828	Contractor SS							
129193	Contractor TT							
111879	Contractor UU							
110030	Contractor VV							
133079	Contractor WW							
GENERAL BUILDING GRADE 5		**Section B: Certification and Legal Environment**	**Section C: Legal and Environmental Compliance**	**Section D: Performance Management**	**Section E: Awareness of Environment**	**Section F: Business Growth**	**Section G: Quality**	**Section H: Innovation**
108643	Contractor XX							
118892	Contractor YY							
182636	Contractor ZZ							
187343	Contractor AAA							
145336	Contractor BBB							
108709	Contractor CCC							
168191	Contractor DDD							

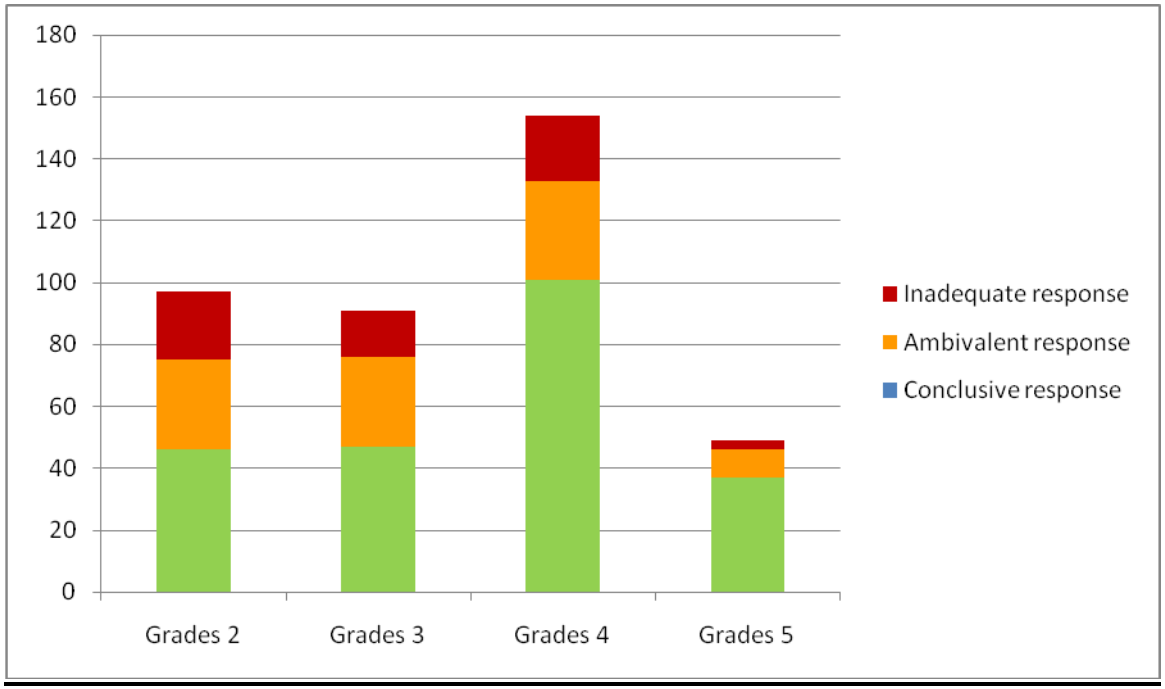


Figure 6.33: Contractors' percentage of conclusiveness of their responses per grade

Table 6.7: Contractors Interviewed and the individual responses to the questions in the sections of the interview guide: Sections A – B

NO.	CIDB CRS NO	NAME OF CONTRACTOR	Demographic Profile	Qualifications of Contractor	No. of Years in Practice	Trade Certifications & Membership	Form of ownership of entity	Frequency of Bidding	No. of project cancellations	No. of upgrades on RoC
GRADE 2 CONTRACTORS										
1	229289	A	Male-Owned	RPL Certificate	4	No	CC	75-95%	-	-
2	142253	B	Female-Owned	No Qualification	5	No	CC	50-75%	-	-
3	199091	C	Female-Owned	RPL Certificate	2	Yes	CC	75-95%	-	-
4	173934	D	Male-Owned	N3 Trade Certificate	2	Yes	CC	75-95%	1	-
5	143204	E	Female-Owned	RPL Certificate	8	Yes	CC	75-95%	-	-
6	175314	F	Male-Owned	RPL Certificate	6	Yes	CC	50-75%	1	1
7	173525	G	Female-Owned	No Qualification	1	No	CC	75-95%	-	-
8	238138	H	Male-Owned	ND: Building	4	Yes	CC	50-75%	-	-
9	167433	I	Male-Owned	RPL Certificate	3	Yes	CC	50-75%	1	-
10	225848	J	Male-Owned	RPL Certificate	7	Yes	CC	75-95%	1	-
11	190876	K	Female-Owned	RPL Certificate	4	Yes	CC	0-25%	-	-
12	204719	L	Female-Owned	ND: Marketing	5	Yes	CC	25-50%	-	-
13	1138030	M	Male-Owned	B. Ed	3	No	CC	75-95%	-	-
14	193467	N	Male-Owned	ND: Building	7	Yes	CC	25-50%	1	-
15	191087	P	Male-Owned	Teacher’s Diploma	11	No	CC	0-25%	-	-
16	105013	Q	Female-Owned	N3 Trade Certificate	4	Yes	CC	75-95%	-	-
17	417569	R	Female-Owned	BA, B.Ed	6	Yes	CC	0-25%	1	-
18	111396	S	Male-Owned	No Qualification	2	No	CC	75-95%	-	-
19	165911	T	Male-Owned	RPL Certificate	8	Yes	CC	75-95%	-	-
20	130573	U	Female-Owned	RPL Certificate	3	Yes	CC	75-95%	-	-
21	109514	V	Female-Owned	B. Ed	5	Yes	CC	25-50%	1	-

22	131016	W	Male-Owned	RPL Certificate	9	Yes	CC	25-50%	-	-
23	160118	X	Male-Owned	RPL Certificate	4	Yes	CC	75-95%	1	-
24	179171	Y	Female-Owned	No Qualification	6	No	CC	50-75%	-	-
GRADE 3 CONTRACTORS										
25	141831	Z	Male-Owned	B. Ed	3	Yes	CC	25-50%	-	-
26	156639	AA	Male-Owned	Public Administration	6	No	CC	75-95%	-	-
27	160304	BB	Male-Owned	B.A	2	Yes	CC	25-50%	-	-
28	172611	CC	Male-Owned	Teacher’s Diploma	3	No	CC	75-95%	-	-
29	160303	DD	Female-Owned	Hospitality Certification	4	No	CC	75-95%	1	-
30	168336	EE	Male-Owned	N3 Trade Certificate	17	Yes	CC	75-95%	-	-
31	107534	FF	Male-Owned	N3 Trade Certificate	6	Yes	CC	75-95%	-	-
32	182230	GG	Male-Owned	Business Administration	5	Yes	CC	75-95%	-	-
33	139809	HH	Male-Owned	No Qualification	4	No	CC	25-50%	-	-
34	186744	II	Female-Owned	N3 Trade Certificate	7	Yes	CC	50-75%	-	-
35	209680	JJ	Male-Owned	Business Administration	5	Yes	Pty Ltd	50-75%	-	-
36	112128	KK	Male-Owned	B. Cur. (Nursing)	10	No	CC	25-50%	-	-
37	107234	LL	Male-Owned	Business Administration	2	Yes	Pty Ltd	75-95%	-	-
GRADE 4 CONTRACTORS										
38	131016	MM	Male-Owned	ND: Building	20	Yes	CC	75-95%	-	-
39	179171	NN	Male-Owned	Business Administration	8	No	CC	50-75%	-	1
40	120843	OO	Male-Owned	ND: Building	5	Yes	Pty Ltd	50-75%	-	1
41	115787	PP	Female-Owned	Business Administration	6	No	Pty Ltd	25-50%	1	-

42	119821	QQ	Female-Owned	Teacher's Certification	6	Yes	CC	75-95%	1	-
43	117302	RR	Male-Owned	No qualification	5	No	CC	25-50%	-	-
44	157165	SS	Male-Owned	Civils Trade Certification	9	Yes	Pty Ltd	0-25%	-	-
45	124139	TT	Male-Owned	RPL Certificate	-	Yes	CC	25-50%	1	-
46	123749	UU	Male-Owned	N3 Trade Certificate	-	Yes	CC	75-95%	-	-
47	109324	VV	Male-Owned	No qualification	-	No	CC	25-50%	-	-
48	109990	WW	Male-Owned	RPL Certificate	-	Yes	CC	50-75%	-	-
49	174369	XX	Male-Owned	RPL Certificate	-	Yes	CC	25-50%	-	-
50	172013	YY	Female-Owned	Quantity Surveying Certification	12	Yes	Pty Ltd	75-95%	-	1
51	113832	ZZ	Male-Owned	ND: Building	-	Yes	Pty Ltd	0-25%	-	-
52	184377	AAA	Male-Owned	RPL Certificate	4	Yes	CC	0-25%	-	-
GRADE 5 CONTRACTORS										
53	141019	BBB	Male-Owned	N3 Trade Certificate	3	No	Pty Ltd	75-95%	-	-
54	108942	CCC	Male-Owned	Quantity Surveying Certification	-	Yes	CC	75-95%	-	1
55	127828	DDD	Male-Owned	RPL Certificate	-	Yes	Pty Ltd	75-95%	-	-
56	129193	EEE	Female-Owned	Civils Trade Certification	5	Yes	CC	25-50%	-	-
57	111879	FFF	Male-Owned	RPL Certificate	8	No	Pty Ltd	50-75%	-	-
58	110030	GGG	Male-Owned	RPL Certificate		No	Pty Ltd	25-50%	-	-
59	133079	HHH	Male-Owned	Public Administration	20	Yes	Pty Ltd	0-25%	-	-
60	108643	III	Male-Owned	ND: Building	7	Yes	Pty Ltd	75-95%	-	-
61	118892	JJJ	Male-Owned	Quantity Surveying Certification	4	Yes	CC	25-50%	-	-
62	182636	KKK	Male-Owned	RPL Certificate	12	Yes	CC	25-50%	-	1
63	187343	LLL	Male-Owned	ND: QS; BTech	7	Yes	CC	75-95%	-	1

64	145336	MMM	Male-Owned	RPL Certificate	5	No	Pty Ltd		-	-
65	108709	NNN	Male-Owned	Civils Trade Certification	6	Yes	CC	0-25%	-	-
66	168191	OOO	Male-Owned	Civils Trade Certification	11	Yes	Pty Ltd	0-25%	-	-

Table 6.8: Contractors Interviewed and the individual responses to the questions in the sections of the interview guide: Section C

NO.	CIDB CRS NO	NAME OF CONTRACTOR	Workmen's Compensation	Awareness of applicable legislation	Compliance with applicable legislation	Existence of environmental plan	Understanding of Procurement prescripts	Adherence to OHS Legislation	Registration with Unions OR Bargaining Council
GRADE 2 CONTRACTORS									
1	229289	A	None	No	No	No	No	Non-adherence	No
2	142253	B	None	No	No	No	Yes	Non-adherence	No
3	199091	C	None	Yes	Complies	No	No	Adheres	Yes
4	173934	D	None	Yes	Complies	No	No	Adheres	No
5	143204	E	None	Yes	Does not fully comply	No	No	Adheres	No
6	175314	F	None	Yes	Complies	No	Yes	Adheres	No
7	173525	G	None	No	No	No	Yes	Non-adherence	Yes
8	238138	H	None	Yes	Complies	No	Yes	Adheres	Yes
9	167433	I	None	Yes	Complies	No	Yes	Adheres	Yes
10	225848	J	None	Yes	Does not fully comply	No	No	Adheres	Yes
11	190876	K	None	Yes	Complies	No	Yes	Adheres	Yes
12	204719	L	None	Yes	Complies	No	No	Adheres	Yes
13	1138030	M	None	No	No	No	No	Adheres	No
14	193467	N	None	Yes	Complies	No	Yes	Adheres	No

15	191087	P	None	No	No	No	Yes	Non-adherence	Yes
16	105013	Q	None	Yes	Complies	No	Yes	Adheres	Yes
17	417569	R	None	Yes	Complies	No	Yes	Adheres	Yes
18	111396	S	None	No	No	No	Yes	Adheres	Yes
19	165911	T	None	Yes	Complies	No	Yes	Adheres	Yes
20	130573	U	None	Yes	Does not fully comply	No	Yes	Adheres	Yes
21	109514	V	None	Yes	Does not fully comply	No	No	Adheres	Yes
22	131016	W	None	Yes	Complies	No	Yes	Adheres	Yes
23	160118	X	None	Yes	Complies	No	Yes	Adheres	Yes
24	179171	Y	None	No	No	No	Yes	Adheres	Yes
GRADE 3 CONTRACTORS									
25	141831	Z	None	Yes	Complies	Yes	Yes	Adheres	Yes
26	156639	AA	None	No	No	No	Yes	Non-adherence	No
27	160304	BB	None	Yes	Does not fully comply	Yes	Yes	Adheres	Yes
28	172611	CC	None	No	No	No	Yes	Non-adherence	Yes
29	160303	DD	None	No	No	No	Yes	Non-adherence	No
30	168336	EE	None	Yes	Does not fully comply	Yes	Yes	Adheres	No
31	107534	FF	None	Yes	Complies	Yes	Yes	Adheres	No
32	182230	GG	None	Yes	Complies	Yes	Yes	Adheres	Yes
33	139809	HH	None	No	No	No	Yes	Non-adherence	Yes
34	186744	II	None	Yes	Complies	Yes	Yes	Adheres	No
35	209680	JJ	None	Yes	Complies	Yes	Yes	Adheres	Yes
36	112128	KK	None	No	No	No	Yes	Non-adherence	Yes
37	107234	LL	None	Yes	Complies	Yes	Yes	Non-adherence	Yes

GRADE 4 CONTRACTORS									
38	131016	MM	None	Yes	Complies	Yes	Yes	Adheres	-
39	179171	NN	In place	No	No	No	Yes	Adheres	Yes
40	120843	OO	In place	Yes	Complies	Yes	Yes	Adheres	Yes
41	115787	PP	None	No	No	No	Yes	Adheres	Yes
42	119821	QQ	In place	Yes	Complies	Yes	Yes	Adheres	Yes
43	117302	RR	None	No	No	No	Yes	Adheres	Yes
44	157165	SS	In place	Yes	Does not fully comply	Yes	Yes	Adheres	Yes
45	124139	TT	In place	Yes	Complies	Yes	Yes	Adheres	Yes
46	123749	UU	In place	Yes	Complies	Yes	No	Adheres	Yes
47	109324	VV	None	No	No	No	No	Adheres	Yes
48	109990	WW	In place	Yes	Complies	Yes	No	Adheres	Yes
49	174369	XX	In place	Yes	Complies	Yes	No	Adheres	No
50	172013	YY	None	Yes	Does not fully comply	Yes	Yes	Adheres	No
51	113832	ZZ	None	Yes	Complies	Yes	Yes	Adheres	Yes
52	184377	AAA	In place	Yes	Complies	Yes	No	Adheres	Yes
GRADE 5 CONTRACTORS									
53	141019	BBB	In place	No	No	No	Yes	Non-adherence	Yes
54	108942	CCC	In place	Yes	Complies	Yes	Yes	Adheres	Yes
55	127828	DDD	In place	Yes	Complies	Yes	Yes	Non-adherence	Yes
56	129193	EEE	None	Yes	Complies	Yes	Yes	Non-adherence	Yes
57	111879	FFF	In place	No	Does not fully comply	Yes	Yes	Adheres	Yes
58	110030	GGG	In place	No	Does not fully comply	Yes	Yes	Adheres	Yes

59	133079	HHH	In place	Yes	Complies	No	Yes	Adheres	Yes
60	108643	III	None	Yes	Complies	Yes	Yes	Adheres	Yes
61	118892	JJJ	In place	Yes	Complies	Yes	Yes	Adheres	Yes
62	182636	KKK	In place	Yes	Does not fully comply	No	Yes	Adheres	Yes
63	187343	LLL	In place	Yes	Complies	Yes	Yes	Adheres	Yes
64	145336	MMM	In place	No	Does not fully comply	Yes	Yes	Adheres	Yes
65	108709	NNN	None	Yes	Complies	Yes	Yes	Adheres	Yes
66	168191	OOO	In place	Yes	Complies	No	Yes	Adheres	Yes

Table 6.9: Contractors Interviewed and the individual responses to the questions in the sections of the interview guide: Sections D and E

NO.	CIDB CRS NO	NAME OF CONTRACTOR	Awarded contracts since initial registration	Exposure to contractor performance measurement	Benefit from Industry Programmes	Trade Certifications & Membership	Understanding of construction industry	Keeping abreast with construction-related technologies	Understanding of attendant risks
GRADE 2 CONTRACTORS									
1	229289	A	1	Not Exposed	Yes	No	Nil understanding	No	-
2	142253	B	3	Not Exposed	Yes	No	Articulate Understanding	No	-
3	199091	C	2	Not Exposed	Yes	Yes	Nil understanding	No	-
4	173934	D	2	Not Exposed	Yes	Yes	Nil understanding	No	-
5	143204	E	3	Not Exposed	Yes	Yes	Articulate Understanding	No	-
6	175314	F	4	Not Exposed	Yes	Yes	Articulate Understanding	Yes	-
7	173525	G	-	Not Exposed	Yes	No	Nil understanding	No	-
8	238138	H	-	Not Exposed	Yes	Yes	Nil understanding	No	-
9	167433	I	3	Not Exposed	Yes	Yes	Articulate Understanding	No	-

10	225848	J	2	Not Exposed	Yes	Yes	Nil understanding	No	-
11	190876	K	1	Not Exposed	Yes	Yes	Nil understanding	No	-
12	204719	L	1	Not Exposed	Yes	Yes	Nil understanding	No	-
13	1138030	M	-	Not Exposed	Yes	No	Nil understanding	No	-
14	193467	N	1	Not Exposed	Yes	Yes	Nil understanding	No	-
15	191087	P	3	Not Exposed	Yes	No	Nil understanding	No	-
16	105013	Q	1	Not Exposed	Yes	Yes	Nil understanding	No	-
17	417569	R	-	Not Exposed	Yes	Yes	Nil understanding	No	-
18	111396	S	-	Not Exposed	Yes	No	Nil understanding	No	-
19	165911	T	-	Not Exposed	Yes	Yes	Nil understanding	No	-
20	130573	U	1	Not Exposed	Yes	Yes	Nil understanding	No	-
21	109514	V	-	Not Exposed	Yes	Yes	Nil understanding	No	-
22	131016	W	-	Not Exposed	Yes	Yes	Nil understanding	No	-
23	160118	X	-	Not Exposed	Yes	Yes	Nil understanding	No	-
24	179171	Y	-	Not Exposed	Yes	No	Nil understanding	No	-
GRADE 3 CONTRACTORS									
25	141831	Z	1	Not Exposed	Yes	Yes	Nil understanding	No	-
26	156639	AA	2	Exposed	Yes	No	Articulate Understanding	No	Yes
27	160304	BB	1	Exposed	Yes	Yes	Articulate Understanding	No	-
28	172611	CC	-	Not Exposed	No	No	Nil understanding	No	-
29	160303	DD	4	Exposed	Yes	No	Articulate Understanding	Yes	Yes
30	168336	EE	-	Not Exposed	Yes	Yes	Nil understanding	No	-
31	107534	FF	-	Not Exposed	Yes	Yes	Nil understanding	No	-
32	182230	GG	1	Exposed	Yes	Yes	Articulate Understanding	No	-
33	139809	HH	2	Exposed	Yes	No	Articulate Understanding	Yes	Yes
34	186744	II	-	Not Exposed	Yes	Yes	Nil understanding	No	-

35	209680	JJ	1	Exposed	Yes	Yes	Articulate Understanding	No	-
36	112128	KK	3	Exposed	Yes	No	Articulate Understanding	No	Yes
37	107234	LL	2	Not Exposed	No	Yes	Nil understanding	No	-
GRADE 4 CONTRACTORS									
38	131016	MM	4	Exposed	Yes	Yes	Articulate Understanding	Yes	Yes
39	179171	NN	2	Exposed	Yes	No	Articulate Understanding	Yes	Yes
40	120843	OO	1	Not Exposed	No	Yes	Nil understanding	No	-
41	115787	PP	3	Exposed	Yes	No	Articulate Understanding	No	Yes
42	119821	QQ	7	Exposed	Yes	Yes	Articulate Understanding	Yes	Yes
43	117302	RR	-	Not Exposed	No	No	Nil understanding	No	-
44	157165	SS	-	Not Exposed	No	Yes	Nil understanding	No	-
45	124139	TT	6	Exposed	No	Yes	Articulate Understanding	Yes	Yes
46	123749	UU	3	Exposed	No	Yes	Articulate Understanding	Yes	Yes
47	109324	VV	-	Not Exposed	No	No	Nil understanding	No	-
48	109990	WW	2	Not Exposed	No	Yes	Nil understanding	No	-
49	174369	XX	1	Not Exposed	No	Yes	Nil understanding	No	-
50	172013	YY	6	Exposed	No	Yes	Articulate Understanding	Yes	Yes
51	113832	ZZ	2	Exposed	No	Yes	Articulate Understanding	No	-
52	184377	AAA	2	Exposed	No	Yes	Articulate Understanding	Yes	Yes
GRADE 5 CONTRACTORS									
53	141019	BBB	1	Exposed	No	No	Articulate Understanding	No	Yes
54	108942	CCC	1	Exposed	No	Yes	Articulate Understanding	Yes	Yes
55	127828	DDD	1	Exposed	No	Yes	Articulate Understanding	Yes	Yes
56	129193	EEE	3	Exposed	No	Yes	Articulate Understanding	Yes	Yes
57	111879	FFF	-	Not Exposed	No	No	Articulate Understanding	No	Yes
58	110030	GGG	-	Not Exposed	No	No	Articulate Understanding	No	Yes
59	133079	HHH	4	Exposed	Yes	Yes	Articulate Understanding	Yes	Yes

60	108643	III	-	Not Exposed	No	Yes	Articulate Understanding	Yes	Yes
61	118892	JJJ	-	Not Exposed	No	Yes	Articulate Understanding	Yes	Yes
62	182636	KKK	1	Exposed	Yes	Yes	Articulate Understanding	Yes	Yes
63	187343	LLL	1	Not Exposed	No	Yes	Articulate Understanding	Yes	Yes
64	145336	MMM	1	Exposed	No	No	Articulate Understanding	Yes	Yes
65	108709	NNN	1	Not Exposed	No	Yes	Articulate Understanding	No	-
66	168191	OOO	1	Exposed	No	Yes	Articulate Understanding	Yes	Yes

Table 6.10: Contractors Interviewed and the individual responses to the questions in the sections of the interview guide: Section F

	CIDB CRS NO	NAME OF CONTRACTOR	Location of Business	Setting of strategic Plan	Public relations and Marketing of business	Exploiting available business opportunities	Understanding of sectoral cultural
GRADE 2 CONTRACTORS							
1	229289	A	Metro	No	Nil	i-Tender	Minimally
2	142253	B	Local	No	Yes	i-Tender	Do not understand
3	199091	C	Metro	Yes	Somewhat	i-Tender	Minimally
4	173934	D	Metro	Yes	Somewhat	Government gazette	Minimally
5	143204	E	Local	Yes	Nil	Government gazette	Understand
6	175314	F	Local	Yes	Somewhat	i-Tender	Understand
7	173525	G	Metro	No	Nil	i-Tender	Do not understand
8	238138	H	Metro	Yes	Yes	i-Tender	Understand
9	167433	I	District	Yes	Nil	Client database	Understand
10	225848	J	Metro	Yes	Nil	Newspapers	Understand
11	190876	K	Local	Yes	Nil	Client database	Minimally
12	204719	L	Metro	Yes	Somewhat	Client database	Minimally
13	1138030	M	Metro	No	Yes	Government gazette	Do not understand
14	193467	N	Metro	Yes	Yes	Government gazette	Do not understand

15	191087	P	Local	No	Yes	i-Tender	Do not understand
16	105013	Q	Metro	Yes	Yes	i-Tender	Do not understand
17	417569	R	District	Yes	Yes	i-Tender	Minimally
18	111396	S	Metro	No	Nil	Newspapers	Understand
19	165911	T	Metro	Yes	Yes	Newspapers	Understand
20	130573	U	Metro	Yes	Somewhat	i-Tender	Do not understand
21	109514	V	Metro	Yes	Somewhat	i-Tender	Minimally
22	131016	W	District	Yes	Somewhat	Newspaper	Minimally
23	160118	X	Metro	Yes	Somewhat	Client database	Do not understand
24	179171	Y	Metro	No	Nil	i-Tender	Do not understand
GRADE 3 CONTRACTORS							
25	141831	Z	Metro	Yes	Yes	Newspapers	Minimally
26	156639	AA	Metro	No	Nil	Newspapers	Understand
27	160304	BB	Metro	Yes	Somewhat	i-Tender	Understand
28	172611	CC	Metro	No	Nil	i-Tender	Minimally
29	160303	DD	District	No	Nil	i-Tender	Minimally
30	168336	EE	District	Yes	Somewhat	Client database	Understand
31	107534	FF	Metro	Yes	Yes	i-Tender	Do not understand
32	182230	GG	Metro	Yes	Yes	Newspaper	Minimally
33	139809	HH	Metro	No	Nil	Newspaper	Understand
34	186744	II	Metro	Yes	Yes	i-Tender	Do not understand
35	209680	JJ	Metro	Yes	Yes	Government gazette	Do not understand
36	112128	KK	Metro	No	Nil	Newspaper	Understand
37	107234	LL	Metro	Yes	Yes	Newspaper	Minimally
GRADE 4 CONTRACTORS							
38	131016	MM	Metro	Yes	Yes	i-Tender	Do not understand
39	179171	NN	Metro	No	Nil	i-Tender	Understand

40	120843	OO	District	Yes	Yes	i-Tender	Do not understand
41	115787	PP	District	No	Nil	Newspaper	Minimally
42	119821	QQ	Metro	Yes	Nil	i-Tender	Minimally
43	117302	RR	Metro	No	Yes	i-Tender	Do not understand
44	157165	SS	District	Yes	Nil	Client database	Understand
45	124139	TT	Metro	Yes	Somewhat	Client database	Understand
46	123749	UU	Metro	Yes	Somewhat	Government gazette	Understand
47	109324	VV	Metro	No	Somewhat	Newspaper	Understand
48	109990	WW	Metro	Yes	Somewhat	Client database	Understand
49	174369	XX	Metro	Yes	Somewhat	Newspaper	Understand
50	172013	YY	Metro	Yes	Yes	Newspaper	Do not understand
51	113832	ZZ	Metro	Yes	Yes	i-Tender	Do not understand
52	184377	AAA	Metro	Yes	Yes	Client database	Minimally
GRADE 5 CONTRACTORS							
53	141019	BBB	Metro	No	Yes	Client database	Minimally
54	108942	CCC	Metro	Yes	Yes	i-Tender	Do not understand
55	127828	DDD	Metro	Yes	Yes	i-Tender	Do not understand
56	129193	EEE	District	Yes	Yes	Client database	Do not understand
57	111879	FFF	District	No	Somewhat	Client database	Understand
58	110030	GGG	Local	No	Somewhat	i-Tender	Understand
59	133079	HHH	District	Yes	Nil	i-Tender	Minimally
60	108643	III	Local	Yes	Yes	i-Tender	Minimally
61	118892	JJJ	Local	Yes	Yes	i-Tender	Do not understand
62	182636	KKK	Metro	Yes	Yes	i-Tender	Understand
63	187343	LLL	District	Yes	Nil	i-Tender	Do not understand
64	145336	MMM	Local	No	Somewhat	i-Tender	Understand

65	108709	NNN	Metro	Yes	Yes	i-Tender	Understand
66	168191	OOO	Metro	Yes	Yes	Newspaper	Understand

Table 6.11: Contractors interviewed and the individual responses to the questions in the Interview Guide on Sections G and H

NO.	CIDB CRS NO	NAME OF CONTRACTOR	Qualifications of Contractor	No. of Years in Practice	Use of innovative methods in projects	Technological advances/ Business savvy	Rating of decision-making skills (1 to 5)	Partnering and Alliancing	Procurement of contracts strategies
GRADE 2 CONTRACTORS									
1	229289	A	RPL Certificate	4	No	Yes	5	-	-
2	142253	B	No Qualification	5	No	-	5	-	-
3	199091	C	RPL Certificate	2	No	Yes	5	-	-
4	173934	D	N3 Trade Certificate	2	No	Yes	5	-	-
5	143204	E	RPL Certificate	8	No	Yes	5	-	-
6	175314	F	RPL Certificate	6	No	-	5	-	-
7	173525	G	No Qualification	1	No	-	5	-	-
8	238138	H	ND: Building	4	No	Yes	5	-	-
9	167433	I	RPL Certificate	3	No	Yes	5	-	-
10	225848	J	RPL Certificate	7	No	Yes	5	-	-
11	190876	K	RPL Certificate	4	No	Yes	5	-	-
12	204719	L	ND: Marketing	5	No	-	5	-	-
13	1138030	M	B. Ed	3	No	-	4	-	-
14	193467	N	ND: Building	7	Yes	Yes	4	-	-
15	191087	P	Teacher’s Diploma	11	No	-	4	-	-
16	105013	Q	N3 Trade Certificate	4	Yes	Yes	4	-	-
17	417569	R	BA, B.Ed	6	Yes	-	4	1	-

18	111396	S	No Qualification	2	No	-	3	-	-
19	165911	T	RPL Certificate	8	Yes	Yes	5	-	-
20	130573	U	RPL Certificate	3	No	Yes	5	-	-
21	109514	V	B. Ed	5	No	-	5	-	-
22	131016	W	RPL Certificate	9	Yes	Yes	5	-	-
23	160118	X	RPL Certificate	4	Yes	Yes	3	1	-
24	179171	Y	No Qualification	6	No	-	4	-	-
GRADE 3 CONTRACTORS									
25	141831	Z	B. Ed	3	Yes	-	3	1	-
26	156639	AA	Public Administration	6	No	Yes	5	-	-
27	160304	BB	B.A	2	No	-	5	1	
28	172611	CC	Teacher’s Diploma	3	No	-	4	-	-
29	160303	DD	Hospitality Certification	4	No	-	3	1	-
30	168336	EE	N3 Trade Certificate	17	Yes	Yes	4	-	-
31	107534	FF	N3 Trade Certificate	6	Yes	Yes	5	2	-
32	182230	GG	Business Administration	5	No	Yes	3	-	-
33	139809	HH	No Qualification	4	No	-	3	-	-
34	186744	II	N3 Trade Certificate	7	Yes	Yes	4	-	-
35	209680	JJ	Business Administration	5	Yes	Yes	3	-	-
36	112128	KK	B. Cur. (Nursing)	10	No	-	5	2	-
37	107234	LL	Business Administration	2	No	Yes	5	-	-
GRADE 4 CONTRACTORS									
38	131016	MM	ND: Building	20	Yes	Yes	5	-	-
39	179171	NN	Business Administration	8	No	Yes	5	1	-

40	120843	OO	ND: Building	5	Yes	Yes	3	-	_
41	115787	PP	Business Administration	6	No	Yes	4	-	-
42	119821	QQ	Teacher’s Certification	6	Yes	-	5	-	-
43	117302	RR	No qualification	5	No	-	5	-	-
44	157165	SS	Civils Trade Certification	9	Yes	Yes	4	-	-
45	124139	TT	RPL Certificate	-	Yes	Yes	5	-	-
46	123749	UU	N3 Trade Certificate	-	Yes	Yes	3	-	-
47	109324	VV	No qualification	-	No		4	-	-
48	109990	WW	RPL Certificate	-	Yes	Yes	4	-	-
49	174369	XX	RPL Certificate	-	Yes	Yes	4	-	-
50	172013	YY	Quantity Surveying Certification	12	Yes	Yes	4	1	-
51	113832	ZZ	ND: Building	-	Yes	Yes	4	-	-
52	184377	AAA	RPL Certificate	4	Yes	Yes	3	-	-
GRADE 5 CONTRACTORS									
53	141019	BBB	N3 Trade Certificate	3	No	Yes	5	-	-
54	108942	CCC	Quantity Surveying Certification	-	Yes	Yes	5	1	-
55	127828	DDD	RPL Certificate	-	Yes	-	5	-	-
56	129193	EEE	Civils Trade Certification	5	Yes	Yes	4	-	-
57	111879	FFF	RPL Certificate	8	No	Yes	3	-	-
58	110030	GGG	RPL Certificate		No	Yes	4	-	-
59	133079	HHH	Public Administration	20	Yes	Yes	4	-	-
60	108643	III	ND: Building	7	Yes	Yes	4	-	-
61	118892	JJJ	Quantity Surveying Certification	4	Yes	Yes	4	-	-

62	182636	KKK	RPL Certificate	12	Yes	Yes	3	1	-
63	187343	LLL	ND: QS; BTech	7	Yes	Yes	5	1	-
64	145336	MMM	RPL Certificate	5	No	Yes	4	-	-
65	108709	NNN	Civils Trade Certification	6	Yes	Yes	4	-	-
66	168191	OOO	Civils Trade Certification	11	Yes	Yes	4	-	-

6.6 Findings and Analysis of Results from interviews

This section provides a summary of the outcome of the interview process. From a chronology point of view, it is handled section by section and reflects what the study through the interview guide sought to extract and what the benefits of extracting that information were in other words – how did the information add to the study? Later in the chapter there is the proving or disproving of the hypotheses. This is a type of distilling the information acquired through interviews so as to ensure that checks and balances were indeed in place to extract the information that would add value to the study. This process also assisted with the synthesis of the information.

6.6.1 Section A: Coding Information

What the study sought to extract:

- Interview date, time and number for coding and verification purposes only.

SECTION A: INTERVIEW DETAILS (CODING INFORMATION)	
Interview Date:	
Interview Time:	
Interview No:	

What the benefits of doing so were:

This was purely to enable archiving for research that could be pursued at a later stage under either competitiveness or entrepreneurship. The dates of the interviews were from 1 September 2011 up until 10 October 2011. The interviews were accordingly numbered for reference purposes.

6.6.2 Section B: Particulars of Entrepreneur

What the study sought to extract:

- Establish the Contractor's name, grade and the category of works (CE/GB);
- Built Environment education acquired by SMME (Table 6.3);
- Knowledge gathering techniques and methodologies used by contractors;
- Trade Certifications and Association Membership (Table 6.3), and
- Continuous Learning intent of SMME.

SECTION B: PERSONAL PARTICULARS OF OWNER OR ENTREPRENUER

This section covered an enquiry made into the theoretical exposure of the SMME from an education and training point of view. Its purpose is to gain insight into the theoretical underpinnings of what informs the approach of the construction business owner with respect to how they conduct their business.

NAME OF SMME CONTRACTOR:		
No. OF CONTRACTOR UPGRADES APPLIED FOR BY SMME FROM CIDB:		
1	Please advise on any built environment education that you have acquired (if any)?	
2	What is the highest qualification obtained by the owner of the business?	
3	Do you have any formal built environment qualifications or certificates of prior learning?	YES / NO
4	If yes, how is this knowledge assisting you to run your business? If no, how are you managing the running of your construction business?	

What the benefits of doing so were:

This section was important to ascertain whether or not the contractors within the specified grades meet the current minimum prescribed educational qualifications and experience or recognised equivalence in the area of building and construction works management required for the respective category. It was not the intention of this study to interview contractors or SMMEs that are not graded by the cidb as this would have compromised the very premise of the enquiry and would also have fallen

short of responding to the claim: that of the CRS being the tool that can be used with which to measure the competitiveness of SMMEs. It was also important from the section to extract the value derived through having such qualifications; to what extent did it assist the SMME in running their business and conceptualising strategies that are suitable for guaranteeing business performance and growth.

It is important that competencies reside with the owner and/or key nominated representatives of the contracting enterprise. Where these representatives meet the minimum competencies as required by the cidb insofar as the following are concerned: business management, building and construction works management and legislative issues, the contractor becomes recognised as a cidb Accredited Contractor. In the development of the cidb requirements, there is recognition that many contractors do not have formal qualifications, but are likely to operate at the required level. Where the contractor or his nominated representative does not hold the required minimum formal qualifications, the cidb facilitates an assessment of the capabilities of the contractor.

It was also important from this section to ascertain how those contractors who have a built environment qualification translate the theory into practice especially as it relates to growing their construction business. In instances where the construction SMMEs that were interviewed did not possess a built environment qualification, the study sought to ascertain how they gather knowledge relevant in the construction industry to grow their firms.

Results:

The numbers in relation to applications for upgrades within the RoC compared to the numbers approved by the cidb are hereunder shown in Table 6.12. A detailed discussion on upgrades is had in 6.6.4 Section D.

Table 6.12: Findings on upgrades

Grade of contractors	No. of applications for upgrade	No. of Firms upgraded
Grade 2	**7**	**1**
Grade 3	**4**	**-**
Grade 4	**9**	**3**
Grade 5	**5**	**3**
TOTAL	**25**	**7**

Source: Research Archives: Gasa, 2011

The percentages in relation to the size of pool of SMMEs that possess a built environment qualification are hereunder shown in Table 6.13:

Table 6.13: Findings on Built Environment Qualifications

Grade of contractors	No. possessing Built Environment Qualifications	Percentage in relation to sample (%)
Grade 2	**15**	**63**
Grade 3	**3**	**23**
Grade 4	**10**	**67**
Grade 5	**13**	**100**
TOTAL	**41**	**63.25**

Source: Research Archives: Gasa, 2011

The detail in relation to those qualifications viz. the highest level achieved and not necessarily whether or not that qualification is from the built environment is hereunder shown in Table 6.14:

Table 6.14: Findings on highest level of Qualification achieved

Grade of contractors	Built Environment Qualifications					
	No qualification	**PhD**	**Masters**	**Degree**	**Diploma**	**RPL/ Trade Certificate**
Grade 2	**4**	**-**	**-**	**3**	**6**	**11**
Grade 3	**1**	**-**	**-**	**7**	**1**	**4**
Grade 4	**2**	**-**	**-**	**2**	**3**	**8**
Grade 5	**-**	**-**	**1**	**3**	**5**	**4**
TOTAL	**7**	**0**	**1**	**15**	**15**	**27**

Source: Research Archives: Gasa, 2011

This research enquired how the knowledge gained through the qualifications was assisting the SMMEs run their businesses and the responses can be seen as presented in Table 6.15 hereunder.

Table 6.15: Findings on acquisition of Knowledge

Grade of contractors	YES	NO
Grade 2	**18**	**6**
Grade 3	**10**	**3**
Grade 4	**10**	**5**
Grade 5	**11**	**3**
TOTAL	**49**	**17**

Source: Research Archives: Gasa, 2011

The question that was not asked under this section which was however pertinent to knowledge acquisition is the one related to the use of ICT tools through which to gather information which may assist the SMME build an efficient operation. It was for that reason that the study sought to understand the proficiency of the construction SMMEs in being able to communicate their value proposition with a view to acquire more work from potential clients but also the extent of proficiency in their use of tools such as the internet to keep abreast with information related to available work opportunities. The research therefore enquired on the use of such tools but also as the interviews were contact-based, they gave an opportunity for SMMEs to demonstrate their communication skills and competence in the use of such tools. Table 6.16 reflects the outcome.

Table 6.16: Findings on Business efficiency

Grade of contractors	Communication Skills	IT-savvy SMMEs and general business acumen
Grade 2	**21**	**15**
Grade 3	**9**	**7**
Grade 4	**15**	**12**
Grade 5	**13**	**13**
TOTAL	**58**	**47**

Source: Research Archives: Gasa, 2011

Findings:

The section of the interview guide began rather harshly by getting to the nub of the question of competitiveness - the aggressive willingness to compete - by asking the SMMEs how many upgrades they have applied for within the CRS since their initial registration. This was deliberate as it meant to gauge the extent of their appreciation that:

(1) Businesses in the built environment sector are set up precisely to respond to a national challenge (provision of social and economic infrastructure);
(2) In the spirit of doing so this response must be sustainable. It should result on improved performance on the part of the construction SMME and it should also result in growth, and
(3) Since growth is measured, it therefore follows that the SMMEs rank on the CRS cannot remain static over the years of registration and there must be demonstrable upward mobility since the time of initial registration on the RoC.

In relation to upgrades applied for by all SMMEs across the respective grades, a total number of 25 out of the sample of 66 had applied for upgrades since their initial registration [as seen on Table 6.12. Out of the 25 SMMEs that had applied for an upgrade, a total of 7 had only been granted upgrades.

Secondly, at present the RoC does not make enquiries in relation to qualifications possessed by the owner of the contracting entity or its staff and as such, it explains

why at the bottom end you have a massive pool of survivalist contractors without the requisite/ formal built environment qualifications. A continuation of such a status quo cannot even begin in its current state to assist with the measurement of progressive attainment of competitiveness as training, the emphasis being on adequate training, is one of the essential components of competitiveness as was defined through this study under Section 3. It is only at the point where SMME contractors apply for assessment accreditation out of their own volition, that such information becomes a prescribed requirement.

In relation to the numbers of contractors possessing a built environment qualification: a total number of 41 out of 66 do have the relevant qualifications. As can be seen in Table 6.13 the average percentage achievement of built environment qualifications is 63.25%.

Thirdly, the study found there to be a great number of SMMEs with Recognition of Prior Learning (RPL) certificates in comparison to those that had a formal Built Environment qualification, be it a diploma or a degree. RPL involves considering a student's previous certified and uncertified learning in order to facilitate access to a programme of study, or to grant exemptions from elements of a programme. Some of the SMMEs interviewed, undertook courses and study at differing stages of their careers and by so doing acquired skills and competencies across a variety of areas, more especially in relation to construction trades. This pursued learning was certified by Further Training and Education institutions (FETs) and others achieved their certification through academic or educational institutions. Other competencies were uncertified learning which was gained through work and in particular through the EPWP and Community-Based Public Works (CBPW) initiatives.

It was important to ascertain what the highest level of qualification achieved by each SMME entity was. The results as presented in Table 6.8 showed that there is not a single SMME, out of those interviewed who has achieved the highest level of qualification at a PhD level. The results also show that out of the 66 SMME contractors interviewed the following outcome:

- No qualifications = 7
- Masters = 1

- Degree = 15 (these are inclusive of non-built environment qualifications)
- Diploma =15 (also inclusive of non-built environment)
- RPL/ Trade Certificate = 27

Fourthly, this section of the Interview guide also sought to establish the extent to which the SMME aggressively sources information relative to the construction activity so as to respond to whatever economic opportunities may be available. In the instance of those that had no qualification or even those who had a qualification which is non-construction related, a question was asked as to how they acquire sector-specific knowledge to run their construction businesses? Table 6.15 is an indication on how they responded to the question: Is the knowledge acquired assisting you to run your construction business? A total number of 49 out of 66 said they used the information and knowledge gained in the furtherance of their construction businesses. This has links to a determination to compete for work and rendering the entity attractive to potential clients. The extent to which information-gathering plays a role in increasing the attractiveness of an entity with potential clients is not as yet well appreciated by SMMEs as it should be.

There were two outcomes in relation to the response to the question of knowledge extraction and its usefulness. The first outcome was that of the total 41 SMME contractors who possess a built environment qualification from an interview pool of 66 representing 62% of the sample as can be seen in Table 6.13., all of these contractors confirmed that the knowledge gained through the respective academic instruction is fully utilised in the running of their construction businesses. Moreover, the information acquired through their respective participation in industry associations and institutes place them at a much better stead than their counterparts who do not traditionally come from the built environment. Networking capabilities for these SMMEs becomes important and the value that such networks bring to the furtherance of the entity's business is appreciated by entities in general. Therefore, the minimum prescribed qualifications and experience as required by the cidb CRS for the Limited Category and shown in Table 5.1 (page 127), are achieved.

The second outcome was of those that do not have a built environment qualification and who in the main could not claim knowledge utilisation in their business. An

example of how the contractors responded to the following question is hereunder excerpted from raw data: Do you have any formal built environment qualifications or certificates of prior learning? If yes, how is this knowledge assisting you to run your business?

> *"It assists us in pricing, tendering, planning and managing the business"*

> *"I do have certificates of prior learning. The problem is that some of the clients do not place value in these. They expect I should have gone to varsity or tech. They do not appreciate how difficult circumstances were during the apartheid times. But they have never questioned our workmanship and quality of delivery"*

> *"We would not be in a position to progress without the application of that knowledge. In fact, it sets us apart from other contractors in the same grade"*

> *"It underpins how we approach business on a daily basis. Such knowledge assists us greatly!"*

During the interviews there was also an enquiry along the lines of establishing how those SMME contractors who do not possess any built environment qualification manage the running of their construction businesses?

> *"We just manage. We hire people that can do the work"*

> *"I rely on consultants to price my bids. I have on staff, bricklayers and plumbers that have been doing this kind of work for over 20 years. Do they need papers for that?"*

These confirmed that they rely a lot on industry consultants; to the extent of even outsourcing pricing for bids and the drafting of health and safety reports; in running their businesses. In Table 6.9, all of the contractors that responded in the negative: No = 17 are those who make use of external service for knowledge extraction and general assistance. They acknowledged that this over-reliance comes at a cost to

the entity and exposes both the industry and their entities to great risk; however they discounted the unintended consequences of not having that knowledge embedded.

Communication skills of the owner of the business is a great attribute to have especially in relation to the owner being able to market their business. Information technology and business skills are similarly essential in enhancing the competitiveness of construction SMMEs within the grades focused on through this research. In relation to the ability of construction SMMEs to demonstrate their communication skills, a total of 58 out of the 66 interviewed were able to adequately demonstrate proficiency to both understand the concept behind the interview guide and articulate well their responses [as can be seen in Table 6.16]. the remaining 8 struggled with the language of the guide and it had to be interpreted in their vernacular language so that they would not 'grapple' with understanding which could have led to them providing inadequate responses. Out of these 8: 5 were grade 2 SMMEs and; 3 were Grade 3 contractors.

In relation to information technology 'savviness', 47 out of the 66 interviewed were able to demonstrate effective use of computers and other hardware provided through the SEDA premises. The unfortunate outcome however is in that the remaining 19 who were not able to demonstrate proficiency and general business acumen are in grades: 2, 3 and 4. What this means is that they are not in a position to acquaint themselves with available opportunity even through the facilities provided by both SEDA and the cidb CCC's, without supervision. It is these which will need the utmost support and assistance through the contractor development programmes.

What the above picture demonstrates is that, in the lower ranks, a greater proportion is of those that do not possess a built environment qualification and therefore there would always be a great need for up skilling. What the outcomes also demonstrate is that, greater efforts in providing the requisite training needs to be undertaken either by the state or the construction industry to ensure that construction SMMEs have the minimum basic requirements covered. The higher the grading the more confident the SMMEs were at articulating the vision and value proposition of their entities. The more like they were, as well, to use information technology tools to connect with their environment and solicit work and also report progress on their projects. Any programme aimed at achieving this should entail a focus on the aspects of

entrepreneurship. Any construction SMME needs to be able to cope with information flows, and to create, share and apply new knowledge.

6.6.3 Section C: Legal and Environmental Compliance

What the study sought to extract:

- Understanding the form of ownership of entity;
- Awareness of business legal prescripts;
- Observance of occupational health and safety statutes;
- Respect for people: Fair labour practices, PPE and workmen's compensation;
- Understanding of the prescripts of construction procurement insofar as avoidance of fraudulent practices, and
- Environmental Management aptitude of entity in light of both social responsibility and in observance of sustainability issues.

SECTION C: LEGAL and ENVIRONMENTAL COMPLIANCE

1	What is your business' legal form of ownership? (Sole Propriety/Pty/CC)?		
2	Are you aware of all applicable legislation that your business has to comply with?	YES	NO
3	Does your business comply with all applicable legislation: Company Act, SARS, etc?		
4	Does your company comply with the Labour Relations Act and the Basic Conditions of Employment (in relation to EE, EMP 201: PAYE, UIF and SDL)?		
5	Are your employees registered with the Unions or form part of the Bargaining Council?		
6	Do you provide PPE's to your employees?		
7	Do you have workman's compensation?		
8	What is your understanding of the prescripts of construction procurement/ tendering insofar as: fairness, equitability and transparency are concerned? If so please share either the advantages or disadvantages of having had done so.		
9	Is your business familiar with the prescripts of the Standard for Uniformity in Construction Procurement?		
10	What is your company's environmental management plan?		
11	To what extent does your company adhere to the Occupational Health and Safety Legislation within the Construction Industry?		

What the benefits of doing so were:

The benefit of the CRS is in being the statistical tool which assimilates information regarding the participants within the construction industry. What it currently does not do is provide intelligence insofar as the wellbeing of the entities therein listed, the extent to which they adhere to legislated requirements and the extent to which in responding to all applicable legislation, they create an enabling environment for labour. This section sought to investigate all of the above pillars which bode well for a maturing industry.

Results:

Table 6.17: Findings on Legal form of ownership and compliance with applicable legislation

Grade of contractors	CC	Pty Ltd	Compliance with all applicable legislation	
			YES	NO
Grade 2	**24**	**-**	**13**	**11**
Grade 3	**11**	**2**	**6**	**7**
Grade 4	**10**	**5**	**7**	**8**
Grade 5	**6**	**8**	**14**	**-**
TOTAL	**51**	**15**	**40**	**26**

Source: Research Archives: Gasa, 2011

Table 6.18: Findings on observance of Health and Safety statutes

Grade of contractors	Observance of Health and Safety legislation, statutes		Respect for People: PPEs	
	Observes	Does not observe	Provides	Does not provide
Grade 2	**20**	**4**	**2**	**22**
Grade 3	**7**	**6**	**3**	**10**
Grade 4	**15**	**-**	**10**	**5**
Grade 5	**11**	**3**	**14**	**-**
TOTAL	**53**	**13**	**29**	**37**

Source: Research Archives: Gasa, 2011

Table 6.19: Findings on Workmen's compensation

Grade of contractors	YES	NO
Grade 2	**-**	**24**
Grade 3	**-**	**13**
Grade 4	**9**	**6**
Grade 5	**11**	**3**
TOTAL	**20**	**46**

Source: Research Archives: Gasa, 2011

Findings:

New firms should be formally established, registered, and able to start operations quickly and efficiently, rather than after weeks or months of dealings with many government departments and institutions. Contracting firms are able to register their businesses through the Companies Intellectual Property Registrations Office (CIPRO) which has since become the Companies Intellectual Property Commission (CIPC) which enables them to have company documents with which they respond to bids from clients. However, the first major failing of the small contractors is in their failure to submit annual returns with CIPC.

In not being able to fulfil this most basic business requirement – they render themselves inactive. Sadly a majority of the construction SMMEs registered not only in the entry grades of the cidb RoC but throughout up till grade 5 at least are Closed Corporations as opposed to Private Limited (Pty Ltd) companies as can be seen in Table 6.17. This set of circumstances can be attributable to the fact that the registration fee for CCs is much lower than that of Pty Ltds. It can also be as a result of construction SMMEs finding the requirements of companies' registration being administratively burdensome. In terms of South African legislation CCs have limited liability which is much easier to incorporate and will give any business a good, however limited professional image. This form of ownership of entity is not very acceptable for any small business intending to do business with both the private and public sector. Although a lot simpler to incorporate in the sense that its financials do not have to be audited by a firm of chartered accountants, it bars any future intention

of the owner to enter into partnerships and alliances with more established contractors and in so doing, hampers the entity's competitiveness intentions.

Pty Ltds on the other hand are subjected to stringent audit requirements, and the added requirement of having the directors of the said entity demonstrating a clean record and general observance of more stringent administrative demands, is never taken lightly. A great majority of the construction SMMEs interviewed attested to the fact that the main and compelling reason why they enlisted a CC as opposed to a Pty Ltd was so as to avoid the administrative burden that accompanies maintaining a Pty Ltd. In summary, what Table 6.17 demonstrates is that the majority of the contractors are CCs: 51 out of 66 interviewed, whilst only 15 are Pty Ltd's. What Table 6.17 also presents is that at least 40 out of the 66 interviewed could demonstrate satisfactory compliance with all applicable legislation.
The second matter which this section dealt with was in relation to the failure of SMMEs to file their labour reports with the Department of Labour, and pay the requisite workman's compensation insurance either with the department or FEMA. When accidents occur on site, they have to pay workmen's compensation directly from their business cash flow and this is usually more expensive than would have been the case had they had insurance.

This section was also important insofar as it helped highlight the depth of understanding of compliance by the owner of the construction entity [Tables 6.17; 6.18 and 6.19]. As true as it is that these lower ranks receive support from clients in relation to construction phase support, this usually takes the form of assistance in programming and resource scheduling; cash flow forecasting including budget and cost reporting; working capital financing, management of plant and materials. Health, safety and environmental compliance still need to be included as a value in these programmes – this view is supported by the fact that the Disabling Injury Frequency Rate (DIFR) of both incidents and accidents on sites is shown as not decreasing. Also the Department of Labour periodically issues damning reports confirming the non-compliance of firms in the lower grades (2-5) in relation to: labour and staff recruitment; legal compliance and site administration system development. The extent to which quality control mechanisms are enforced on site; work measurements concluded and a proper change management system is adopted, needs greater improvement on the part of the SMMEs. Whether the enforcement is

managed by principal agents to whom the SMME is accountable during construction or it is managed by the construction client itself is a moot point. The ability of the SMMEs to properly appreciate the relevance of all these measures is what was pursued by this study, simply because it translates to measurable competitiveness. This study sought to highlight the importance of adherence to legal, business and environmental prescripts and as such began to understand the reasons causing non-adherence by contractors with a view to appropriately address this challenge.

This section was also crucial insofar as the entities' awareness of business legal prescripts [Table 6.19]. There is evidence to the effect that contracts entered into by the SMME sector with client bodies whether the governance structure is informed by JBCC or FIDIC forms of contracts, is not very well understood by construction SMMEs and the proficiency to administer these lie mostly with consultants appointed by construction clients. Finally, the construction industry continues to battle to manage its waste and unsustainable use of construction materials on site. In interviewing contracting grades 2-5, there was evidence which surfaced to the effect that unless the construction client makes it a condition on the bills of quantities that there is an allowance for or provision aimed at adherence to sustainability issues – such environmental aptitude will not be applied.

In relation to the following question: What is your understanding of the prescripts of construction procurement/ tendering insofar as: fairness, equitability and transparency are concerned?

> *"They are not fair to us small black-owned contractors, especially the issue of a white 35 year old contractor who is considered a PDI. It is not equitable"*

> *"I understand them. But 10 points allocated to empowerment will take us a long time to achieve socio-economic objectives. What is the use of understanding procurement laws if they are killing black business?"*

> *"It is a lot of jargon. Transparency is not the issue. Fairness is. How am I expected to compete on price with a contractor that has been established for a long time and has solid material supply chains? It is ridiculous. Government must change these prescripts"*

This addresses a constituent cry amongst the construction small business sector. The evidence surfaced is one which confirms the appreciation which this sector has on South African's government to level the plane fields through affirmative procurement laws. However the discontent is largely around the extent to which these go a distance in dealing with redress and achievement of socio-economic objectives. The discord around the allocation of extremely low point for empowerment calls for a review of the measure with which these have assisted the country in dealing with inequalities in this sector and the cry itself lobbies for a review of the procurement prescripts.

6.6.4 Section D: Performance Management

What the study sought to extract:

- The understanding of the SMME of performance standards within their grade of trade;
- Upward and Onward mobility of SMME, and
- Knowledge and application of performance measurement methods both in general and those specific to the trade / grade.

SECTION D: PERFORMANCE MEASUREMENT

1	What is your CIDB contractor registration number?	
2	What is your cidb grade?	
3	In which works category are you registered?	
4	Has your business been awarded construction contracts since being graded on the RoC? If so, could you state how many and whether over time they have increased in value or not?	
5	Have ever been upgraded since the first time you registered on the RoC	
6	How many upgrades have you had?	
7	What were the requirements for that upgrade from the lower grade to the next if your business has been upgraded more than once?	
8	If upgraded between stages, please state what the requirements for that upgrade was, at each stage?	
9	Have you experienced OR been exposed to any contractor performance measurement methods?	

What the benefits of doing so were:

The overarching efforts through the NCDP are to increase the sustainability of small contractors, promote contractors who perform satisfactorily and reward performance improvement through continuity of work. Achieving this means that construction as a sector is able to meet its transformation and growth targets. This section of the interview guide also sought to test the level of depth of understanding of the rules of engagement in the construction industry by SMMEs and how they best prepared themselves to respond to industry requirements. The question on whether or not they knew what the requirements of the upgrades were – moving from a lower grade base to achieving the next level, was precisely designed to gauge that depth of understanding and what it would take to achieve a state of readiness on their part,

Results:

Table 6.20: Findings on contract awards since initial registration

Grade of contractors	Total No. of contract awards since initial registration	No. of Firms upgraded
Grade 2	**27**	**1**
Grade 3	**16**	**-**
Grade 4	**39**	**3**
Grade 5	**15**	**3**
TOTAL	**97**	**7**

Source: Research Archives: Gasa, 2011

Table 6.21: Findings on contractor performance methods

Grade of contractors	Exposure to contractor performance measurement methods	Reasons furnished for upgrade requirements (understanding thereof)
Grade 2	**-**	**Financial capability improvement**
Grade 3	**7**	**Works capability improvement**
Grade 4	**9**	**Works and financial capability improvement**
Grade 5	**10**	**Works, financial capability and performance improvement**
TOTAL	**26**	

Source: Research Archives: Gasa, 2011

Table 6.22: Findings on downgrades

Grade of contractors	No. of Firms downgraded
Grade 2	**1**
Grade 3	**2**
Grade 4	**6**
Grade 5	**-**
TOTAL	**9**

Source: Research Archives: Gasa, 2011

Findings:

As encouraging as the results of Table 6.20 are, pertaining to the total number of projects that the interviewed contractors have been awarded since their initial registration: 97 projects, when one considers the fluxion of time over which those projects have been awarded, the total number of 97 does not inspire confidence in the ability of the sector to create sustainable work for these construction SMMEs. The evidence from the interviews however shows an industry in distress. It shows that the lower ranks in the cidb registers: grades 1 - 4 are involved in a survivalist terrain, where issues of performance management on sites are relegated to be below access to opportunities and basically surviving just long enough to be able to be awarded another contract. Not unless there is a concerted effort to improve performance and monitor such improvements throughout the lifecycle – performance management runs the risk of not being considered imperative by SMMEs.

The question not included in the interview guide, which was however asked of the participants, was: 'who is responsible for managing performance on the sites in which your firm works?' The results in Table 6.21 show a disappointingly low number of SMMEs who have been exposed to contractor performance measurement methods: only a total number of 26 contractors against a pool of 66 interviewed. In instances where the SMMEs claimed responsibility, the study asked about the performance management system utilised and what the resultant outcome was i.e. does the owner conclusively understand the performance improvements which his firm or the teams deployed on sites need to effect? Consultants and well established enterprises are consequently saddled with the responsibility of introducing best practice systems and joint venturing with SMMEs to improve the state of play insofar

as performance is concerned. The cidb Quarterly Monitor (2009) report on South Africa's Contractor Development Programmes found that there are no uniformly accepted industry performance standards for contractors especially those informed by a sound construction market analysis.

In relation to the issue of downgrades: the sequencing of the turnover and the contractual value is something that needs to be followed up as it is a problem. Also, the money that the emerging contractors are supposed to have left in their bank account is unrealistic considering that most cannot adequately manage their cash flow and by the time that the project comes to its end, they usually have very little left in the bank account which then disadvantages their upgrade application. It creates criminality in the sense that SMME contractors confessed during the interviews that they have had to make 'arrangements' with other business owners to make the equivalent transfers into their bank accounts for money to reflect as a positive cash-flow until such time that the cidb has concluded the necessary verifications. Others, on the basis of anonymity have had to bribe officials so that they 'turn-a-blind-eye' to this requirement and still proceed to allocate them the grade for which they are applying. Having by way of example R650 000 reflected by the time the contractor applies for an upgrade is the major deterrent for most SMMEs, the resultant outcome being that they have to resort to the above-mentioned dishonest practices so that they are awarded the grades they so require to be in business.

The number of SMMEs that have been 'down-graded' as a result of being unable to show this amount in their bank accounts are reflected above in Table 6.22. There is another phenomenon, that of stagnation. 66 percent of the contractors interviewed were able to demonstrate that they had remained static since initial registration or were not able to improve their grade upward even after applying through the assessment committee of the cidb's for an upgrade – largely due to the fact that they were not able to demonstrate a positive cash flow commensurate with the higher grade for which they were applying. What happens to the growth of emerging contractors in that instance? It was actually noteworthy that the SMMEs discussed the issue of finance under this section – although the interview guide did not make any reference to this at all.

The total number of SMMEs that have been upgraded on the RoC from the sample pool since their initial registration stands at a dismal 7 as can be seen in Tables 6.12 and 6.20 above. The total number of contractors that have applied for an upgrade from the interviewed sample stands at 27 which represent 40% of the sample attempting to achieve a higher grading within a period of 2 years. The attributable reasons have to do with (1) the inability to demonstrate the cash flow required for the grade applied for and (2) for those who have been trading for a period of over 3 years and in-between they would have had no economic activity – there is an effect on their works capability.

6.6.5 Section E: Awareness of the Environment

What the study sought to extract:

- The role played by the SMME within the construction industry;
- Networking capabilities of SMME and the value that such networks bring to the furtherance of the entity's business;
- Awareness of support programmes and the ability of the entity to extract value from such;
- Understanding of industry and its peculiarities in general;
- Understanding of the attendant risks, and
- Understanding of the operating environment.

SECTION E: AWARENESS OF THE ENVIRONMENT

This section's sole purpose is to identify possible gaps that may exist in the SMME's consciousness of the environment within which they trade. Herein the Interviewer will be looking for information relative to SMME knowledge of the built environment and the extent to which SMMEs harness advantages inherent in the built environment.

1	What is your role within the construction industry?		
2	Is your firm a member of any Construction Industry Association?	YES	NO
	If yes, please advise which industry associations your company is a member of? [e.g. Nafcoc, BCC, BIFSA, MBA]		
3	Does your firm find any usefulness in such networks?		
4	What types of projects do you undertake as a business?		
5	What types of trades do your projects involve? (are they all within an area of specialisation or they are singular: painting/bricklaying)		

6	Has your business benefitted from construction industry support programmes (i.e. EPWP, NDPW/ECDC Incubator Programme, SEDA etc.)?		
	If yes, would you say both experience and benefit have been material?		
7	Please explain your understanding of the construction industry? (Opportunities within, challenges etc)		
8	Is your business familiar with business/commercial risks attendant to the construction industry, also in relation to the SMME sector?		
	Please proceed to explain how you mitigate against related risks or manage risks which may have occurred, in your line of duty.		
9	Kindly describe your perception of the South African Construction Industry's operating environment?		
10	How does your company keep abreast with emergent construction-related technologies?		
	In answering this question, please make reference to specific trade guides you use?		
11	Are you familiar with the provisions of the Small Business Development Act of government and the extent to which it affects your business interests?	YES	NO

What the benefits of doing so were:

The section was about understanding the role that SMMEs play in the value chain of construction processes and that without this essential link, this sector of the economy would not be in a position to massify the numbers of jobs required for economic growth and development. Also understanding the role that both professional advisors and consultants play in creating sufficient awareness of the environment within which the construction SMMEs trade.

This section of the interview guide sought to establish the extent to which the entity uses available networking avenues that are usually provided through membership in Associations and Institutes of the built environment.

Results:

Table 6.23: Findings on benefits of industry support programmes and association membership

Grade of contractors	Benefit from industry support programmes (EPWP, NCDP, SEDA)	Participation through industry Associations
Grade 2	**100%**	**17**
Grade 3	**87%**	**8**
Grade 4	**33%**	**11**
Grade 5	**12%**	**10**
TOTAL		**46**

Source: Research Archives: Gasa, 2011

Table 6.24: Understanding of construction industry, advancement of technologies and its attendant risks

Grade of contractors	Understanding of Construction Industry	Keeping abreast with construction-related technologies	Understanding of attendant risks
Grade 2	**4**	**3%**	**-**
Grade 3	**7**	**13%**	**4**
Grade 4	**10**	**47%**	**8**
Grade 5	**14**	**76%**	**13**
TOTAL	**35**		**25**

Source: Research Archives: Gasa, 2011

Table 6.25: Findings on familiarity with the Small Business Development Act (SBDA)

Grade of contractors	Familiarity with SBDA
Grade 2	**8**
Grade 3	**7**
Grade 4	**12**
Grade 5	**14**
TOTAL	**41**

Source: Research Archives: Gasa, 2011

Findings:

In relation to SMMEs understanding the role that they play within the construction sector and in being the essential link to the growth and transformation of the sector, a number of responses demonstrated that they did not fully appreciate the catalytic role especially in relation to their ability to create jobs required for economic growth and development. The majority of the answers were ambiguous:

> *"I am a contractor"*
>
> *"My role is to be a major role player in the industry and offer quality of work and service delivery"*
> *"To prove that women can also deliver"*

In relation to their participation with industry associations as reflected in Table 6.23, a number of the SMMEs in the lower grades 2 and 3 are members of the National African Federation Chamber of Commerce (NAFCOC).

This section sought to cover a number of things, among these was to expose the construction SMMEs to the varied spectrum of attendant risks that may occur throughout the life-cycle, how they ought to best prepare for these, how they need to be proficient in mitigating against those risks without placing over-reliance on the consultants and reneging on their responsibilities as business owners so that those risks can be timeously avoided. The challenge however came in the SMMEs themselves acknowledging that where these professionals are available there is reluctance on their part to use them due to perceived expensive fees, a lack of finance on their part or awareness. In grades 4 and 5, the study found a greater propensity of being able to deal with the risks as can be seen in Table 6.24. This propensity can be attributed to experience.

The study also found that there are three major risks that the SMMEs within the targeted group have to contend with at any given point of time and they are listed as follows:

(a) The risk of not creating sufficient value for the construction client through the delivery process;
(b) The risk of political interference which sometimes see their projects being stopped mid-stream whether it is due to change of scope and the service not being required anymore or due to the shortage of funds, and
(c) The risk of not being paid and as a result being plunged into a cash flow crisis and even lose the best in-house resources as a consequence of this.

Throughout the course of the interviews, these risks were often referred to by the interviewees, with a special emphasis from their part on being assisted in being able to identity these risks prior to them occurring. In the case of question 6 under this section of the interview guide which deals with the SMMEs' understanding of the benefit of support programmes, the unanimous response was that they are aware of and also benefit greatly from support programmes such as the SEDA incubator from the material provisions such as office space point of view. But to the extent to which these programmes assist them from turning the support to business opportunities, therein lies the greatest need.

There was unanimity on the part of interviewed contractors that the procurement system of government has not done sufficiently enough to reduce the levels of inequality. The contractors interviewed found the current procurement regime extremely prohibitive. They also complained about the allocation of empowerment points and even termed them "a joke" in relation to assisting government meet its objectives of transformation and redressing the imbalances of the past. They suggested that the regulatory environment should be simplified to fast track business registration and simplify compliance requirements for tax, labour and so on. There is a greater number of construction SMMEs interviewed (41 out 66 as shown in Table 6.25 in total) that purported to be familiar with the Small Business Development Act (SBDA). Although that may be comforting, what the research surfaces is that that knowledge is not turned into application in relation to observance of business legislation. One particular observance is around the legal nature of the entity and the prescripts which apply therein. In relation to keeping abreast with construction-related technologies, a greater proportion of the higher-graded contractors (Grade 5, at 76%) are keeping abreast with advancements in technology. This can partly be attributable to the fact that at that level they are starting to engage more in partnering

and alliancing initiatives and as such have joint-ventured with more established contractors and by so doing they are exposed to new construction technologies. Sadly, the findings of this study are that at the lowest levels there is little aptitude to keep abreast.

In relation to the following question: Please explain your understanding of the construction industry? (Opportunities within, challenges etc)

> *"There are plenty of opportunities especially for women contractors in the industry. The challenge is that these are still dominated by men"*

6.6.6 Section F: Business growth

What the study sought to extract:

- The extent to which the entity understands how location enhances competitiveness;
- The extent to which information-gathering plays a role in increasing the attractiveness of entity with potential clients;
- Exploitation of opportunities;
- The frequency of bidding;
- The observance of business planning processes, and
- The ability to extract value from diversity and the strength of teams / multi-disciplinary teams.

SECTION F: BUSINESS GROWTH	
This section covers the enquiry to be made by the Interviewer and the extent to which the SMME has gone to grow the business. Focussing not only on financial and works capability but on all the elements which the cidb uses to determine the 'consideration' of an upgrade for any contractor registered on the RoC.	
1	Where is your business located?
2	How many years has your construction business been in establishment?
3	What are the means you use to collect analyse and organise information related to your business? [KC1]
4	How do you go about exploiting available business opportunities? Please

explain in detail.

5 How do you communicate ideas and information? [KC2]

6 How often does your company bid for work? (bidding competitiveness)

7 What do you emphasise on when marketing your construction business offering?

8 What nature of Public Relations do you undertake to grow your business?

9 Have you set a strategic plan (with vision and goals) detailing by how much you would like for your business to have grown over the next 3 years?

10 Do you have a business plan? If so, has it been useful in assisting you to acquire work? [KC3]

11 Describe your market (e.g.: low-cost housing/ government/ private sector).

12 How do you understand the culture of doing business within the sector where you operate? [KC8]

13 How do you extract value from the diversity within your team? [KC8]

14 Do you use a multi-disciplinary team? For example, a team consisting of subcontractors/suppliers of material and plant? [KC4]

What the benefits of doing so were:

This section was predominantly aimed at reflecting on improved and measurable competitiveness which allow contractors to bid for work both within their provincial regions but also outside of their geographical location. Out of the 66 interviewed, 17 have established offices outside of their resident province. Some of these establishments are sole operations meaning: it was due to that entity's own initiative that a strategic decision was pursued to locate in another province with the aim of expanding networks but also deriving value from getting work. The rest are operations set up jointly with other entities, either sharing a back-office operation or as truistic partners in a venture. Irrespective of the modalities, what could be measured is that entities that have decided to do so have improved their competitiveness, as a result of that strategic choice.

The tactic of survival within the construction industry where these entities balance construction work with other work so as to survive over the months where there is no work is very real and was evidenced through the interviews. The understating of the tenets that contribute to business growth was varied from the one SMME to the next. The benefit of unearthing the underlying factors lies in the opportunities that are presented through the identification of support mechanisms for SMMEs that can substantially accelerate their growth and improve performance.

Results:

Table 6.26: Findings on location of business

Grade of contractors	Business located within a Metro	Business located within a District Municipality	Business located within a Local Municipality
Grade 2	**16**	**3**	**5**
Grade 3	**11**	**2**	**0**
Grade 4	**12**	**3**	**0**
Grade 5	**6**	**4**	**4**
TOTAL	**45**	**12**	**9**

Source: Research Archives: Gasa, 2011

Table 6.27: Findings on Public Relations and Marketing

Grade of contractors	No Public Relations and Marketing	Minimal Public Relations and Marketing (Somewhat)	Significant Public Relations and Marketing
Grade 2	**7**	**9**	**8**
Grade 3	**5**	**2**	**6**
Grade 4	**4**	**5**	**6**
Grade 5	**2**	**3**	**9**
TOTAL	**18**	**19**	**29**

Source: Research Archives: Gasa, 2011

Table 6.28: Findings on number of years established

Grade of contractors	0-5 years	5-10 years	10-15 years
Grade 2	**15**	**7**	**1**
Grade 3	**8**	**3**	**2**
Grade 4	**3**	**4**	**2**
Grade 5	**4**	**4**	**3**
TOTAL	**30**	**18**	**8**

Source: Research Archives: Gasa, 2011

Table 6.29: Findings on Frequency of Bidding

Grade of contractors	0-25% Frequency	25-50% Frequency	50-75% Frequency	75-95% Frequency
Grade 2	**3**	**4**	**5**	**12**
Grade 3	**-**	**4**	**2**	**7**
Grade 4	**3**	**5**	**3**	**4**
Grade 5	**3**	**4**	**1**	**5**
TOTAL	**9**	**17**	**11**	**28**

Source: Research Archives: Gasa, 2011

Table 6.30: Findings on the modalities of exploiting available opportunities of work

Grade of contractors	i-Tender Alerts	Newspapers	Government Gazette	Client Database
Grade 2	**12**	**4**	**4**	**4**
Grade 3	**5**	**6**	**1**	**1**
Grade 4	**6**	**4**	**1**	**4**
Grade 5	**10**	**1**	**0**	**3**
TOTAL	**33**	**15**	**6**	**12**

Source: Research Archives: Gasa, 2011

Findings:

Table 6.28 above, presents a greater number of contractors: 30 whose establishments are less than 5 years, whilst only 8 have been active in the construction industry for over 10 years. Measuring the growth of the older establishment through the years was rather difficult as some had not maintained consistent activity throughout the lifespan of their entities and as such had been 'overtaken' by new establishments with regards to upward mobility on the RoC. A variety of reasons for the inactivity were advanced by the SMMEs. During the interviews one of the questions that were posed to SMME contractors interviewed were in relation to the locality of their enterprises and the extent to which their competitiveness is enhanced by virtue of where they are located. As a follow-up question they were asked under business growth section of the interview guide regarding their expansionary plans i.e. a possible consideration of locating in a Province outside of their main headquarters, in pursuit of work. Sadly 86% of those

interviewed responded by saying there has never been a need and they attached costs of establishment as the main deterrent. The limitations about such a narrow approach to business is that they stand to lose out of business opportunities from municipalities and provincial governments that efficiently roll out infrastructural programmes and these being supported by construction clients which have more comprehensive development programmes aimed at the very same construction SMMEs. Access to finance was topical under this section. The state's role in easing access to finance for emerging businesses needs to be examined. Part of the reluctance of credit providers to lend in this market arises from the high costs of additional monitoring, advisory and support services that are required to manage the risk of default. It may be preferable to establish a subsidy that specifically targets these support service costs, rather than underwriting the principal debt. Government and private-sector commitment to timely ideally fortnightly or monthly payments is essential to ensure small firms' sustainability.

In relation to bidding for work and the frequency with which contractors engage in the aggressive pursuit for work – which up to so far has been misconstrued at both the global and local level to generally represent competitiveness, the findings are presented in Table 6.27 above. It can be seen that there are contractors who spend 0-25% of their business time either pursuing or responding to bids in comparison to those who spend all of their time in bidding (75-95%). This is again due to the fact that up until before the commencement of this study, the understood measure for ranking contractors in competitiveness stakes was the process of bidding. It can be argued from the findings that the contractors who spent a far less proportion of time pursuing work or bidding (0-25%), are either beneficiaries of an SMME contractor development programme where work is ring-fenced for them or as per the definition of competitiveness by the OECD; they lack the willingness to aggressively compete.

It can also be argued from the findings that those who spend a great majority of their business time bidding for work, do so to sharpen their pricing acumen, refine their bidding strategies, improve their chances and works capability so as to advance in the grading system through being given a higher status. They may however be doing this at the detriment of administrative soundness in relation to managing their operations and providing the requisite leadership in their offices.

6.6.7 Section G: Quality

What the study sought to extract:

- Exposure to quality assurance standards;
- Contract cancellations and reasons for such cancellations, and
- Performance of SMME in previous contracts viz. quality of workmanship.

SECTION G: QUALITY			
1	Have you been exposed to any contractor performance/ quality assurance standards? If yes, describe.	YES	NO
2	Has your business ever suffered contract cancellations?	YES	NO
3	Why was the contract cancelled?		
4	How do you ensure that the quality of the solution offered to your clients is sufficient in meeting their needs? Please provide two relevant examples in detail.		

What the benefits of doing so were:

The quality and relevance of mentoring and training within SMME programmes and the expected standard of performance of contractors is a key determinant of the success and growth of SMMEs. The application is currently very variable across the programmes. In particular, there is no uniformity in the level, relevance and quality of training provided, in the quality of mentors, or in the performance standards that contractors are expected to achieve at the time of exiting these Programmes. In many cases the only performance standards in place are criteria in terms of an increase in turnover or in a cidb grade achieved during the programme – which often compromise construction delivery standards, or are achieved with an overreliance on support from mentors.

Results:

Table 6.31: Findings on exposure to contractor performance and quality management standards

Grade of contractors	Exposure to contractor performance measurement methods
Grade 2	**-**
Grade 3	**7**
Grade 4	**9**
Grade 5	**10**
TOTAL	**26**

Source: Research Archives: Gasa, 2011

Table 6.32: Findings on cancellation of contracts

Grade of contractors	No. of contract cancellations	Primary reason for cancellation	Evident effect to contractor
Grade 2	**8**	Budget constraints	Track record of contractor compromised
		Lack of leadership in EPWP programme - Deferment	Loss of training opportunity Loss of economic benefit
Grade 3	**1**	Political	Performance, quality and delivery
Grade 4	**5**	Budget constraints	Loss of economic benefit
Grade 5	**1**	Project no longer required	Loss of economic benefit
TOTAL	**15**		

Source: Research Archives: Gasa, 2011

Findings:

In relation to contract cancellations, there were three findings and they are listed as follows:

(1) Contract cancellations due to client budget constraints, where projects that had originally been planned for are suddenly put on hold mid-stream due to either funding having been cut short or budgeted monies having had been exhausted. The effect that this has on the project is affected quality but also an adverse impact on the track record of contractors for work that they would have done within a period of time – through which they would have improved their works capability;

(2) The second finding was the one arising from projects which get cancelled through political interference. What this relates to mostly is municipal infrastructure where the change in political leadership at a local government level has an effect on progress – as a new councillor/ Mayor may want to proceed with his/ her own legacy projects instead of those of the predecessor. This interferes with the performance levels expected to be achieved by the contractors through a contract, and

(3) Finally, there is a phenomenon of projects that were on the planning schedule for which contractors had been appointed however it does not commence because it is no longer required by the construction client. This affects the morale of the contractor and also economic opportunities which they may have derived.

How do you ensure that the quality of the solution offered to your clients is sufficient in meeting their needs?

“Our company ensures that we comply with client specifications at all material times”

“We have employed a full-time resident engineer. Yes, it was costly but he monitors the scope our work in against the client requirements on a daily basis to make sure that we do not compromise on quality”

6.6.8 Section H: Innovation

What the study sought to extract:

- The use of innovative methods in construction projects;
- The application of technological advances and decision-making skills;
- Procurement strategies;
- The analytical ability of the SMME;
- Alliancing and partnerships, and
- Enhancing business attractiveness to clients.

What the benefits of doing so were:

The current scope of bills of quantities that construction SMMEs is asked to respond to in both economic and social infrastructure projects limits them from having to both explore and apply innovative construction methods. As a result their responses are limited to conventional methods of construction which bars them from such explorations. The experimentation is therefore limited, if at all and does not assist the study insofar as it is able to reflect on the ability of SMMEs to produce new infrastructure and construction assets and enabling them to be able to tap into new networks of suppliers and at the same time be able to operate and maintain this new infrastructure and demonstrate innovation throughout the life-cycle. Infrastructure investment is critical, because it creates jobs for low-skilled people, it encourages private investment, and it lowers the cost of doing business, promotes spatial inclusivity and has strong backward linkages to supplier industries.

SECTION H: INNOVATION

This code is critical in establishing the current entrepreneurial flair of each SMME interviewed. The Interviewer would herein be seeking to gauge exposure of each SMME to the concept of Leadership and Entrepreneurship within the Built Environment. In asking the question about partnering and alliancing, the purpose is to establish whether in and of themselves SMMEs use the RoC as a tool for: development, joint-venturing and skills transfer and by so doing increase their chances of being awarded larger contracts. This section also looks at all the issues that affect entrepreneurship or issues that affect competitiveness.

1 How often do you use innovative methods in your projects or business? Could you share relevant examples of these innovations/ ideas and techniques? [KC 5]
2 What technological advances has your business introduced over the last 2 years (if any) to improve your business offering to your clients?
3 Describe how your company analyzes problems with a view of offering unique solutions to clients? [KC 6]
4 How would you rate your decision-making skills?

1	2	3	4	5

1 = Below Average; 3 = Average; 5 = Above Average

5 How does your business procure contracts so as to guarantee continual work?
6 Kindly describe how your business identifies opportunities in the Construction Industry.
7 Have you ever initiated a partnership with another contractor registered in the RoC, so as to take advantage of available work opportunities that required a higher grade? [KC4]
8 What do you think enhances your business' attractiveness to clients and more established contractors for partnering and alliancing purposes?

Results:

Table 6.33: Partnerships and alliancing as a means to improving competitiveness.

Grade of contractors	Partnerships (Joint Venture)	Alliancing (non-fixed consortiums)
Grade 2	-	**3**
Grade 3	-	**7**
Grade 4	-	**2**
Grade 5	-	**3**
TOTAL	**0**	**15**

Source: Research Archives: Gasa, 2011

Table 6.34: Findings on Procurement of Contracts strategies

Grade of contractors	Procurement Strategy 1: Client Programme	Procurement Strategy 2: Conventional [Tender Adverts]	Procurement Strategy 3: I-tender alert OR Negotiated work
Grade 2	**63%**	**24%**	**7%**
Grade 3	**57%**	**42%**	**1%**
Grade 4	**12%**	**72%**	**16%**
Grade 5	**2%**	**8%**	**60%**

Source: Research Archives: Gasa, 2011

Findings:

In relation to how SMME contractors procure contracts, and which approaches they use, the following findings were made:

(1) There are SMME contractors who are enlisted with the programmes of government, be they EPWP, Emerging Contractor Development Programmes and Incubator programmes. These SMMEs are at an advantage of either a caretaker-agency or construction client who pays for their training and awards them sizeable contracts where they can demonstrate accumulated knowledge and at the same time be provided with economic means with which to build their entities. Some clients such as the CDC and the ECDC even go to the extent of finding work for these SMMEs out of whatever confines within their own infrastructure programmes. 63% of the contractors interviewed for this study are in such programmes. As advantageous as these are, the downside to these programmes is that the SMMEs find it too comfortable a regime – hardly do they ever want to 'graduate' from the programme as they do not want the individual responsibility to aggressively look for work themselves;

(2) The conventional approach of seeking work through tender adverts in the print media is still a favourite and probably most trusted amongst the contractors. It speaks to transparency of available opportunities and fairness in warning about such opportunities, and

(3) The cidb introduced the i-Tender alert system in 2005, which basically is a text alert which is sent to mobile telephony of contractors registered in the RoC.

Whenever there is a contract out through a particular client which is targeted at specific grades of contractors – those contractors receive a text message with sufficient details. What is left to the contractor is for them to log onto the website of the cidb and obtain more specific details regarding, the tender briefing session related to that service, closing dates etc. there are two specific challenges with this procurement strategy:

a. It is dependent on construction clients dutifully registering their projects on the CRS which in turn advises the cidb of contracts that are available through which the cidb would send an i-Tender alert to the entire contracting fraternity. Very few construction clients dutifully register these projects on the CRS. It is for this reason that the findings present a very low percentage of reliance on it as a procurement strategy.

b. Contractors who for some reason or another, change their contact details and omit to advise the cidb of such changes – miss out on the i-Tender alerts. Also the majority of the contractors in the lower entry levels of the RoC do not have information technology tools which enable them to receive email alerts. Those who live in centres where there is a Construction Contact Centres (CCCs) are at least provided an opportunity to make use of these facilities on a daily basis. However, very few SMMEs use the CCCs for that purpose.

6.7 Overall analysis of Results and evaluation of Hypotheses

This section summarises the results arising out of the interviews and links them with the hypotheses made by the study in Section 1.6. Sixty six (66) owner/managers of SMME firms, provided evidence for the direct and indirect contributions of the entrepreneur's opportunity, relationship, innovativeness, human and strategic competencies in affecting the long-term performance of their firms and through that being able to contribute to the growth, transformation and success of the South African construction industry. This was found to be achievable through competitive scope undertaken by each of the construction SMMEs but also their individual

organisational capabilities. Areas where the industry is making significant progress and those areas where there remain challenges were validated through the interview guide as an instrument of entrepreneurial competencies and this may serve as the ground for further research in this area.

6.7.1 Hypothesis 1: SMMEs fail to acquire all the resources they need to be successful in business;

This hypothesis was supported through sections D: Performance Management and F: Business Growth of the Interview Guide. The organising, relationship and conceptual competencies of the entrepreneur are positively related to the organisational capabilities of an SMME. The extent to which information-gathering is undertaken by SMMEs plays a role in increasing the attractiveness of the said entity with potential clients. Trade certifications also go a long way in affording them the requisite status, capability, recognition, and opportunities in industry.

Outcome from SMME interviews:

A confirmation that lack of access to funding was said to be the main prohibition to SMMEs being in a position to garner the requisite resources enabling them to keep the contracts they have been awarded but also have the opportunity to acquire new work, was made.

This research determined that there are definite interactions between entrepreneurial competencies and competitive scope given to SMME contractors depending on the entity's organisational capabilities. Strategic and commitment competencies, competitive scope, and organisational capabilities will positively influence the performance of an SMME throughout their pursued ventures. The results from Hypothesis 1 show that there is an overall significant correlation with the assumptions made prior to commencement of the study. In particular, significant and positive effects were found from instances where SMMEs had been provided resources which enable innovativeness, and competencies on a competitive scope. Therefore, the extent of the competitive scope as perceived by the entrepreneur is

positively related to how competent he or she is in building relationships, innovating and identifying opportunities in the external environment. On the other hand, the insignificance of analytical competencies may imply that as a kind of more abstract conceptual ability, they are not as readily applicable to the conceptualising of the external environment. When the control variables are introduced at start-up stage of the entrepreneur into the equation the main effect from the independent variables contributed a considerable proportion.

The failure on the part of an SMME to acquire the resources required to render them successful in business is due in part to them not expanding their knowledge base on what is readily available and on the other part as a result of not meeting the pre-conditions set by the state for targeted beneficiaries within the sector.

6.7.2 Hypothesis 2: Construction SMMEs are inadequately trained for the work they are contracted to do;

This hypothesis was supported through sections B: Certification and Legal Environment of the Interview Guide. There was evidence linking to the theoretical and conceptual model which is an outcome of this study (chapter 3). Most SMMEs within the targeted grades do not possess the requisite built environment education needed within the industry. Not only do clients have to take over the burden to close that gap, but they also have to contend with a low environmental management aptitude of the entities they award work to in light of both social responsibility and in observance of sustainability issues. Continuous learning of SMMEs becomes another critical factor which adds to the growth of individuals and the said firms. The evidence is not only supportive of a lack of formal built environment education, a secondary but structural handicap is one which reflects how little the SMMEs understand the construction industry and its peculiarities, its attendant risks and the general operating environment.

Outcome from SMME interviews:

This could not be proven to be the summation of the inherent cause due to the fact that some who possess a qualification other than the one from the built environment have been able to garner the requisite aptitude to succeed in the business of construction. Almost all of the SMMEs interviewed have been through a support programme by the respective clients, mostly public sector construction clients. They could demonstrate this through the certification which they brought along with them to the interviews. This training has assisted both those that did not initially possess the requisite qualifications prior to establishing their own firms and those who have minimum qualifications as referred to under Section 5.2.

The results from Hypothesis 2 showed an overall significant alignment with the assumptions made. Human competencies are enhanced through focused training. However, as true as this phenomenon is, such training must be for fitness for purpose and the more broad it is, the likely the chance that it would miss closing the identified gaps. Focused training offered to construction business owners are guaranteed to improve organisational capabilities of the firm. Therefore, the creation of organisational capabilities is positively related to the entrepreneur's competencies in manipulating various resources through their relationship with the prospective clients. In testing this hypothesis, a significant correlation was found between analytical and operational competencies. Operational competencies are explained by construction clients as an ability on the part of the SMME to complete the work awarded according to the descriptive scope and the inherent assumption is always that the construction SMME is adequately trained to achieve that objective. The reality is however different, by virtue of there being low barriers of entry into the construction industry in South Africa a great number of active and practicing contractors either do not possess the requisite qualification in the built environment or have omitted to subject themselves to the training provided through the agencies. As a result of this, both the human and organisational capabilities are either abstract or in short supply. In responding to Hypothesis 2, the respondents that were inadequately trained found it more difficult to relate it to actual conditions.

6.7.3 Hypothesis 3.1: There is an insufficient amount of continuous work opportunities geared at SMMEs by the Construction industry, and

6.7.3 Hypothesis 3.2: SMMEs lack the requisite business competencies such as marketing and public relations;

These hypotheses were supported through section D: Performance Management and E: Awareness of the Environment of the Interview Guide. The decision made by SMMEs on where best to locate operating premises is not usually formed on the basis of an understanding of how location enhances competitiveness. Mostly these decisions are based on convenience and an affordable cost of living. Without the foresight of linking location with competitiveness, a number of SMMEs marginalise themselves and are unable to exploit the requisite opportunities. This also translates to not being able to bid as frequently as possible due to not always being in a position to respond to work that is outside of their area of location. Again the networking capabilities of an SMME and the value that such networks bring to the furtherance of the entity's business become key.

With regards to the competencies related hypothesis, this is in relation to the ability of an SMME contractor to identify opportunities, form requisite relationships, and the extent to which that SMME possesses conceptual competencies and is able to turn these into the positive for his or her firm and in so doing expand a competitive scope with whatsoever client
they are pursuing.

Outcome from SMME interviews:

It was evident through the interviews that there is an insufficient amount of continuous work for SMMEs. They were able to demonstrate that they get work in one year and can sometimes go for two subsequent years thereafter without work. This does tend to have a great effect on the cidb grade which in turn does not allow them to apply for an upgrade, due to the fact that the upgrade requires the entities to demonstrate cumulative engagement and also availability of cash reserves requisite for keeping them within the specific grade. The strategic and commitment competencies of the construction entrepreneurs should be positively related to the

long-term performance and organisational capabilities of their entities and when this long-term performance is hampered by not getting work, it affects their capability which is an essential component of competitiveness as defined through this research.

In relation to lacking business competencies, what was supported through the interviews is that those that lack them are not taking full advantage of the whole suite of provisions offered by the state. A great number of these support programmes concentrate a lot on the acquisition of business skills with a view of inculcation acumen and competence. So those SMMEs that were found to not possess these were proofed to have elected not to take advantage of the available programmes at their own peril.

The results from Hypotheses 3.1 and Hypothesis 3.2 indicated that there are overall acknowledgements on the part of construction clients regarding insufficient work opportunities; this they said is due in part on the intermittent infrastructural allocations from the national fiscus, but also to the inefficient management of resources by state organisations. In the similar vein, Hypothesis 3.1 surfaced the need for decisive and knowledgeable construction clients. A majority of construction clients especially the public sector entities are not well-versed in the ambits of the procurement legislation of the country – that in fact there are provisions therein which allow them to ring-fence work opportunities geared at SMMEs and create multi-year work packages for new and maintenance works which would sustain the SMME sector over a number of year.

What the results also showed in relation to Hypothesis 3.1, was that other reasons advanced for there not being a sufficient amount of continuous work opportunity is that the failure to adhere to performance criteria by construction SMMEs was an issue which barred construction clients from awarding continuous work to SMMEs within the grades targeted for this study. The significant two-way interactive effects of the competitive scope and the organisational capabilities demonstrate that when the balance is struck between efficient management of infrastructure programmes on the part of the public sector construction client and the adherence to performance criteria by the SMME value is derived for all parties concerned.

In relation to Hypothesis 3.2 no such significant effects were confirmed through the interview process. In fact all of the 66 interviewed contractors were able to demonstrate how they actively market their businesses through material packaged for the sole purpose of marketing their service offering to potential clients. This would stand them in good stead in relation to heightening their competitive scope and organisational capabilities. What can be concluded under this is that an argument cannot be made that construction SMMEs lack the business competencies as marketing and public relations as this was not apparent when business growth and performance were used as indicators

6.7.4 Hypothesis 4: The focus on SMME development is not on business development, rendering the measurement of their competitiveness using the RoC unsuccessful.

This hypothesis was supported through section E: Awareness of the Environment of the interview guide. The results show that the extent to which SMME contractors take an interest in development outside the confines of the scope of work for which they are contracted, is minimal. The interest to sharpen their aptitude to things such as: application of technological advances, decision-making skills, and procurement strategies is not high at all. The analytical abilities of the SMMEs seldom expand beyond the scope of current work. The understanding of the role played by the SMME within the construction industry, failed to be articulated by a majority of those interviewed. Developing their knowledge of the use of innovative methods in construction projects and concepts such as alliancing and partnering seemed to surprise most of them with the exception of Grade 5 contractors, in relation to their relativity to business growth and innovation.

Outcome from SMME interviews:

This was confirmed through the findings of the study. What the results show in relation to Hypothesis 4, is a demonstration of a lack of formal structural frameworks and of a comprehensive theory of SMME development. What is required is an industry-specific SMME development strategy that would inform a holistic model that

can yield both quantitative and qualitative outcomes with respect to competitiveness. As with Hypothesis 3.1 and Hypothesis 3.2, competencies have a direct and positive relationship with firm performance. What is required are SMME development programmes that would transcend beyond focusing on access to finance but begin to provide incentives for distinct value-add in projects, support for industrial innovation and an enabling environment for SMME development.

6.7.5 Hypothesis 5: SMMEs lack the resources to establish operations nationally.

Outcome from SMME interviews:

This hypothesis was supported through sections F: Business Growth of the Interview Guide. The SMMEs interviewed attribute this lack to not having material resources mostly financial to do so. The intent is not considered with the commensurate foresight, in relation to the anticipated gains that may be derived from expanding on the geographical location.

The summary outcome of Hypothesis 5 is a demonstration of a need for the construction industry to encourage national competitiveness as there are no known legislative barriers preventing construction SMMEs from participating at a scale beyond that of their geographical parameters. Improved and measurable competitiveness can be derived through allowing the contractors to bid for work both within their provincial regions but also outside of their geographical location. There exist no construction procurement regulations which are aimed at discouraging such expansions. The Preferential Procurement Act or framework of government makes an allowance for both municipal and provincial entities to award point under local equity participation meaning a bias for entities established within a geographic parameter, however these points are so inconsequential as to act as a barrier for SMME

contractors that may not have operations established within the area where they were now soliciting work. In fact this in itself acts as an incentive for SMMEs seeking business opportunities available at a national scale to partner with each other and

pool their resources for the greater good whilst at the same time they expand their operations beyond the local level.

6.8 The RoC as a tool of Measure for Competitiveness

The CRS was established in terms of the cidb Act 38 of 2000 for it to offer a basis for sustainable construction development and growth, through improved delivery, performance and sustainable empowerment. The Registers Service currently consists of two, interlinked, national registers: The RoC and the RoP. These registers shape and reflect progress in the capability and transformation of the South African construction industry. Contractor grading designation is determined through financial and works capability of entities. Financial capability relates to the financial history or turnover of a firm, and the amount of working capital it can muster to sustain a contract, i.e. available capital. Available capital is determined from the liquid cash resources available to a contractor, loans that may be leveraged and any financial sponsorship. On the other hand, works capability is determined by the largest contract the contractor would have undertaken and completed in the class of construction works for which it is applying completed during the 5 years immediately preceding the application, the number of registered professionals that entity employs, and the fulfilment of relevant statutory requirements.

Each register is meant to promote an enabling development framework for construction industry capacity, infrastructure delivery, and growth. Used together, they offer employers and contractors, alike, great benefits in identifying opportunities, challenges and growth sectors within the construction industry. The RoC is ever-evolving and not static; it should never be viewed only as a repository of information on all participants in the value chain of construction, whatever their grade or disposition is. In its un-transformed state the RoCCRS will remain only but a repository and will fall short of effecting the transformation of an industry that is one of the mainstays of the South African economy. The RoC was established to achieve the following:

- support risk management in the tendering process;
- reduce the administrative burden associated with the award of contracts;

- reduce tendering costs to both clients and contractors;
- enable effective access by the emerging sector to available work, as well as development opportunities;
- assess the performance of contractors in the execution of contracts and thus provide a record of performance for contractors;
- promote minimum standards and best practice of contractors, and
- store and provide data on the size and distribution of contractors operating within the industry, and on the performance and development of contractors and target groups.

Some of the above it achieves through the cidb iTender Register of Projects. The data contained therein is considered to be about 60% or more accurate and is constantly being improved. This data gets scaled up to reflect total construction spend as reflected from Reserve Bank data. At present the South African construction industry is given information on public sector contracts for GB and CE cidb Class of Works. Most contractors would however target both public and private sector opportunities. Currently, public sector spend accounts for about 25% of total general building activity and about 80% of civil engineering activity, although it is common cause that lower grade contractors, and in particular emerging contractors, are more dependent on public sector contracts.

In relation to subcontracting, much of the work of contractors in Grades 2 to 6 is obtained through subcontracting to higher level contractors, and not as main contractors. Typically, around 50% of work is subcontracted to lower grade or to speciality contractors. The impact of sub-contracting illustrates a 50% split between the work of the main contractor and the accompanying SMMEs; this is a substantive allocation and as such warranted this study. The study's interest was in seeing how what we know from the statistics of the RoC can be used to measure the competitiveness of a sector that stands to gain 50% of construction activity at any given point in time! Typically, direct public sector contracts to contractors in Grades 2 to 6 which accounts for about 10% of total turnover in general building and about 20% in civil engineering. How does one tell the serious construction SMMEs from those that are in it for a quick return with nothing vested further in contributing to the growth, development and transformation of the construction industry? The rationale for this study was premised on having to precisely answer that question.

At present the cidb runs a dual system of accreditation. First, there is the initial registration which all contractors must go through after which they are awarded a grade on the basis of both their works and financial capability. This is then followed by the assessment criteria applied whenever it is that the said contractor would be seeking a grade higher than the one they currently possess. This dual system is not assisting the cidb respond to the challenge of administrative burden on both part of all contractors and its own. It also means there are two sets of records that are kept which reflect on the gradual improvement, performance, competitiveness and growth of all registered contractors and it is currently unclear how the cidb reconciles these two systems of performance monitoring and evaluation. The method of evaluating upgrades has been changed, previously only upgrades were considered for 'compliant' applications i.e. where the full financial and track record information has been provided, and new business enterprises i.e. who do not have a previous track record at time of registration were excluded. The present method excludes non-compliant applications, but includes new entrants. Still this method does not triangulate back to the master repository to make sense of the impact of growth in the sector and to be able to give intellect into what are the variables of growth within each grade so that the solutions which the construction clients may be in a position to provide are targeted.

As much as there is information from cidb reports which detail the upgrading of contractors in the building and civil sectors within the past four quarters and shows that on average, around 6% of grade 2 to 4 contractors are upgrading per year, around 7% within grades 5 and 6, and around 3% in Grades 7 and 8, these reports do not even begin to provide a synthesis of why the numbers of upgrades are so low and what challenges the contractors are faced with as they apply for these upgrades. The reports provide static information which is left to researchers to try to decipher for the purposes of suggesting improvements to the system of measurement which the cidb uses through its RoC.

The specific requirements demanded by the cidb under Method A when they assess the contractor's suitability for the grade for which they are applying is unrealistic in that contractors are expected to satisfy grading designations which have a particular bias. The contractors interviewed do not find fault with the tender value range used

as a criteria of measurement, however the accompanying cash flow which they need to demonstrate at the time of applying – for first entry, but also when they apply for upgrades is what created unnecessary barriers. The examples can be seen hereunder in Table 6.32.

Table 6.35: Required financial and works capability for grade applied for.

DESIGNATION	FINANCIAL AND WORKS REQUIREMENTS
Grade 2	Have completed a contract with the value of not less than R150 000
Grade 3	Have completed a contract with the value of not less than R500 000 and either have best turnover not less than R1 000 000 or have available capital not less than R100 000.
Grade 4	Have completed a contract with the value of not less than R1 000 000 and either have best turnover not less than R2 000 000 or have available capital not less than R 200 000.
Grade 5 and higher	Have works and financial capability not less than the grading designation applied for and working capital not less than R650 000.

Source: cidb, 2011

For the RoC to be this tool of measurement for competitiveness and seek to streamline information pertaining to contractors both those registered and those seeking to register for the first time, it would need to capture the following – right at the point of initial registration.

- CRS form 006 should not focus on extracting information which looks only to the financial and track record position of contractors, but it must also seek to cover the theoretical exposure of SMMEs and established contractors as these relate to education and training in general. At present the RoC is silent on why the cidb runs a parallel process of accreditation at a later stage for those voluntarily seeking an upgrade;
- The RoC should seek to establish the extent to which the contractors, all contractors comply to the legal and environmental prescripts governing the construction industry;

- The RoC should also seek to depict the contractor quality and performance exposure of all registered contractors as much as it would be important to highlight business growth strategies and general awareness of the environment within which they trade. This is crucial for competitiveness measure;
- The growth in contractual work over a period of about two years as opposed to the current 5 years, irrespective of whether the said contractor was registered on the CRS prior to application. Currently the RoC does not ask this through its form CRS F006;
- Also to be included in the RoC for it to be a tool of measure of improved competitiveness should be a comparison between the number of upgrades and the number of new registrations over the past four quarters within the grade which the contractor is applying for. The number of new entrants within grades 2 to 4 over the past few quarters should not exceed the number of upgrades – which is currently the case and suggests an unsustainable situation;
- The RoC must enquire about any increase in reportable track record which entails the largest contract value undertaken and in employable capital which looks at the net asset value (NAV) of a contractor's operation, and
- Section C of CRS Form 006 asks about the ECDP and the extent to which the applying contractor had enlisted for such a programme and having to show such proof.

6.8 Concluding Remarks

This chapter tabled the results and outcomes of the interviews conducted to respond to the main problem articulated in this study. The interviews were conducted in a fair manner and allowed for rich discussion out of which qualitative data was extracted, interpreted and analysed. The chapter ends by making backward linkages to the hypotheses made at the beginning of the study to gauge the extent to which the outcomes either support or refute the stated hypotheses. This provides conclusiveness in relation to the hypotheses.

7.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter summarises the research, provides conclusions and recommendations arising out of the study. It seeks to draw conclusions to the arguments made in Chapter 1 and provide an answer to the main problem identified also in the same chapter. The reader will find value in the following being covered:

- *Summary of the Interviews;*
- *Conclusions drawn from the analysis and results, and*
- *Recommendations.*

7.1 Purpose of Chapter

The core objective of this research was to explore the possibility of enhanced competitiveness and entrepreneurship for construction SMMEs, as an alternative to what is currently the status quo within the South African construction industry. The primary objective of the survey of the literature determined the various acceptable ways in which SMME contractor competitiveness can be reliably and validly measured. Furthermore it proceeded to review the viability of such a methodology using the cidb RoC through an empirical study within the small business environment. The research was also about the following:

- Identifying the factors that drive competition in the South African construction SMME sector;
- Finding ways through which the South African construction industry could inspire a culture of economic activism that would drive entrepreneurship within the SMME sector, and
- Identifying the support mechanisms for SMMEs that can substantially accelerate their growth and improve performance.

7.2 Research Overview

One of the few challenges is the lack of knowledge on the part of SMMEs of what competitiveness is and why it is important in furthering the successes or gains of their enterprises. Throughout the interviews conducted it became clear that the development of knowledge on competitiveness for construction SMMEs would need to be a national priority and driven as such. Competitiveness in the context of this research was defined as a combination of: contractor capacity, contractor capability, training and innovativeness. This requires significant leadership on the part of all participants in the construction value chain, to drive a holistic achievement and balance of all the above-mentioned variables which make up competitiveness.

7.3 Research Problems and Questions

The main problem is: There is a general lack of competitiveness within construction SMMEs. Most construction SMMEs can hardly demonstrate the ability to meet upward movement measurement criteria of the RoC such as management competencies, capacity, training and innovativeness which could enable them to compete in a growing construction economy.

The question was around how through this study, the construction industry becomes enabled to:

- Identify the factors that drive competition in the South African construction SMME sector;
- Find ways through which a culture of economic activism that drives entrepreneurship within the SMME sector can be both inspired and achieved, and
- Identify the support mechanisms for SMMEs that can substantially accelerate their growth and improve performance.

There was a need throughout the research to focus on the objective assessment of why the construction sector needs to be interested in the competitiveness of its SMME contractors. This was due to the fact that competitive forces continued to drive firms to seek new areas of growth, with either portfolio expansion or penetration

into new markets. Although the forces that weigh heavily on a company are recognised, their influence in determining a company's action in choosing a particular strategy is not as yet well understood by most of the contractors that fall within the band that is the focus of this thesis. This thesis recognises that this could be averted by appreciating the natural progression of contractor capability as contractors move up the value chain of grading through the cidb registers. Construction markets in developed countries or regions favour those contractors who have real competitiveness.

7.4 Research Aims and Objectives

The primary aim of this research was to undertake an evaluation of how to measure the competitiveness of construction SMMEs using the RoC and to look at the issues which are important to the sustainability of the South African construction industry, its development and its growth. However before that evaluation could commence there needed to be a specific definition of this competitiveness to enable the industry to measure that which is commonly understood within its ranks. In this research, competitiveness was defined as a comprehensive concept involving: contractor capacity resources both human and capital; contractor competence; contractor capability; training and innovativeness. In this regard, the following represented the specific objectives of the study;

7.4.1 Examining all existing research regarding SMME contractor development;

7.4.2 Considering all the variables, in particular competitiveness, that have been advanced as crucial in enhancing growth and sustained participation of construction SMMEs in the mainstream economy;

7.4.3 Investigation of phenomena that give rise to the perceived lack of competitiveness which plagues the lower end of entry into the construction sector;

7.4.4 Conducting a comparative analysis of relevant, informative and available tools and making a case for why the RoC is one such tool that can be used to measure the competitiveness in the contracting fraternity, particularly within the small business sector;

7.4.5 Assessing the contracting ‘capacity’ in a geographic area; also assessing ‘capability’ in relation to GINI-coefficient disposition of that geographical area in this case the Eastern Cape province; identifying gaps and focussing on understanding the competitive environment, SMME competencies, their performance output and productivity;

7.4.6 Exploring the use of the RoC which would assist in measuring the competitiveness of the selected SMME contractors;

7.4.7 Reflecting on the experiences of the cidb RoC participants who have benefited from targeted client development programmes, and

7.4.8 Investigating the competitiveness of SMME’s with a view to ultimately generate new knowledge in the built environment and subsequently creating new models or procedures with which to enhance that competitiveness.

7.5 Theoretical and Conceptual Issues

There are fields of research which influenced this study. They are: (1) Construction Management; (2) Business Management; (3) Competition Theory and Law; (4) General Management and (5) Small Business Development. Section 3.5.2 of this research clearly outlines the absolute outcomes under each field of research, which when properly applied in any development programme would yield competitive contractors.

In the development of both the underpinning theory and concept to this study, there were six (6) independent variables which were found to be contributors to competitiveness of firms. These are: competition theory, construction industry guidelines, contractor resources, contractor capability, industrial flair and improved performance. These on their own do not breed competitive construction SMMEs. The South African construction industry has designed a number of development programmes geared towards the small business sector and offering to strengthen the acumen of the SMMEs along the definitive structure based on the variables already elucidated above. The missing component of training which enhances business acumen and innovation in the form of the ability for construction SMMEs to manage change and continual evolution became an inherent barrier in them achieving competitiveness.

The underpinning conceptual framework to this study emerged as entrepreneurship, which in its absence; the study argues that construction SMMEs would not be in a position to achieve competitiveness. Entrepreneurship inspires SMMEs to go beyond that which is ordinary, it inspires ability to spot opportunities and responding to these, it inspires a certain level of confidence and an ability to make above-average decisions.

7.6 Methodological Framework

The ontological position of this research is ‘right-leaning’ meaning it is constructive. The entrepreneurship and competitiveness is continually being accomplished by construction SMMEs if they are to progress upwards in their grades with the RoC. It is easy to measure their progress in registers service, what is not usually easy is them knowing what it would take for them to achieve a higher grading and doing everything that they possibly can to ensure that this becomes their reality.

At an epistemological position, the study is interpretive. The philosophical underpinnings of this study commenced from the premise of what was assumed to exist: lack of competitiveness of construction SMMEs; it then argued that the phenomena which are entrepreneurship and competitiveness were not divorced from construction SMMEs and therefore a new truth ‘what causes them to be competitive?’ was developed and through that a determination of how it can be measured through the RoC when achieved, emerged.

The study followed inductive reasoning to arrive at the conclusions; it purely preoccupied itself with investigating the usability of the RoC as a tool with which to measure the competitiveness of SMMEs

7.7 Summary of Key Findings

The summary of the actual findings, as presented through this research, provide insight into the main problem identified and its attendant hypotheses. This section

provides a summary of all findings made through this research and hereunder they are linked to each component of enquiry in the Interview guide:

7.7.1 Findings concerning Certification and Continuous Learning:

Communication skills, information technology, and business skills are essential in enhancing the competitiveness of construction SMMEs. Every construction SMME needs to be able to cope with information flows, and to create, share and apply new knowledge. In relation to assisting construction SMMEs to exploit available opportunities and enhance their management skills and improve their market awareness, the CRS can play a fundamental role in closing this gap of information through its i-Tender alert. It can periodically advise construction SMMEs of available certification and continuous learning opportunities. This would be no added cost to the cidb, as the i-Tender alert is subsidised through annual fees already paid by all registered contractors.

7.7.2 Findings pertaining to Legal and Environmental Compliance:

From a policy point of view labour laws and legislation need to be relaxed on behalf of construction SMMEs. SMMEs were found to be lacking in terms of their application of labour management methods as prescribed through government legislation. With respect to legal and environmental compliance, the recommendations arising out of this study are that the construction industry needs to:

- Unpack impending changes in legislation for SMMEs to understand how government's initiatives will impact on their businesses to be empowered in that regard, and
- Recent legislation in the form of amendments to the PPPFA gazetted in 2011 to bring it in alignment with the BBBEE Act of government, and the impact these changes would have on construction SMMEs need to be studied thoroughly with a view of relaxing that which hinders their upward mobility in the grading value-chain.

7.7.3 Findings pertaining to Performance Management:

There is currently a structural adjustment which would need effecting over who takes overall responsibility to manage performance in projects. There is first the management of performance against agreed upon objectives with the client and this is largely the responsibility of the contractor awarded the work against set expectations. However, in the value chain there is also the responsibility to report on performance and this role is carried out by the professional team or consultants. Bearing in mind that there sometimes exists an adversarial tenor in the relationship between the consultants and contractors, the reality is such that what is expected to be monitor and reported is never done timeously by consultants which then disadvantages the contractor both from a remuneration point of view, but also from not having a sufficiently impressive track-record which would aid them in the space of continuous work but also filing the requisite proof with the cidb.

Applying for an upgrade through the RoC and the CRS requires that contractors submit performance reports from the client and obviously these would be through the client representative. A number of the construction SMMEs that were interviewed when asked whether they understood the requirements of the upgrades they responded in the affirmative. When asked whether particularly those who had applied and were not granted the grade they sought; what it was that was advanced as the reason they responded by saying that the respective consultants had not submitted performance reports or refused to provide complimentary ones when in fact they had not once throughout the life of the contract, even submitted one report to the client which would have given a timeous sense to the contractor in respect of how they were performing on site. The recommendation made out of this study is one which does not suggest a scraping of the requirement because for the CRS in general and RoC in particular to have substantive meaning such performance instruments are necessary. What needs reviewing is the extent to which the construction clients hold the consultants accountable for monthly submission of performance reports and making remuneration a condition to such submission. This will both assist the client in having a clearer sense as to how delivery is progressing and is being managed, while at the same time it assists the contractor to improve.

7.7.4 Findings in relation to Awareness of Environment:

With respect to the awareness of the environment, the recommendations arising out of this study are that the construction industry needs:

- An economy which involves the interrelationship between both large and established construction businesses with those of SMMEs to enable them to be worthy players in the construction economy;
- As such the cidb established CCCs nationally to be this hub of information where in particular the construction SMMEs would source whatever information they require related to bids, but also be able to register and collect whatever information that may assist them as they grow their businesses.

7.7.5 Findings regarding Business Growth:

Many owners and managers of small and micro enterprises are not able to exploit opportunities through lack of information, poor management skills, insufficient market awareness, poor productivity and lack of technological information. The cidb periodically publishes the SMME business confidence index for the country as a whole which covers public and private sector work, together with the index of contractors indicating insufficient demand for work acting as a constraint. The business confidence index represents the percentage of respondents rating the business conditions as satisfactory, while the index for demand for work is obtained by formula (0.67 * seriously + 0.33 * slightly) scaled up to 100 to give a % index.

The cidb SME Business Conditions Survey publication (2011) shows that, overall, business confidence in the building sector has continued to drop over the last quarter – suggesting increasing competitiveness between contractors. What should be noted through this however is that the public sector is not a major player in the residential sector. Specifically, business confidence of grades 4 and 7 building contractors increased in the 4th quarter of 2010, while business confidence of grades 5 and 6 building contractors decreased. In the civil sector, business confidence decreased across all grades. Overall, insufficient demand for work has increased in both the

building and civil contractors over the last quarter of 2010. It is recommended that the following elements remain and be core:

- Contributions made by construction SMMEs to the sector's economy;
- Understanding of pre-requisites for their growth;
- Problems growth poses on construction SMMEs;
- Characteristics involved at each stage of the growth process;
- Formation of teams in new ventures;
- Marketing plan prior to implementation of construction works, and
- E-commerce in business.

7.7.6 Findings in respect to Quality:

With respect to quality, the recommendations arising out of this study are that there needs to be:

- A better understanding by SMMEs of the factors and benefits of the products and services they offer to their clients, and
- There also needs to be an industry definition of formal activities and managerial processes that are planned and undertaken in an attempt to ensure that products and services that are delivered are at the required quality level. This should include efforts beyond processes that provide information for measuring internal processes. This is the area not best understood by construction SMMEs and if this were to be supported by an unambiguous set of standards, the greatest impact on the quality of projects in scope, cost and time functions would be fully integrated and achieved.

7.7.7 Findings in relation to Innovation:

There are funding models developed within country to reward entrepreneurial innovation whenever it is that there are technological developments and there is a requirement for their commercialisation. These funds are available for innovations which demonstrate that they may be globally unique. This essentially is about teaching SMMEs to validate and raise funding for their businesses in the hope that

this will go a long way in creating a culture of innovation in SA. As far as construction SMMEs are concerned, it is recommended that topics such as the following could be included in whatever training they receive:

- Developing entrepreneurial skills such as creativity and innovation to be top priority for the South African construction industry.
- Entrepreneurial development focusing on harnessing motivation, developing creativity, problem solving skills and negotiating skills, and
- SMMEs to understand the benefits of the Support Programme for Industrial Innovation (SPII). The SPII was designed to promote and assist technology development in South African industry through the provision of financial assistance for projects that develop innovative products and/or processes.

Financial assistance that is provided under the Matching Scheme for the SPII is provided to SMMEs in the form of a grant of up to between 50% to 75% of the qualifying cost incurred during the technical development stage - up to a maximum grant amount of R3 million per project.

7.8 General Findings

There are other findings that were made through the enquiry which are not linked to the components of the interview guide, however they add pertinently to the research. Hereunder is a summary of those general findings:

In relation to Training and Development:

- The research identified education as the key to the success of the country and of a successful construction business;
- The study gave a fair indication of current attitudes to curriculum content from the perspectives of the small business sector in the Eastern Cape and these were not all positive;
- The development of a curriculum for construction SMMEs curriculum and the creation of new businesses was not seen as a long-term process and there

was little willingness on the part of training authorities to adapt the modules to suit the different graded construction SMMEs;

- The skills and training courses offered to construction SMMEs were found not to have education as pre-requisite for managing a construction business, and
- The recommendation to incorporate competitiveness and innovation into future content of SMME training in the construction industry was welcomed.

In relation to Bidding and Procuring of work:

- The study determined that the factors that influence pricing decisions are not known by construction SMMEs. At present the majority of the SMMEs interviewed defer this responsibility to quantity surveyors and the knowledge does not reside with the business owner in most instances;
- There is little or no evaluating of foreign markets; and
- Tactical decisions regarding service offerings to clients are not usually done by the SMME entity.

In relation to policy considerations related to the development of construction SMMEs:

- The study found that the challenges facing construction SMMEs remain inadequately explained – which explains the mistreatment of the symptoms;
- The strengths of the SMMEs are not adequately emphasised and whatsoever incentives designed are not appropriate for their growth and fair trade; and
- The implications of growth on financial management are not well-diagnosed.

In relation to Business Development:

Small business education should encompass modules such as:

- Small business education does not encompass the following: management skills development, business planning, marketing, costing and pricing,

accounting, budgeting, cash flow analysis, operations management and human resource management;

- Administrative skills development does not include: bookkeeping, recordkeeping, office technology, basic legal requirements, and material control;
- Conditions are not created for a less cyclically volatile industry by emphasising more numerous, smaller scale, regionally dispersed projects to address backlogs that are more accessible to smaller firms and new entrants; and
- There is insufficient local demand for construction activity which would benefit manufacturers of intermediate inputs into construction, such as building supplies, steel, glass and cement so as to reduce the cost of construction for SMMEs.

7.9 Overall Conclusion

There is a general understanding among the construction fraternity, that in order to have meaningful participation in the construction economy – construction firms would need to be registered with the cidb as the South African government recognises such registration as the only formal process. The existing contractor development programmes have been focusing on the preparation and the development of the technical skills of contracting entities, with minimal focus on the entrepreneurial skills which enhance their competitiveness. Inadequate attention has been given to the major stimulators and creators of job opportunities and economic growth of the self-employed owners and managers of small enterprises.

The South African Government is committed to helping SMME businesses, but not all of the present programmes are working. As much as it is committed however, government needs to enhance the support and services it offers to construction SMMEs in particular. For SMME development programmes to have resounding success, they are required to take a more real-life approach and also taking into account the current state of the construction industry. What the programmes should seek to do is the following:

- Uncover new business practices for procurement, investment, ownership and empowerment;
- Teach SMMEs to learn to survive current market instability while aiming to provide a superior service to their clients;
- Expose SMME contractors to understand and overcome macro-economic threats and opportunities in the construction industry;
- Introduce SMMEs to industry pioneers who have made a definitive impact on developing small enterprise initiatives in the local construction sector, and
- Teach SMMEs to position their businesses as 'thought leaders' and differentiate themselves from the competition. This is what competitiveness entails.

The research recommends that it not be viewed within the context of educational change, but rather within the broader context of enhancing competitiveness.

7.10 Implications of Research Findings

The findings, as presented through this research, provide insight into, among other, the purpose of developmental programmes. Also the findings of this research from both the literature overview and the interviews conducted are consolidated in the recommendations hereunder.

7.11 Contribution to Knowledge

No other study has surfaced this new problem which will in turn lead to further research. There was sufficient scope left within the field of research to pursue this study as currently published work looks at the competitiveness of countries and competitiveness of firms in general, not delineated to the small business sector and in particular construction SMMEs. The research's contribution to the construction industry is as follows:

- The study investigated the lack of competitiveness by SMMEs which plagues the lower end of entry into the construction sector. It explored the contributors to the high failure of local contractors due to lack of competitive advantage which has resulted in a situation in which most of the construction work is undertaken by either more established contractors within South Africa and the region;
- This research explained why the SMMEs needed to be competitive, why this was good for their individual businesses and how the construction industry can measure competitiveness and how the industry as a whole could benefit from enhanced competitiveness;
- The study contributed through providing a new definition of competitiveness for the construction industry in a South African context. This definition consists of contractor capability; contractor capacity; contractor competence; training and innovativeness;
- This study contributed to the understanding of why the numbers of upgrades are so low and what the attendant challenges are which prevent the contractors from achieving the desired upgrades;
- The study's contribution in this regard proposes that an additional competitiveness suite needs to be added over and above works and financial capability as is the current measure used through the cidb RoC. The added competitiveness suite would help the South African construction industry measure improved growth and performance on the part of SMMEs. Without this, the SMMEs are unable to achieve competitiveness requisite for upward mobility through the RoC;
- It made a proposition for why the South African government would need to focus on sectors of competitive advantage. In the process of implementation, it would be important to learn from successes gained prior and failures in sectors where mistakes have been made with a view to correct such failures;
- The research further attributed innovativeness of SMMEs as a catalyst to them achieving competitiveness which can then be measured using the RoC.

No other study has made such considerations.

7.12 Critical Review of the Research Methodology followed

The qualitative research methodology followed by this research was vital in guiding the study as it ensured coherence and established the boundaries that the study was to be bound by. The survey of the literature was divided into a primary research objective and secondary research objectives. The primary objective of the survey of the literature was to determine the consistency of definitions of competitiveness while the secondary objective was focussed on the various acceptable ways in which SMME contractor competitiveness could be reliably measured and what tools were available to do so. The approach entailed a survey of the literature regarding definitions, theoretical and conceptual underpinnings, models and approaches towards achieving contractor competitiveness.

The generalisability of the research insofar as it having had assessed SMMEs in the Eastern Cape province of South Africa is not reduced by that delimitation. In fact, the study contends that the same results can be yielded especially from a sample of SMMEs who are located within a province whose GINI-coefficient is similar to that of the Eastern Cape. Therefore the researcher contends that the results are generalisable in that respect.

The limitations of the study are around the fact that contractors graded within bands 6 to 9 in the cidb RoC were not considered for purposive sampling. This should not be read to mean that it is due to them being considered as not lacking competitiveness. Their disposition is different and there is evidence of growth and greater potential for upward mobility, however untested this claim may be at present. The inquiry around their competitiveness may well be the founding rationale for conduction further research around this area in future.

7.13 Recommendations

SMME contractors play an important role in the construction sector. The South African government has never been oblivious to the challenges and risks facing construction SMMEs and it is for that reason that a variety of policy considerations have been designed so as to address the known challenges and anticipate new ones that have not as yet been defined.

As mentioned in earlier chapters of this thesis, there is a myriad of contractor development Programmes which are either packaged in updated databases with requisite membership or in electronic formats. In state-owned enterprises business analyses in each locality where SMMEs are based is probably what is not well-documented and therefore the production of reports on the potential successes of micro enterprises which also should reflect on the requisite conditions for those SMMEs to succeed and be sustainable as well as an audit of readiness, skills and business acumen of the participants, is what is lacking.

Recommendations for the South African government:

The South African government has committed substantial funding in the form of R808 billion over the next three years to public infrastructure to address backlogs, but not all of it is spent in any given fiscal year. A variety of interventions are required to take full advantage of the infrastructure programme. These include:

- Improving government efficiency, particularly with regard to project management capacity and monitoring and evaluation of both expenditure patterns and construction work;
- Capacity to develop long-term infrastructure plans and to rope in the private sector in public-private partnerships so that construction SMMEs benefit from continuity of work;
- Conscious efforts made to develop supplier industries through skilled management of procurement processes; and
- Supporting civil construction and the supplier industries in their export drive, so that SMMEs get exposure to foreign markets even within the SADC and thereby improve their competitiveness.

The combination of rising income and employment can promote small-scale construction in the residential construction and housing renovation market – a key employment driver. Similarly, more and better quality public housing would also promote growth of SMMEs and employment.

Recommendations for the construction industry:

- Improved forecasting of capabilities of the industry inclusive of measurement of competitiveness;
- Improved efficacy of contractor development programmes which go beyond enhancing capacity but is also inclusive of competence improvements, training for business acumen, improved capability and innovation; and
- Local government regulations on small and micro-enterprises should be reviewed – and this can be accomplished through the completion of the regulatory impact assessment initiated in 2007.

Recommendations for the cidb:

- The recommendation made is that CCC be used properly as centres where construction SMMEs can receive more than just bidding/ tender information.

The CCCs should be in a position to make simple the compendium of legislative prescripts so that SMMEs do not only understand their role in the value-chain of construction, but they can also begin to appreciate in full the environment within which they trade and the impact that their work has on growing the construction economy.

Recommendations for construction clients:

Construction clients who implement construction projects using SMMEs need to reflect on the needs of this targeted group which go beyond access to start-up capital, skills and general business training. The recommendations hereunder made are that construction clients need to :

- Look at instruments they use to ensure that the development of SMME contractors is consciously targeted and yields the appropriate outcomes in relation to their competitiveness against other more established entities in the construction sector;

- Take a considered view of where government should channel its development intent and how it could progressively deal with development at specific grades and classes of work;
- Learn from who amongst the construction clients is successful in having had adopted the use of the RoC to uniquely measure the competitiveness of SMME contractors and to whom they have made available opportunities of growth;
- Further explore how the RoC can be used for improved capability on the part of SMME Contractors;
- Continuous assessment and grading of the contractors' performance, assessment and improvement as a feedback mechanism to monitor their development is another thing that can be done.

Recommendations for SMME Contractors:

- Improved and measurable competitiveness allowing the contractors to bid for work both within their provincial regions but also outside of their geographical location;
- Development of diversified skills;
- Construction SMMEs need to be able to cope with information flows, and to create, share and apply new knowledge.
- Enabled environment for the development of competitive strategies for SMMEs;
- Improved operating capability of SMME contractors allowing them to adapt to changing environments;
- Thorough understanding of which tools can be used by potential employers to measure the competitiveness of contractors; and
- Clear understanding of the important role the client plays in not only measuring contractor competitiveness but having an improved ability to measure the direct impacts of interventions.

7.14 Recommendation for further research

The limitations accompanying the study are readily acknowledged. This study was restricted to SMME contractors registered within the cidb grades of 2-5 and also it limited its focus on the civil engineering and general building sectors of specialisation. The majority of the SMMEs interviewed have in their employ between one to fifty employees. A similar study including the medium to large business sector is proposed. The outcomes may be similar or nuanced differently. The study was also limited with regard to the respondents that were involved. Interviewing a credible sample of construction SMMEs, was a mammoth undertaking that required considerably more time, financial resources and researchers.

The aim was to decipher the general lack of competitiveness within construction SMMEs within the grades identified. Most construction SMMEs can hardly demonstrate management competencies and resources or capability which could enable them to compete in a growing construction economy. Certain other issues also need to be investigated, the first being the relationship between the training these construction SMMEs receive, both theory and practice. Not only must the relationship be investigated, but methods ought to also be developed to integrate theory and practice. It is this researcher's sincerest hope that further research would be done in this area.

7.15 Concluding remarks

In conclusion, South African construction SMMEs need access to more and better jobs – this is what strongly transpired from the interviews conducted. They also need a business climate that supports them in starting and doing business, a financial sector that gives them access to financial services tailored to their needs, and social security in times of livelihood challenges and crises. Being aware that, for most of them, they do not possess the requisite educational skills related to the profession of construction is regarded by all those interviewed as a structural deterrent. Having said so, though, the general outcome of this study is that this should not be the only focus of the sector in attempting to enhance their competitiveness. The focus should be on how the industry assists them in being competitive and the extent to which the

industry uses the RoC with its embedded knowledge and the recommended competitiveness suite to select them for work and targeted development programmes. Construction SMMEs desire to aggressively compete for work and be awarded it. They want sustainable opportunities of access to work. They also want to grow both in knowledge but also in the scope of works that their firms handle in any given year. They want to understand how they can generate innovative solutions to complex projects awarded by clients and they also desire to have competencies which may afford them the opportunity to offer value beyond the borders of South Africa.

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ADDENDUM A: Nelson Mandela Metropolitan University Plagiarism Statement

I, the undersigned:

1. Know that plagiarism is wrong. Plagiarism is to use another's work, their ideas, words, models and present it as my own original work;

2. Irrespective of the conventions used for quoting and referencing in the work that is herein submitted, I undertake to give credit to each significant contribution and quotation that I have taken from the work(s) of other people. I shall do this by quoting and referencing all sources derived from the Internet shall also be properly acknowledged;

3. I shall not allow anyone to copy this research with the intention of passing it off as their own work;

4. I understand that disciplinary action may follow should I be in breach of the above statement.

Signed:_____ Date: _____

(Zanele Bridgette Nompumelelo Gasa 194354510)

ADDENDUM B: Declaration Statement

This research is submitted in accordance with the requirements for the degree: Philosophiae Doctor (PhD) in the Department of Construction Management, Faculty of Engineering, the Built Environment and Information Technology, Nelson Mandela Metropolitan University, Port Elizabeth, South Africa.

I, Zanele Bridgette Nompumelelo Gasa, declare that:

- The thesis hereby submitted by me for the degree: Philosophiae Doctor (Ph.D): Construction Management at the Nelson Mandela Metropolitan University is my own independent work and has not previously been submitted by me at another academic institution. I furthermore cede copyright of the thesis in favour of the Nelson Mandela Metropolitan University;

- The thesis is the result of my own independent work and own experience in industry both as a previous Executive Manager responsible for Infrastructure Development but also as a President of the Africa Region for the Chartered Institute of Building;

- All sources used or referred to, have been documented and recognised.

ADDENDUM C: Notification Letter

Dear Madam/ Sir 3 December 2010

Measuring the Competitiveness of Small, Medium and Micro Enterprise Contractors through the use of the Register of Contractors

This study is part of my research thesis solely concerned with a focus on SMME competitiveness. It will greatly contribute to meeting the requirements for the PhD in Construction Management at the Nelson Mandela Metropolitan University in Port Elizabeth.

The research summarises the methodology followed to demonstrate that the South African construction industry can use the Construction Register Service (in particular the RoC), as a tool, to measure the competitiveness of Small, Micro and Medium Enterprises (SMMEs).

As you already are aware, the RoC was developed by the Construction Industry Development Board (CIDB) in terms of the Construction Industry Development Board (CIDB) Act 38 of 2000. As a tool, it was designed to offer a basis for sustainable construction development, growth, improved delivery, performance and sustainable empowerment. It was also developed to be used by the construction industry to, *inter alia*, provide statistical data which would enable the construction industry to better understand the contracting capacity in South Africa. Beyond providing the statistical data, the RoC was meant to be enhanced further with functionalities that would measure the growth and performance of contractors as they apply business practices that improve their value offering to the construction industry as a whole.

This research therefore looks at how this tool can be used by the construction industry to measure the competitiveness of the contractors within the selected grades, with the intent of demonstrating the value of the RoC as a tool. The research undertaken through the methodology looks at how the use of the RoC can measure the competitiveness of a targeted group of small contractors. The research limits

itself to the entry levels of contractors registered with the CIDB between grades 2 and 5 with a view to establish a benchmark for contractor competitiveness within those bands. The research further proves the correlation between contractor capability and the 'ability' to be competitive in growing their value proposition and businesses. The unit of study for the purposes of this research is at company level drawing from a reflection on who is an active participant in the South African construction industry particularly as it pertains to the smaller contractors within the targeted group elucidated above. The focus of the research is on the efficacy of the RoC as a tool that identifies the areas needing targeted development to support SMMEs and the subsequent demonstration of improved business processes within that sector.

The aim of the study is crucial for the South African construction industry and your response relative to the scheduled interviews would be highly appreciated. Please note your anonymity is assured and your response will be valuable in shaping the future of the South African construction industry. By responding to the study, you will be playing a meaningful role in honing the prospects of the South African construction industry.

I therefore assure you that your response will improve the consistency of the findings. I will certainly be grateful if you can endeavour to attend the interviews which are to be completed by the 17th of February 2011 on the following:

a) Electronic responses to the interview guide can be mailed to: bridgette.gasa@theelilox.com

b) Postal of interview guide: post to
Attention: Ms. Bridgette Gasa
P.O. Box 612088
Bluewater Bay
6210

Thanking you in anticipation of your significant response.

Zanele Bridgette Gasa

ADDENDUM D: SMMEs INTERVIEWED

CIVIL ENGINEERING CONTRACTORS: GRADE 2

CRS NO	NAME OF CONTRACTOR	EMAIL ADDRESS	CONTACT PERSON	CONTACT DETAILS
190876	AYABONA CONSTRUCTION. And PROJECTS	ayabona@webmail.co.za	Mr K Caza	043 760 3402 076 866 9734
225848	DESIFIKE SUPPLY RETAIL SERVICES	N/A	Mr M Tabo	043 722 0034 084 694 1832
167433	DREAM TEAM TRADING	N/A	Mr S Ntanjana	043 748 2460 083 769 3059
204719	ELEGANCE CONSTRUCTION CC	mfundo@eleganceconstr.co.za	Mr M Toyise	043 745 0295 072 9756 096
1138030	GOLDEN REWARDS CC	N/A	Ms N Olotha	043 7321 822 072 341 1081
193467	IBHABHATHANE TRADING	N/A	Mr S Maqubela	072 666 5418
191087	MAQANDA ZONDANI EARTHWORKS	cmnorton@mweb.co.za	Mrs C Norton	041 685 1061 072 277 6870
238138	ARISTO PART	teknik@aerosat.co.za	Mr B.P VanZyl	082 8042269
105013	SINDA TRADERS CC	0731363651@mtnloaded.co.za	Mr N.E Sneli	041 467 0502 073 136 3651
417569	CHUMANANDE TRANSPORT SERVICES and PROJECTS	teddyd@telkomsa.net	Mr N.E Danster	041 933 6420 083 497 6168

GENERAL BUILDING CONTRACTORS: GRADE 2

CRS NO'S	NAME OF CONTRACTOR	EMAIL ADDRESS	CONTACT PERSON	CONTACT DETAILS
111396	BONGATA TRADING	zenith@webmail.co.za	Mr Z.Z Mgoduka	041 374 1603 072 546 6780
130573	IBHAYI COASTAL TRADING		Mrs Q Arkedien	0414522404 0834003095
109514	KWESTA'S BUILDING CONSTRUCTION		Ms N.V Ndabambi	0414620701 0734768199
173934	G.T. MAJIYA CONSTRUCTION	gtmajiya@pnetmail.co.za	Mr G,T majiya	0437635175 0732482869
143204	IXHADI BUSINESS ENTERPRISE	ixhadi-bus@telkomsa.net	Mrs NB Ngonyama	0437267036 0829738854
175314	MTA CONSTRUCTION		Mr S.A Mashaba	0437212610 0731919330
173525	MANGO MOON TRADING CC	nceba@yahoo.com	Ms N Makabeni	0437366839 0835554362

CIVIL ENGINEERING CONTRACTORS: GRADE 3

CRS NO'S	NAME OF CONTRACTOR	EMAIL ADDRESS	CONTACT PERSON	CONTACT DETAILS
123190	B and SON CIVIL CC	williamtheron@absamail.co.za	Mr B Mcilongo	0437268731 0839923585
141831	AMAKERERE BUSINESS SERCIVES	tech3@webmail.co.za	Ms Z. Danti	0833285672
156639	INTLAKOHLAZA CIVILS	intlakohlaza@workmail.co.za	Mr M.E. Babala	0437633462 0723134460
160304	MAGAVANA CONSTRUCTION		Ms N Badiata	762278877
172611	QINGQANI MA-AFRIKA CONSTRUCTION	sbeyaphi@seci.co.za	Mrs E Sokhuphe	041 4862542 0835393112
160303	SAKHULUTSHA CONSTRUCTION and CIVILS	burton@tantic.net	Mr M.B Nodonti	0826778833
168336	WONGA-LETHU CONSTRUCTION and CIVILS	tshumpa@gmail.com	Mr Tshumpa	0835658644
107534	SUM SUM CIVIL CONTRACTORS CC	nisha@sumsum.co.za	Mrs Ramakin	041 4511 488 0837845530

GENERAL BULDING CONTRACTORS: GRADE 3

CRS NO'S	CONTRACTOR NAME	EMAIL ADDRESS	CONTACT PERSON	CONTACT DETAILS
182230	MSHODICE CONSTRUCTION	mshodiceconstruction@webmail.co.za	Mr M.C Ngonyama	0413714528 0723708613
139809	SIKHOTHAHLA CONSTRUCTION and INVESTMENTS	ztyibika@vodamail.co.za	Ms N.E Tyibika	0414852614 0826445416
186744	INZWIKAZI BUILDING and CIVILS	inzwikazi@webmail.co.za	Mr L Metu	047 5342826 0722465707
209680	CHARNWOORD and STEEL CC	lgafrikaencounters@telkomsa.net	Mr L Gregory	0437484712 0837390933
112128	KHULA TECHNOLOGIES	wmangena@khulaholdings.co.za	Mr W Mangena	0437224707
107234	UNABANTU BAKHO TRADING	nomfundonina@gmail.com	Ms N Nina	0437415014 0764214062

CIVIL ENGINEERING CONTRACTORS: GRADE 4

CRS NO'S	CONTRACTOR NAME	EMAIL ADDRESS	CONTACT PERSON	CONTACT DETAILS
131016	SEKU CONSTRUCTION	lmseku@ymail.com	Mr L Seku	0839289797
179171	OYAMA CONSTRUCTION CC	N/A	Ms N Novoyo	0414646791 0782833935
120843	DF CONSTRUCTION and CIVIL ENGINEERING	donavan@dfcivils.co.za	Mr DA Fick	0413630783 0721420471
115787	MAMKELI CONSTRUCTION	N/A	Ms CN Mamkeli	835473183
119821	IMIZAMO TRADING 246	nkomazi.trading@vodamial.co.za	Mr M Mabongo	0437482863 0835985497
117302	SINTSUNDU CIVILS	Sin.civils@gmail.com	Mr KK Mbuku	0437270205 0721237742
157165	SQT CONSTRUCTION and CIVILS CC	sqt@webmail.co.za	Ms B sipunzi	0784636960
124139	LWAZCON EARTHWORKS and PLANT HIRE CC	Lwazi.qina@gmail.com	Mr L Qina	043 722 1980 0736830415

GENERAL BUILDING CONTRACTORS: GRADE 4

CRS NO'S	CONTRACTOR NAME	EMAIL ADDRESS	CONTACT PERSON	CONTACT DETAILS
123749	ABAFAZI MANAGEMENT TRUST	abafazi@lantic.net	Mrs k Mzotoyi	0413687357 083410351
109324	SIYAXUBA SCOTT CONTACTORS (PTY) LTD	winston@williamscott.co.za	Mr W Geswint	0414532336 0844414720
141334	BRIGHT IDEA and PROJECTS	Klass.luyanda@yahoo.com	Mr M Klaas	0414645953 0825686706
109990	AVUMILE BUSINESS INVESTMENT CC	avumile@webmail.co.za	Mr V Mtyobeka	0437270208 0725464950
174369	ESNAKO CONTRACTORS	dolwethu@yahoo.com	Ms O Dalisile	0733746122
172013	GQOBA CONSTRUCTION	Mziyanda.gqoba@gmail.com	Mr M Gqoba	0723125254
113832	MBOKOTHO INVESTMENT (PTY) LTD	oxstreetr@mweb.co.za	Mr M Yako	0437435994 0836598759
184377	MICROZONE TRADING 811	rinoma@sainet.co.za	Mr RP Nkathu	0437633319 0832545284

CIVIL ENGINEERING CONTRACTORS: GRADE 5

CRS NO'S	CONTRACTOR NAME	EMAIL ADDRESS	CONTACT PERSON	CONTACT DETAILS
139813	ASCON TRADING CC	sindy@ascon.co.za	Mrs G Mathura	0414671362 0848101431
104441	IZANA CIVILS CC	general@izana.co.za	Mr D Hector	0413652966 0722101536
155972	SHOLDEN LUKWE CONSTRUCTION	mhlango@vodamail.co.za	Mr Z Lukwe	0414630051 0715491583
141019	SIBATSHA PROJECTS		Mr M Marhawu	0413652549 0798488996
108942	ENVIROMENTAL TECHHYDRO CC	narimah@telkomsa.net	Mrs n Jappie	0414515570 0832706487
127828	SAKHISIZWE CIVIL BUILDING	vposwa@gmail.com	Mr L Sokuthu	723413499
129193	E.Z.MTIMA PLUMBING SERVICES	mtimaplumbing@telkomsa.net	Mr E Mtima	0437622136 0833252556
111879	KHUBENI CONSTRUCTION	lndendema@khubeni.co.za	Mrs C Ndema	0437353890 0832751881
110030	LEJAMO CONSTRUCTION	andymoss@imaginet.co.za	Mr A Moss	043 7481201 0827823936
133079	DVP CONSTRUCTION	vsingatha@webmail.co.za	Mr V Singatha	839623476

GENERAL BULDING CONTRACTORS: GRADE 5

CRS NO'S	CONTRACTOR NAME	EMAIL ADDRESS	CONTACT PERSON	CONTACTOR DEATAILS
108643	MPUCULO CONSTRUCTION	admin@mpuculo.co.za	L Ranuga	041 459 1619 0822988645
118892	THANDY BON CONSTRUCTIONS	thandy@thandybon.co.za	M r B Beja	0413690903 0833897310
182636	OMEGA BUILDING TRUST	khutton@omegacivils.co.za	Mr K Hutton	0415814940 0832615921
187343	MARLA BUILDERS	seagullsnet@vodamail.co.za	Ms L Olivier	0414667522 0822580442
145336	WILLIAM SCOTT CONTRACTS (PTY) LTD	micki@williamscott.co.za	Mrs J Glidenhuys	0414532336 0846998059
108709	THEMBA CARTAGE and CONSTRUCTION CC	Mbalo.themba@vodamail.co.za	Mr T Mbalo	0437486244 0764686613
168191	SAKHEKHAYA CONTRACTING		Mr S Madikane	0437411791 0829343252
118292	T.G. MEJANE BUILDER and ELECTRICAL	tmejane@sainet.co.za	Mr T Mejane	0437411791 072296239
111039	MLONYENI CONSTRUCTION	mlonyeniconstruction@gmail.com	Mr S Mlonyeni	0437621613 0829718744

ADDENDUM E: INTERVIEW GUIDE

SECTION A: INTERVIEW DETAILS (CODING INFORMATION)

Interview Date:	
Interview Time:	
Interview No:	

SECTION B: PERSONAL PARTICULARS OF OWNER OR ENTREPRENUER

This section covers an enquiry made by the Interviewer into the theoretical exposure of the SMME from an education and training point of view. Its purpose is to gain insight into the theoretical underpinnings of what informs the approach of the construction business owner with respect to how they conduct their business.

NAME OF SMME CONTRACTOR:	
No. OF CONTRACTOR UPGRADES APPLIED FOR BY SMME FROM CIDB:	

1	Please advise on any built environment education that you have acquired (if any)?		
2	What is the highest qualification obtained by the owner of the business?		
3	Do you have any formal built environment qualifications or certificates of prior learning?	YES	NO
4	If yes, how is this knowledge assisting you to run your business? If no, how are you managing the running of your construction business?		

SECTION C: LEGAL and ENVIRONMENTAL COMPLIANCE

		YES	NO
1	What is your business' legal form of ownership? (Sole Propriety/Pty/CC)?		
2	Are you aware of all applicable legislation that your business has to comply with?		
3	Does your business comply with all applicable legislation: Company Act, SARS, etc?		
4	Does your company comply with the Labour Relations Act and the Basic Conditions of Employment (in relation to EE, EMP 201: PAYE, UIF and SDL)?		
5	Are your employees registered with the Unions or form part of the Bargaining Council?		
6	Do you provide PPE's to your employees?		
7	Do you have workman's compensation?		
8	What is your understanding of the prescripts of construction procurement/ tendering insofar as: fairness, equitability and transparency is concerned? If so please share either the advantages or disadvantages of having had done so.		
9	Is your business familiar with the prescripts of the Standard for Uniformity in Construction Procurement?		
10	What is your company's environmental management plan?		
11	To what extent does your company adhere to the Occupational Health and Safety Legislation within the Construction Industry?		

SECTION D: PERFORMANCE MEASUREMENT

1	What is your CIDB contractor registration numbe	
2	What is your cidb grade?	
3	In which works category are you registered?	
4	Has your business been awarded construction contracts since being graded on the RoC? If so, could you state how many and whether over time they have increased in value or not?	
5	Have ever been upgraded since the first time you registered on the RoC	
6	How many upgrades have you ha	
7	What were the requirements for that upgrade from the lower grade to the next if your business has been upgraded more than once?	
8	If upgraded between stages, please state what the requirements for that upgrade was, at each stage?	
9	Have you experienced OR been exposed to any contractor performance measurement methods?	

SECTION E: AWARENESS OF THE ENVIRONMENT

This section's sole purpose is to identify possible gaps that may exist in the SMME's consciousness of the environment within which they trade. Herein the Interviewer will be looking for information relative to SMME knowledge of the built environment and the extent to which SMMEs harness advantages inherent in the built environment.

1 What is your role within the construction industry?

2 Is your firm a member of any Construction Industry Association? | YES | NO |

If yes, please advise which industry associations your company is a member of? [e.g. Nafcoc, BCC, BIFSA, MBA]

3 Does your firm find any usefulness in such networks?

4 What types of projects do you undertake as a business?

5 What types of trades do your projects involve? (are they all within an area of specialisation or they are singular: painting/bricklaying)

6 Has your business benefitted from construction industry support programmes (i.e. EPWP, NDPW/ECDC Incubator Programme, SEDA etc.)?

If yes, would you say both experience and benefit have been material?

7 Please explain your understanding of the construction industry? (Opportunities within, challenges etc)

8 Is your business familiar with business/commercial risks attendant to the construction industry, also in relation to the SMME sector?

Please proceed to explain how you mitigate against related risks or manage risks which may have occurred, in your line of duty.

9 Kindly describe your perception of the South African Construction Industry's operating environment?

10 How does your company keep abreast with emergent construction-related technologies?

In answering this question, please make reference to specific trade guides you use?

11 Are you familiar with the provisions of the Small Business Development Act of government and the extent to which it affects your business interests? | YES | NO |

SECTION F: BUSINESS GROWTH

This section covers the enquiry to be made by the Interviewer and the extent to which the SMME has gone to grow the business. Focussing not only on financial and works capability but on all the elements which the cidb uses to determine the 'consideration' of an upgrade for any contractor registered on the RoC.

1 Where is your business located?

2 How many years has your construction business been in establishment?

3 What are the means you use to collect analyse and organise information related to your business? [KC1]

4 How do you go about exploiting available business opportunities? Please explain in detail.

5 How do you communicate ideas and information? [KC2]

6 How often does your company bid for work? (bidding competitiveness)

7 What do you emphasise on when marketing your construction business offering?

8 What nature of Public Relations do you undertake to grow your business?

9 Have you set a strategic plan (with vision and goals) detailing by how much you would like for your business to have grown over the next 3 years?

10 Do you have a business plan? If so, has it been useful in assisting you to acquire work? [KC3]

11 Describe your market (e.g.: low-cost housing/ government/ private sector).

12 How do you understand the culture of doing business within the sector where you operate? [KC8]

13 How do you extract value from the diversity within your team? [KC8]

14 Do you use a multi-disciplinary team? For example, a team consisting of subcontractors/suppliers of material and plant? [KC4]

SECTION G: QUALITY

1 Have you been exposed to any contractor performance/ quality assurance standards? YES | NO

If yes, describe.

2 Has your business ever suffered contract cancellations? YES | NO

3 Why was the contract cancelled?

4 How do you ensure that the quality of the solution offered to your clients is sufficient in meeting their needs?

Please provide two relevant examples in detail.

SECTION H: INNOVATION

This code is critical in establishing the current entrepreneurial flair of each SMME interviewed. The Interviewer would herein be seeking to gauge exposure of each SMME to the concept of Leadership and Entrepreneurship within the Built Environment. In asking the question about partnering and alliancing, the purpose is to establish whether in and of themselves SMMEs use the RoC as a tool for: development, joint-venturing and skills transfer and by so doing increase their chances of being awarded larger contracts. This section also looks at all the issues that affect entrepreneurship or issues that affect competitiveness.

1 How often do you use innovative methods in your projects or business? Could you share relevant examples of these innovations/ ideas and techniques? [KC 5]

2 What technological advances has your business introduced over the last 2 years (if any) to improve your business offering to your clients?

3 Describe how your company analyzes problems with a view of offering unique solutions to clients? [KC 6]

4 How would you rate your decision-making skills?

1	2	3	4	5

1 = Below Average; 3 = Average; 5 = Above Average

5 How does your business go about procuring contracts so as to guarantee continual work?

6 Kindly describe how your business identifies opportunities in the Construction Industry.

7 Have you ever initiated a partnership with another contractor registered in the RoC, so as to take advantage of available work opportunities that required a higher grade? [KC4]

8 What do you think enhances your business' attractiveness to clients and more established contractors for partnering and alliancing purposes?

INTERVIEWER: Ms. Z.B.N. Gasa

I hereby certify that this interview has been conducted by me according to the approval granted by my Supervisor.