UNIVERSITY OF KWAZULU-NATAL

The success of the Vukuzakhe Programme in Developing Self-sustainable Road Building Contractors

by

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ABSTRACT

The Vukuzakhe Contractor Development Programme is a bold initiative of the KwaZulu-Natal Department of Transport aimed at transforming the road infrastructure sector of the construction industry. They strive to develop a new pool of contracting capability by ensuring active involvement of vulnerable groups such as women, the youth, people with disabilities and also cooperatives. The programme seeks to address the developmental challenges facing contractors in the roads infrastructure sector of the construction industry and also looks at the number of management interventions that could be used to address developmental challenges.

In order to build a sustainable economic environment in the country, the government is investing in human resources in the form of training and skills development. It is the intention of government to provide opportunities for the historically disadvantaged South African individuals (HDISA) and to openly encourage their active participation in the economy of the country in general and the Province of KwaZulu-Natal in particular.

This research focuses on four objectives: the reasons why individuals decided to embark on construction business, the skills of people hired by contractors, the re-investment of profits by contractors back into businesses and to establish if Vukuzakhe contractors have any business opportunities available to them other than those created by the KwaZulu-Natal Department of Transport.

What emerged from the study is that The Vukuzakhe programme implemented by the Department of Transport in KwaZulu-Natal is indeed a good initiative that could be replicated by the South African government in other provinces. Under-developed countries could also use the Vukuzakhe programme to address socio-economic challenges that they may experience.

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LIST OF ACRONYMS AND ABBREVIATIONS

ACSA:	Airports Company of South Africa
ANC:	African National Congress
ASGISA:	Accelerated and Shared Growth Initiative of South Africa
BBBEE:	Broad Based Black Economic Empowerment
BBEEA:	Broad Based Black Economic Empowerment Act
CCF:	Construction Clients Forum
CEO:	Chief Executive Officer
CFO:	Chief Financial Officer
CIB:	Construction Industry Board
CIDB:	Construction Industry Development Board
COSATU:	Congress of South African Trade Unions
CSIR:	Council for Scientific and Industrial Research
CTF:	Construction Task Force
DOL:	Department of Labour
EPWP:	Extended Public Works Programme
HDI:	Historical Disadvantaged Individuals
GCCP:	Government Construction Client Panel
GDP:	Gross Domestic Product
ILO:	International Labour Organization
ICT:	Information and Communication Technologies
IMS:	Information Management System
IT:	Information Technology
JSE:	Johannesburg Stock Exchange
JVC:	Joint Venture Company
KM:	Knowledge Management
KZN:	KwaZulu-Natal
KZN DoT:	KwaZulu-Natal Department of Transport
PPPFA:	Preferential Procurement Policy Framework Act
RAMS:	Road Asset Management Systems
RDM:	Research Data Management

RDP: Reconstruction and Development Programme

SAFCEC: South African Federation of Civil Engineering Contractors

SANRAL: South African Roads Agency Limited

SCM: Supply Chain Management

SIPs: Strategic Integrated Projects

WBH: Wilson Bayley Holmes

The Success of the Vukuzakhe Programme in Developing Self-sustained Road Construction Contractors

Chapter 1 Introduction to the Research

1.1 INTRODUCTION

This dissertation focuses on the Civil Engineering emerging contractor development programme called Vukuzakhe. The Vukuzakhe programme is a KwaZulu-Natal government initiative implemented by the Department of Transport under their contractor incubator programme. The aim of the programme is to develop competent and self-sustained civil engineering contractors. Vukuzakhe is a Zulu word which means “rise and build” (KZN DOT, 2015a). It is the intention of the South African government to make opportunities available for historically disadvantaged individuals and encourage them to participate in the main stream of the economy of the country (CIDB, 2010).

1.2 OBJECTIVES OF THE VUKUZAKHE PROGRAMME

1.2.1 Thrust of the Vukuzakhe Programme

The Vukuzakhe programme seeks to transform the construction industry by availing more opportunities to the previously disadvantaged population group, predominantly black South Africans (KZN DOT, 2015a). The construction industry could generate a great deal work by creating an enabling construction business environment. The Vukuzakhe programme is intended to ensure that contractors have the necessary skills to execute projects effectively and efficiently. The programme was designed to empower and support emerging contractors by capacitating them with technical, management and financial skills (Lingard, 2014).

1.2.2 Creation of a Pool of Capable Contractors

The Vukuzakhe programme aims to develop a pool of highly skilled historically disadvantaged contractors that are able to compete in the open market for 2010 infrastructure opportunities and beyond (KZN DOT, 2015a). After the 2010 World Cup has passed, the contractors would also be required to maintain large infrastructure in the country, such as the

Durban Harbour, stadiums and airports (Mackey et al., 2008). The Department aims to produce sustainable and self-sufficient contractors through a number of management interventions. They also offer support benefits to Vukuzakhe contractors and associations in order to ensure sustainability and effectiveness of organizational development (KZN DOT, 2015a).

1.3 LEGISLATIVE MANDATES

Legislative and policy mandates influencing the implementation of the Vukuzakhe programme include the Broad Based Black Economic Empowerment Act (No. 53 of 2003), the Construction Industry Development Board (CIDB) Act (No. 38 of 2000), the Preferential Procurement Policy Framework Act (No. 1 of 1999 as amended), Treasury Regulations 16A and the introduction of the KwaZulu-Natal Supply Chain Management Policy Framework (KZN DOT, 2015a).

1.3.1 Broad Based Black Economic Empowerment Act of 2003

"Broad Based Black Economic Empowerment BBBEE is defined in the Broad-Based Black Economic Empowerment Act of 2003 as the economic empowerment of all black people including women, workers, youth, people living with disabilities and people living in the rural areas" (Patel & Graham, 2012). The main aim of BBBEE is to correct the imbalances of the past by getting the majority of the people, predominantly black, to participate in the economy of the country without discrimination (Patel & Graham, 2012).

The BBBEE Act establishes a legislative framework for the promotion of black economic empowerment and provides for the gazetting of the Transformation Charters. The BBBEE Code of Good Practice and the Construction Industry Charter were gazetted in February 2007 and March 2007 respectively. These, together with the then awaited amendments to the PPPFA had a significant implication for Vukuzakhe Programme (KZN DOT, 2015a).

1.3.2 Construction Industry Development Board Act of 2000

The Construction Industry Development Board (CIDB) introduced pre-scripts that regulated the national register of contractors, register of projects and the construction standard for uniformity. These pre-scripts were not in line with Vukuzakhe implementation policy. The

value of work done and the categories on various Vukuzakhe grades were different from CIDB grades. The CIDB pre-scripts were law, therefore they took precedence over the Vukuzakhe policy and thus the Vukuzakhe policy had to be changed to comply with CIDB pre-scripts. Vukuzakhe projects procurement documentation also had to be brought line with National CIDB legislation. This necessitated the separation of procurement issues from the Vukuzakhe Programme so that it could be addressed by the Supply Chain Management Unit of the Department (KZN DOT, 2015a).

1.3.3 Preferential Procurement Policy Framework Act 1999

The Preferential Procurement Policy Framework Act, Treasury Regulations 16A dealing specifically with Supply Chain Management (SCM), the repeal of the KwaZulu-Natal Procurement Act (2001) and the introduction of the KZN Provincial SCM Policy Framework impacted on the Vukuzakhe Programme in a number of ways such as the awarding of projects to successful bidders using the prescribed score card (KZN DOT, 2015a).

1.4 SCOPE OF THE VUKUZAKHE PROGRAMME

Table 1.1. Contractor grading designations, maximum values of contracts and the scope of work (KZN DOT, 2015a).

CONTRACTOR GRADING DESIGNATIONS						
Grade Maximum	**1**	**2**	**3**	**4**	**5**	**6**
Value of Contracts	R 200 000	R 500 000	R 1 500 000	R3 000 000	R 5 000 000	R 10 000 000
Main Scope of Works	>Grass cutting >Cleaning of pipes, kerbs and channels >Gabions installation	>Blading >Construction of Roads >Patch gravelling >Minor structures >Sidewalks	>Grade 2 scope and the following : Minor/Major Structures	> Grade 3 scope and any other civil engineering works	> Same as grade 4 and any other civil engineering works	> Same as grade 5 and any other civil engineering works

As seen from Table 1.1, contractors are graded into six categories. Each category is awarded not more than a stipulated value of contracts and the scope of works for each grade also varies according to the complexity and the nature of works.

Figure 1.1: Bridge construction by Vukuzakhe Contractor (KZN DOT, 2015a).

The example of work done by Vukuzakhe contractor is shown on Figure 1.1, a contractor is busy with the construction of a low-level bridge and the bridge completion thereof.

1.5 BACKGROUND

Poverty leads to social ills like crime, malnutrition, etc. Poverty is punishing and dreadful. Of the world's seven billion people, almost half live on less than US$2 per day and almost one billion live on less than US$1 per day (SAFCEC, 2014). Most of the people of the world don't have food or money. One third of people that are seeking work are unemployed (SAFCEC, 2014). The world continues to seek solutions to deal with poverty and unemployment. Likewise the South African government is not immune to the challenges that the world is facing. According to Stats SA, (2014) South Africa has a population of 50 million people, of which over 40% are unemployed. This is obviously not good for the livelihood and well-being of South Africans.

Due to its very nature the construction industry is normally positioned better than other industries in creating jobs for people. Thus it is often targeted for poverty alleviation and job creation. Construction normally absorbs unskilled, semi-skilled and skilled workers. Jobs that are created by the industry are usually not permanent, but it is a relatively large volume of

work that is available to the poorer sector. The construction project execution strategy, which could be either technological or scientifically based, has made an impact on the creation of job opportunities. According to Watermeyer (2013) it has been proven internationally that small enterprises are more likely to employ labour-intensive methods compared to large-scale enterprises. Therefore they facilitate job creation which enhances and transforms not only the lives of the poor but also sustain economic activities within the country. The International Labour Organizations (ILO) in the developing countries advocates the high use of labour in the construction projects. Labour-intensive projects should lead to economic growth and capacity development of local people.

1.6 MOTIVATION FOR THE STUDY

South Africans, especially black people, have been previously disadvantaged in many ways. Focused programmes to uplift black people in South Africa are necessary in order to bridge the gap between the poor majority and the wealthy minority. The government embarked on various initiatives such as the Broad Based Economic Empowerment (BBBEE) and Accelerated and Shared Growth Initiative of South Africa (ASGISA) to ensure that the majority benefited from the main stream economy of the country. To this end the KwaZulu-Natal Department of Transport, as the delivery arm of government, initiated the Vukuzakhe contractors' development programme (KZN DOT, 2015a).

This research study may be imperative for the KwaZulu-Natal government in order to measure the success and the progress made by the Vukuzakhe Programme. As the Vukuzakhe Programme is one of the strategic programmes to empower and develop people while also ensuring that the roads infrastructure is maintained and expanded, the results of this study may afford the provincial government of KwaZulu-Natal an opportunity to reflect on or review the programme where necessary.

1.7 SIGNIFICANCE OF THE STUDY

There is a compelling need for government to economically elevate and develop the previously disadvantaged individuals and construction contributes directly to the growth of the South African economy (Agency, 2015). This research study may be imperative for the KwaZulu-Natal government in order to measure the success and the progress made by Vukuzakhe Programme. As the Vukuzakhe Programme is one of the strategic programmes to

empower and develop people while also ensuring that the roads infrastructure is maintained and expanded, the results of this study may afford the provincial government of KwaZulu-Natal an opportunity to reflect on or review the programme where necessary.

1.8 PROBLEM STATEMENT

It is the intention of South African government to make opportunities available for historically disadvantaged people and encourage them to participate in the economy of the country (CIDB, 2010). Economic transformation and development can be achieved by implementing programmes like the Vukuzakhe Programme in order to build construction capacity and create sustainable businesses. The aim of BBBEE is to correct the imbalances of the past by getting the majority of the people, predominantly black, to participate in the economy of the country without discrimination (Patel & Graham, 2012). This study attempts to establish the reasons behind the non-development and non-economic growth of emerging contractors who are participating in the Vukuzakhe Programme.

1.9 STUDY OBJECTIVES

- To investigate if people became Vukuzakhe contractors for entrepreneurship reasons or not.
- To investigate how skills of key personnel impact on the success of contractors.
- To investigate if profits made by contractors on their projects were re-invested in their businesses or not.
- To establish if Vukuzakhe contractors have pursued any business opportunities other than those available within the Department of Transport.

1.10 RESEARCH QUESTIONS

The research questions, formulated from the objectives given in paragraph 1.9 are:

- What were the main reasons for people to become Vukuzakhe contractors?
- Do the skills of key personnel have any significant impact on the success of contractors?
- Are the profits made by contractors on their projects re-invested back in their businesses?
- Are Vukuzakhe contractors pursuing any business opportunities from other client Departments other than the Department of Transport?

1.11 TYPE OF STUDY AND METHOD

This is an empirical study. According to Uma Sekaran (2013), scientific research focuses on solving problems and pursues a step-by-step logical, organized and rigorous method to identify the problems, gather data, analyze them, and draw valid conclusions from them. Uma Sekaran (2013) also pointed out that scientific investigation tends to be more objective than subjective.

With the aid of modem information technology, data can be easily and quickly collected, however, a desk top survey indicated that some contractors did not have access to instruments like emails, etc. Furthermore, according to SA Statistics, in KwaZulu-Natal the majority of citizens are still illiterate. It must also be remembered that the Vukuzakhe incubator contractors' programme is targeting previously disadvantaged people and communities; therefore data for this research was collected by means of a questionnaire which was administered to a group of contractors during site briefings of their various projects.

1.12 RESEARCH METHODOLOGY

A total of 127 structured questions were distributed to randomly selected Vukuzakhe contractors at the DOT District Offices during tender briefings. Since most contractors were emerging and had no access to emails or fax-lines as a means of communication, it was easier to target them at their selected tender briefing sessions. As all questionnaires were hand delivered, interviews group administered and some contractors given extra time to complete their questionnaires, all 127 questionnaires were returned, giving 100% rate of response. The questionnaire was crafted such that questions were mixed, but they were all linked to the four study objectives as shown in Table 1.2.

Table 1.2. Study objectives linked to questions from the survey questionnaire

Objective 1	**Objective 2**	**Objective 3**	**Objective 4**
Question 2	Question 3	Question 7	Question 8
Question 4	Question 6	Question 12	Question 9
Question 13	Question 10	Question 15	Question 11
Question 19	Question 14	Question 16	Question 18
		Question 17	Question 21
		Question 20	

1.13 STRUCTURE OF THE DISSERTATION

The dissertation consists of six chapters, namely:

Chapter One: This is an introductory chapter providing the background as to the reasons for the study. The chapter briefly describes the study motivation and problem statement, objectives of the study, the research questions, research methodology and limitations that the study faced.

Chapter Two: A literature review is done as a theoretical basis for the study. The review discusses issues such as the definition of a contractor, the emerging contractors in South Africa, the KwaZulu-Natal Department of Transport infrastructure, key concepts of job creation in construction, transformation of the construction sector, the use and impact of information technology in construction, construction project management, the selection of a contractor for a project, knowledge management in construction, difficulties experienced by contractors in South Africa, the risks associated with construction and the principle of employment intensification in construction.

Chapter Three: This chapter outlines the study area, the research methodology, the sample size and data collection instrument, the data collection, data management and ethical considerations and confidentiality.

Chapter Four: The research results obtained through the questionnaire are presented in this chapter. A questionnaire was used as the primary tool to collect data from participants. Graphs and tables were used to present the various findings. Correlation analyses were used to form an opinion of relationships between the various questions pertaining to each objective.

Chapter Five: The research findings are discussed in Chapter Five. The chapter seeks to determine whether the research problem has been solved, discusses implications of the study, and recommends solutions to the researched problem.

Chapter Six: This chapter addresses the study objectives. It also comprises a summary of the research findings and explains the challenges regarding the implementation of the Vukuzakhe Programme. Limitations of the research are reiterated. Recommendations and conclusions to the study are presented and recommendations for future studies made.

1.14 LIMITATIONS OF THE STUDY

The Vukuzakhe contractor development programme targets the historically and previously disadvantaged people. Although the contractors understand the English language well enough to get by, the poor educational background posed limitations. It would also have been ideal if all contractors in all districts within the Province of KwaZulu-Natal were afforded an opportunity to participate in this study but due to cost implications only 127 contractors could be interviewed.

1.15 CONCLUSION

Roads provide accessibility and mobility of goods and services (Agency, 2015). Mobility is defined as the ease with which people can travel without interruption. According to Lingard (2014), accessibility is defined as the ease with which people can get to destinations and facilities such as hospitals, schools, etc. Durban Harbour is the second largest container terminal in Africa and fourth largest in the southern hemisphere – it receives over 4500 vessels per year and over 60% of the containers downloaded are transported inland via the road network (Mackey, 2008). The harbour is an important gateway for importing and exporting goods, not only to South Africa but to the whole of the African continent. As such a well-constructed and maintained road infrastructure to transport goods and people to their final destination is imperative to sustain economic growth.

Chapter 2 Literature Review

2.1 INTRODUCTION

The construction industry plays an important role in the economy of South Africa. According to Agency (2015), approximately R267bn of annual revenue is generated from the sector and over one million jobs are created annually. The South African government plans to spend more than R827bn in the sector over the next three years (Agency, 2015). Most of the activities within the construction sector are labour-intensive. When the construction sector is productive it has the potential of creating more jobs than any other sector and could absorb a large number of skilled and unskilled workers. Therefore the construction sector could potentially contribute positively to the betterment of the people and also stimulate economic growth (Dlamini, 2014).

2.2 DEFINITION OF A CONTRACTOR

A contractor is an organisation or business that sells its expertise and skills by contracting to construct a building, road or other structure for a client and in return receives payment for the work done as per prior agreement with the client (Murray & Appiah-Baiden, 2013). Anyone with the required skills and experience could be a contractor – it could be an artisan working within the industry, hiring a group of people to build a structure required a by the client. Most successful contractors possibly have the following in common: skilled workers, knowledge and experience, plant and equipment, and finance or capital (Jack & Harris, 2015). However, contractors may differ with regard to their approach to a construction project. Some contractors would opt to be involved in a project from the planning and design stages right through to the construction phase, while others would only focus on managing other contractors or act as the main contractor on a specific project and specialize only in managing other contractors. Those contractors that have capital could opt to be developers, purchase properties and develop them. Others might just extend their scope of work to post-construction oversight and facility management (Murray & Appiah-Baiden, 2013).

According to Brown (2010), with globalisation the worldwide economic boom has led to many countries expanding their developmental aspirations, implementing large projects around the world. More often these countries establish a base within the targeted country

when required and conditions are favourable for development. By the same token they pull out and relocate to other countries when economic indicators predict better business prospects elsewhere. The movement of contractors across provincial borders could have adverse effects on local economies and local contractors. International contractors have a tendency to compete with local contractors for work that could be done easily by local contractors. These multinational companies often have a competitive edge due to their superior human capacity, easy availability of material and big capital to their disposal. According to Brown (2010), the success of Group Five Civil (Pty) in 2015 could be attributed mainly to the skilled staff complement and the ability to raise capital required to effectively and efficiently implement any project successfully.

2.3 CONTRACTOR DEVELOPMENT BEST PRACTICES

According to Parker (2011), development of a contractor is a planned operation and involves time, human and financial resources. As in any development for the suppliers programme, the needs of the client must be considered first when the contractor development is designed. If, for an example, there are no women-owned contractors, the client may consider to develop women-owned contractors as a priority (Parker, 2011). Below is the generic contractor development model:

Parker (2011) explains the important steps that are to be followed to implement a contractor development programme as follows (see Fig. 2.1):

- Strategy, needs, goals and programme: The need for t contractor development must be determined. The goals for the programme must be set. Programme duration and the timelines for implementation must also be determined.
- Contractor development starts: A steering committee must be determined, the role players like mentors, trainers and financial institutions must be assigned. Achievable measurable outcomes must be established and the mechanism for monitoring and evaluation must be in place.
- Resource planning: A suitable organogram must be selected. A manager, supervisors and other human resource are to be allocated.
- Targeting: Annual targets must be determined if a project is multi-year funded. Data from similar programmes are to be sourced to construct a base-line for the planned project.

- Project identification: Project complexity must be assessed and risk analysis performed. The locality of a project and development opportunities must be determined.
- Support units: Mentoring, evaluation and training units are to be allocated.

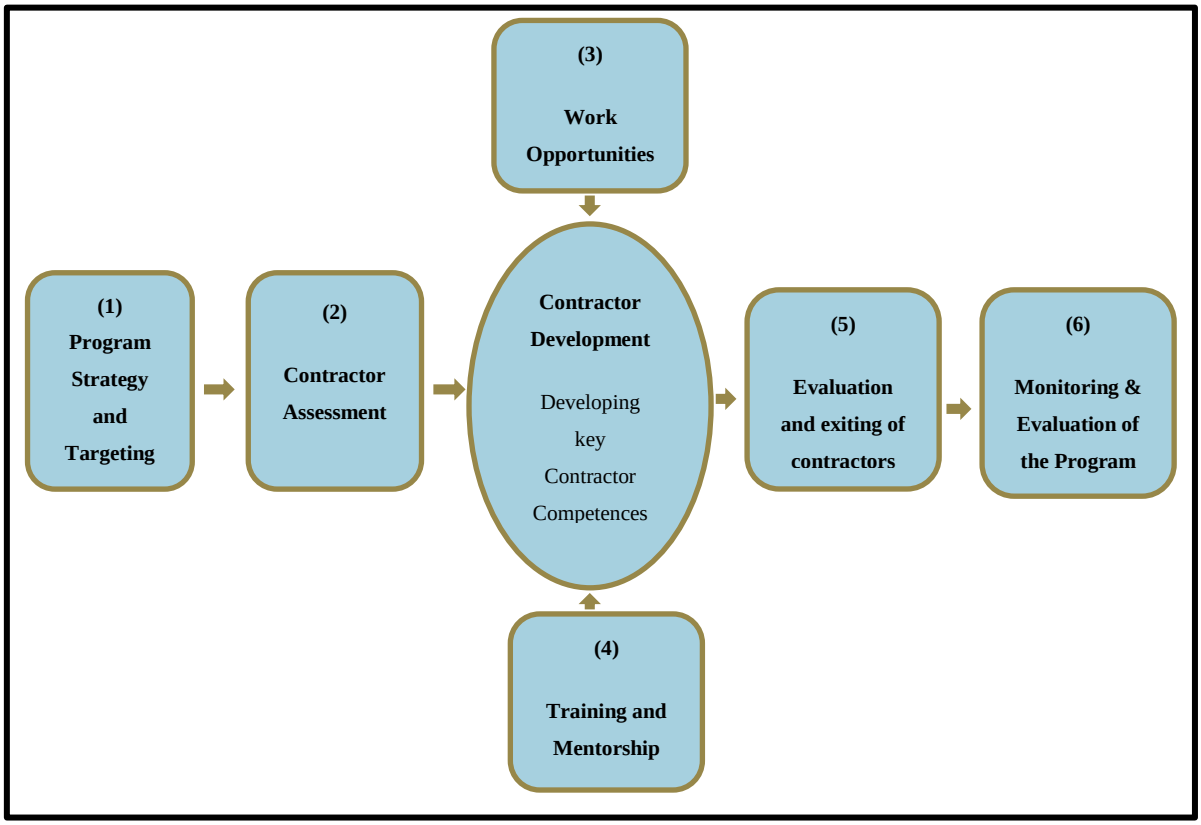

Figure 2.1. Contractor development chart (Parker, 2011).

2.4 SOUTH AFRICAN EMERGING CONTRACTORS

A large number of people in South Africa have ventured into construction as emerging contractors. Murray and Appiah-Baiden (2013) confirm that they mostly focus on government tenders. In projects like building of low-cost houses they are often faced with challenges of poor quality workmanship (Murray and Appiah-Baiden, 2013). Many emerging contractors have been focusing on transportation or/and labour supply and acting as subcontractors for larger established construction companies. There is still a need for deeper examination of the various emerging contractor programmes in South Africa as to whether they actually contribute to development of contractors as an objective (Murray and Appiah-Baiden, 2013).

2.4.1 Single Unit Business Model

Emerging contractors in the construction sector have adopted what is called a single unit business model (Jack & Harris, 2015). The business owner normally is an executive and has no other business that he operates. According to Emery and Nyasulu (2013) challenges that need to be addressed for contractors include:

- The issue of availability of capital to run the construction business, in order to buy construction materials, pay wages and hire tools.
- The unavailability of core skills, including technical, managerial, contractual, administrative and commercial skills.

These challenges are not only common to South Africa but is a worldwide problem (Emery & Nyasulu, 2013). A recent study on the development of emerging contractors, conducted by the Council for Scientific and Industrial Research (CSIR) in ten African countries, concluded that the above-listed problems are the main causes of the failure of emerging contractors (Emery & Nyasulu, 2013). Governments have developed various solutions and policies to mitigate these challenges, such as improving the payment system by client departments, using managing contractors or consultants to facilitate payments weekly (Jack & Harris, 2015). At times these measures are unsuccessful due to the high turnover of people in the construction sector and also to the expensive nature of materials to be utilized on construction sites. Generally the civil and building construction sector is different from sectors like the mechanical or electrical sectors. Once material has been used to build sub-standard or rejected work it is often difficult to recover and re-use materials after the demolishing process (Jack & Harris, 2015). This results in wasteful expenditure while additional purchasing to replace lost materials calls for additional, unbudgeted funds.

2.4.2 Franchise Business Model

Some of the challenges of the single business unit could be overcome by the franchise business model. Key elements such as access to modern technology, structured and professional business plans, and specialized construction equipment are vital to the success of emerging contractors (Emery & Nyasulu, 2013). According to Jack and Harris (2015), the main differences between emerging contractors following a franchise business model and other forms of business in the construction sector are:

- The continuous support by the franchisor to the franchisee to tackle the daily business activities like tendering, work continuity, marketing and building customer/client trust and relationships, staff training, etc.
- A relationship between the franchisor and franchisee that promotes and enables the smooth transfer of skills and knowledge.
- The franchisee focuses more on operational activities while the franchisor takes care of the marketing and promotion aspects of the business.
- The investigation, sourcing and purchasing of relevant technologies for the business become the responsibility of the franchisor.
- Credit, marketing and storage systems are all functions that the franchisor looks at constantly so that the franchisee gets the necessary support.

Emery and Nyasulu (2013) maintain that the concept of franchising is applicable to all sectors of construction; it can even be applied for the water and sewerage sectors in construction. Franchising is appealing to investors who want to support emerging contractors as it seems to be a low-risk business model. Working capital can also be more easily accessed (Emery & Nyasulu, 2013).

2.5 KWAZULU-NATAL TRANSPORT INFRASTRUCTURE

Reducing the province's road backlog continues to be a priority of the KwaZulu-Natal Department of Transport. This, coupled with the need to maintain the primary road network at an appropriate level and standards, continue to be the department's focus – noticeable strides has been made in construction and maintenance of road infrastructure in the past twenty years. Furthermore, the road network assessment indicates a huge backlog in terms of maintenance and construction needs. Limited funding makes it difficult to deal with the backlog as quickly and expediently as required (KZN DOT, 2015b).

Despite these challenges there have been strides in improving the quality of the road network. In 2005, 52% of the total road network of the province was in "poor to very poor" condition. The department's maintenance activities resulted in an improvement of the road network where now the percentage of the roads that are in "good to very good" condition has increased from 17% in 2005 to 27, 2 % in 2012 (KZN DOT, 2015b).

In order to ensure equitable access to services and economic opportunities for all communities, approximately 7700 km of new gravel access roads need to be constructed in the province of KwaZulu-Natal. As it would be not practical to address this construction backlog over a single financial year, due to both budget and capacity constraints within the construction industry, these backlogs would have to be addressed over a longer term of perhaps ten years. Similarly the backlog in roads rehabilitation is estimated to be R25 billion which will have to be funded over the following ten year period (KZN DOT, 2015b).

Creating access for communities is another priority as, not only will it decrease the cost of service provision to these areas, but it will also unlock areas with latent agricultural potential, through reducing the transaction costs related to transport. Access to areas with tourism potential will increase the number or tourists visiting the areas. Hence the economic opportunities for local communities are immense and far-reaching. While the road network continues to exceed its lifespan, funding levels remain inadequate to meet the road infrastructure needs, although funding has increased in the past few years. However, the need to continue providing road infrastructure services that promote economic and social opportunities remain the priority for the department; so too has the need to alleviate historical inequalities (KZN DOT, 2015b).

To achieve all this, the department has committed itself to the provision of a balanced road network and non-motorized transport infrastructure that is equitable, sustainable and will maximize social and economic development where it is currently needed most – this is in line with the National Development Plan, Government's priorities, the Medium Term Strategic Framework and the Provincial Growth Development Plan. The increased inflationary costs and rising costs in respect of fuel and raw materials also contribute negatively to the financial challenges already faced by the department (KZN DOT, 2015b).

The department plays a key role in supporting the province with the implementation of the National Infrastructure Plans's Strategic Integrated Projects (SIPs), in particular SIP 2 which is the Durban-Free State-Gauteng logistics corridor (Dlamini, 2014). This is a key corridor that unlocks and support economic growth of the majority of the country and sub-Saharan Africa. This main arterial corridor strengthens and serves as a catalyst for the logistics and transport between South Africa's main industrial hubs; it improves access to Durban's export and import facilities, integrates the Free State Industrial Strategy activities into the corridor,

and supports the new port in Durban and the aerotropolis around King Shaka International Airport (Dlamini, 2014).

The King Shaka International Airport, the Dube Trade Port and the expansion of the Durban Harbour are the major developments that have a significant impact on transport movement in the province. The challenge for the department is to ensure that provincial infrastructure can adequately serve these developments while ensuring that negative impacts of such developments on the provincial road network are minimized (KZN DOT, 2015b). While executing the department's mandate, it has been innovative in providing an effective and professional service to communities and has created numerous job opportunities and an enabling environment for the emergence of the small enterprise sector, particularly in rural areas. The department's efforts and use of technology to prioritizing road investments resulted in an improvement of the road network where the percentage of roads that are in good to very good condition has increased from 17% in 2005 to 27,7% in 2012 (KZN DOT, 2015b).

The provincial efforts and mandates are also supporting the province's Operation Sukuma Sakhe which aims to integrate the services of government in order to ensure that it enriches the lives of people in the province. The department works closely with other departments to provide a comprehensive integrated service package to communities (KZN DOT, 2015b). This involvement also ensures that there is integrated planning and alignment of services. While funding remains a key challenge to providing all services that communities require, the other major challenge facing the department in the light of the global economic challenges is the availability of raw materials, specifically gravel of good quality to be used for road maintenance and construction. This places a significant challenge on the department to keep the cost of road construction and maintenance down.

The department's activities are also informed by the Sihamba Sonke (Moving Together) programme (Govender, 2014). This is a roads upgrade and maintenance initiative to fix and upgrade the entire secondary roads network of South Africa. The programme creates jobs for emerging contractors and jobs across the province. Govender (2014) reports that the programme is implemented in the following key areas in the department:

- Prioritizing the use of labour absorptive methods,
- Eliminating potholes on roads,

- Creating access roads to schools and clinics and public social infrastructure and
- Establishing the Road Asset Management System (RAMS) and introducing the "know your Network Programme".

2.6 KEY CONCEPTS IN JOB CREATION

2.6.1 Education

The key tool to liberation is education (Chiloane-Tsoka, 2013). According to Paul Mass (2010), cited by Chiloane-Tsoka (2013), results from a survey that was commissioned in South Africa, reflected that most entrepreneurs did not have tertiary qualifications. If people lack the correct education they cannot easily participate in the mainstream economy. In many developing countries governments use a tender system to balance the economic imbalances that might have occurred. All tender documents require people with at least secondary education to fill them competitively. While practical skills like plumbing, electrical works and bricklaying are very important, without basic education to support these technical skills, further advancement in life is limited. In recent times the government communicates its developmental programmes mostly in print media and people without basic education are in most cases disadvantaged. "Lack of education could be the worst enemy to ventures" (Chiloane-Tsoka, 2013).

The South African Roads Agency (SANRAL), in partnership with the University of the Free State, invested more than R30 million over a period of five years, in order to ensure that the quality of science, mathematics and technology education was improved (Alli, 2014). All secondary schools in Bloemfontein that taught science subjects were sponsored with computer and science laboratories, and the University of Free State lecturers trained all mathematics and science teachers (Parker, 2011). According to (Alli, 2014) the funding benefited Civil Engineering students that would assist in developing not only roads infrastructure for SANRAL but the whole country as it strives to deliver quality services to people. Without competent engineers the dream of world class infrastructure could never be realized as these skills are essential (Parker, 2011).

According to Govender (2014) the South African government intended to invest R145 million a year in order to ensure that universities improve the quality of education. He further mentions that among the fourteen universities in South Africa, 86.1% of professors and 84.1% of associate professors are white (Govender, 2014) .

Harris (2015) states that, as government plans to implement strategies and programmes to correct the atrocities and imbalances of the past by ensuring that there is massive enrolment of black students in the institutes of higher learning, caution needs to be taken, because increased enrolment without support staff and infrastructure could compromise the quality of education. This is a real problem as there is a skills shortage in South Africa (Ganne & Lu, 2015).

2.6.2 Skills and Experience

Reigle (2012) points out that in order for any organisation to succeed in meeting its objectives, it is important to build capacity. Talented and competent people must be recruited and appointed to the correct strategic positions in order to effect positive influence.

Narsee (2014) maintains that there are instances of big corporates exploiting young graduates. It has been reported that in the legal fraternity young black Law graduates at times are told to pour tea for clients during visits to their offices, while tea making is not their core function. Narsee (2014) also purports that female black lawyers are at times given sewing kits by management as presents on special days like women's day; this could be interpreted as if they were not meant to be in their chosen profession. "The report on transformation in the legal profession highlighted barriers for black women which had a knock-on effect and that might explain why the judiciary remains dominated by men in general and a majority being white" (Narsee, 2014).

"The Construction Industry Development Board (CIDB) was established in order to be a schedule 3A public entity – established in terms of the CIDB Act, No 38 of 2000, to provide leadership to stake holders and to stimulate sustainable growth, reform, an improvement of the construction sector for effective service delivery and enhance the county's economy status" (CIDB, 2010).

The main CIDB objectives are to capacitate contractors to implement construction projects successfully and ensure that transformation takes place across companies owned by the different race groups and across different CIDB grade groupings. They also must ensure that skills transfer does take place in the construction sector so that infrastructure delivery is done in a way that is economical and accepted by all citizens (CIDB, 2010).

According to Agency (2015), South Africa is a leading country on the African continent in terms of having people with good construction skills. This gives South Africa a competitive advantage over much of the rest of Africa. However, South Africa needs still more civil engineers, specially black and female, in order to ensure sustainable economic development (Eisley, 2011). Issues such as global warming and increased development present various challenges to civil engineers, sustainably being a most important one (Eaglen et al., 2015). Civil engineers are forced to be more innovative as they design and implement projects that meet the needs of the people while ensuring minimal impact on the environment (Zhang, 2011).

2.6.3 Financial and Funding Access

Chiloane-Tsoka (2013) states that women and predominately black women, are still facing financial burdens in funding their construction businesses because of their financial credit ratings compared to men. Financial institutions' unwillingness to fund construction entrepreneurs, especially those that are black, further exacerbates the financial challenges faced by businesses owned by previously disadvantaged people compared to their counterparts (Eaglen et al., 2015). The most affected among South Africans are the African black people who were previously reduced practically to slaves during the past laws and were not allowed to own even land that could be used by them as guarantees to secure funding or converted into liquid cash for business purposes (Zhang, 2011).

2.6.4 Business opportunities

The world's population is rapidly increasing; it is estimated that by the year 2025 there will be 8 billion people on earth (Azapagic, 2012). The demand for all life support essential services like food, infrastructure etc., to support sustainable life on the planet until 2025 and beyond will likewise increase. According to Mahadea (2012) "infrastructure and financial investment is critical to economic growth and development of a nation". The author states that entrepreneurship, good governance and human capital are the main critical factors supporting economic growth of any nation. BBBEE is equally important, but its shortcoming is that it only targets individuals and/or managers and directors that are sole beneficiaries (Patel & Graham, 2012).

Magure (2012) argues that "the vast majority of black business people are guilty of not investing wisely but buy flashy cars and big houses". He further states that black entrepreneurs often tend to spend their business gains and profits immediately, signaling a lack of business ethics and skills. Businesses are meant for future medium- to long-term prosperity. There is a need to educate most black entrepreneurs about reinvesting business profits for business growth. There is also a need in South Africa for people to be taught entrepreneurship skills at the early stages of their lives. The education system in South Africa currently seems to support or create a pool of workers rather than employers.

According to Gouveia (2014), the Australian-based financing company Infrastructure Fund (TIF) is looking for projects to invest in (Gouveia, 2014). The company, with a budget estimated at $5 trillion, has successfully financed a port infrastructure project valued at $1.75 billion in Newcastle Port in Australia. They are pursuing other multi-billion dollar deals all over the world, such as financing electricity projects (Gouveia, 2014). Electricity is a necessity and not a luxury (Ramaphosa, 2013). South Africa is planning to invest over R230 billion on the provision of electricity in the country, i.e. on new projects as well as on maintaining the existing infrastructure (Khuzwayo, 2014) .

According to Chinascope (2013a) "China would not be able to advance its development without Africa". It is obvious that Africa is currently seen as a battle ground for most developed economies and strategically located for mass distribution; for these reasons China planned to aggressively invest in Africa. China's trade and investment in Africa would eventually benefit them in the long run. "In other words, the 'China's Dream' is the new model for the world and Africa was seen as the bridge for the China's Dream" (Chinascope, 2013a).

2.6.5 Benefits of Attending Conferences, Seminars and Workshops

According Rossouw et al. (2002) list the benefits of attending conferences, seminars and workshops as:

- Sharpening skills: staff gets the opportunity to learn new approaches and ideas in order to be efficient at work.
- Meeting experts face to face: conferences bring together business experts of different fields and it provides a great opportunity for learning and sharing ideas.
- Networking: conferences offer opportunities to start new relationships

- Exploring new ways of doing work: though the web contains vast amounts of information, conferences deliver relevant content which is specific to the industry.

Continuous improvement and skills development is important for the ever-changing business environment and the high demands from the clients' needs. Without customer care there would be no successful business.

2.6.6 Jobless South African Youth Lack Work Skills

Aburdene (2015) contends that it is problematic to recruit the millions of unemployed young South Africans in search of work, because they lack the skills and education required for the modern work conditions and environment. As South Africa is struggling to create jobs, many of the unskilled youth are facing the prospect of not being employed. The unemployment rate is currently pitched at 25.4%; the early school leavers are the hardest hit of them all (Department of Labour, 2014). According to Department of Labour (DOL) (2014) over 60% of unemployed people do not have even a matric certificate. In short while the employers and the job environment is demanding educated and skilled people, the unemployed have little or no chance to find decent work (Ramaphosa, 2013). In the job market there is clearly what we could term a mismatch of people with job opportunities available (Ramaphosa, 2013).

The DOL (2014) states that the future of any country lies in its youth – if the youth are employable, the economy of the country is guaranteed to improve. If more people within the bracket of 15 to 65 year were employed, there would be fewer children and fewer adults depending on state grants (Ramaphosa, 2013). More people would be occupied and productive which would result in more people saving money (DOL, 2014). The DOL (2014) further states that the youth unemployment rate in South Africa stands at 50%, which is twice the current reported national unemployment rate. The sad reality, as quoted by the DOL (2014), is that there are 10.2 million of people in South Africa who are below 24 years of age and unemployed and not even looking for work because they are despondent. South Africa needs to focus on the drive to create jobs in the next 15 years which is a critically important period for the National Development Plan. Statistics SA shows that each year there are over 280 000 more entries added to the working age and if South Africa cannot create jobs and the unemployment remains high, there would soon not be much revenue to collect and redistribute, poverty would grow and inequality would remain a problem.

South Africa also needs to look seriously at its education system which is a more important priority (DOL, 2014). This would ensure that young people leaving school at least have basic skills in order to be employable or create jobs for themselves. However, it is argued by the DOL (2014) that education alone are not sufficient to overcome the unemployment problem; good polices are required to motivate the old generation and skilled workforce to mentor the youth and remain employed. Furthermore, vocational training is a requisite and is very critical – here the private sector could contribute in the up-skilling of the work force for the benefit of everyone. Learnerships and internships could also be a success factor in creating a pool of skilled work force.

Erasmus (2012) reports that since 1994 to date, the work force has increased by 11 million people of which 65% were South Africans out of the current population of 54 million. Since 2001 the number of jobs created only grew by 2.8 million in the construction sector (Erasmus, 2012). Agriculture and mining created many jobs but also shed jobs within the same period. For many of the jobs available the new entrants to the job market are unfortunately not suitable. Hence the reason why South Africa's growth rate remains below average compared to other developing countries (DOL, 2014).

2.7 TRANSFORMATION OF THE CONSTRUCTION SECTOR

The construction sector, over the last 20 years, has transformed for the better after racial discriminatory policies during apartheid were abolished (Ramaphosa, 2013). The South African government post-1994 started to introduce series of policies to foster stability, economic growth and create conducive conditions for construction firms in South Africa (Ramaphosa, 2013). The Construction Industry Development Board (CIDB) was established the primary aim of ensuring that there was a single contractors' data base for the country and programmes to support and develop black emerging contractors who were denied opportunities under the previous regime (Ramaphosa, 2013). After 1994 the construction sector became an important part in the delivery of government services to the public, ensuring that people had access to social and economic infrastructure programmes and interventions by government (Cottle, 2014).

The flexibility and productivity of the labour force in construction were improved by introducing the Reconstruction and Development Programme (RDP) post-1994. The state, for 18 years within the 20 year period, succeeded in ensuring that there was an average of 2.3%

in GDP growth. Between 1994 and 1997 expenditure in the public sector was diverted into programmes identified by the RDP programme. The post-apartheid era was categorized by massive increase in government spending and investment; social projects and capital infrastructure projects were on the increase (Cottle, 2014).

The new government strategically utilized the arena of projects relating to social service delivery as a capital to develop and enhance small and medium-sized emerging contractors. The backlog of 1.6 million housing units in 1996 increased to 2.2 million by 2014, despite the accelerated programmes by government to deliver social infrastructure to people (Cottle, 2014). Some of the housing project units had to be demolished due to shoddy and poor quality workmanship (Ramaphosa, 2013). The provision of these houses had been based on a cost recovery World Bank policy which resulted in the widespread action by local authorities to cut water and electricity (Cottle, 2014). About 10 million South African citizens experienced disconnections due to non-payment for municipal services, i.e. water and electricity accounts (Cottle, 2014). The cost recovery impact was severe as it proved to be the cause of the South Africa's biggest cholera disease outbreak, which affected the highest number of people in history of about 113 966 reported cases with 249 lives that were lost between year 2000 and 2003 (Cottle, 2014). The introduction of pre-paid water meters by Conlog, a wholly black–owned entity, was supported by the then President Thabo Mbeki (Cottle, 2014).

The policy of black economic empowerment in a period of neo-liberalism of paradoxical productive ownership had negative implications even in the construction industry (Stats SA, 2012). Due to the rapid increase of the unemployment rate and people struggling to make ends meet, a large number of public service protests were seen in black communities across South Africa. This resulted in the government admitting that that "service-delivery shortcomings and social marginalization are widespread and have led to heightened tensions" in South Africa (Cottle, 2014).

During apartheid nearly 50 000 black-owned contractors of the 72 089 formally registered contractors were forced to trade in informal business (Ramaphosa, 2013). Sadly the attempt by the new government to empower at least 25% black contractors by 2014 had failed dismally. According to Stats SA (2012) only a maximum of 10% of construction firms have succeeded to compete and became successful progressive contractors. In addition, in 2013 government awarded 80% of tenders to the large contractors, grade 7 to 9. This meant that

economic transformation for black contractors could not be realized as white capital within the construction industry remained dominant as beneficiaries (Cottle, 2014). Over a period of 20 years of post-apartheid government initiated and sustained interventions for economic transform of the predominately black contractors, but the statistics still confirm that the majority of black people are still excluded from majority control, ownership and management of the productive assets within the construction industry (Cottle, 2014).

During the apartheid era less that 5% of construction entities accounted for over 65% in turnover in the industry and in 2011 this figure has dropped to only 1.2%. The rapid increase in centralization and concentration tendencies within the industry contributed immensely to the lack of transformation; in addition, the international mergers and acquisition of large South African construction firms also negatively impacted the reduction of black construction ownership (Stats SA, 2012). Prior to 1994 there were 23 construction firms listed on the JSE and by 2013 there were only 12 entities as a result of bankruptcy and mergers (Cottle, 2014). This trend suggests that since the apartheid era there has been a concerted effort by established construction companies to merge and continue to marginalize black-owned companies in the construction sector. Up to 2014 there were no Black-owned companies registered with CIDB that could be awarded work valued at more than R3 million (KZN DOT, 2015a).

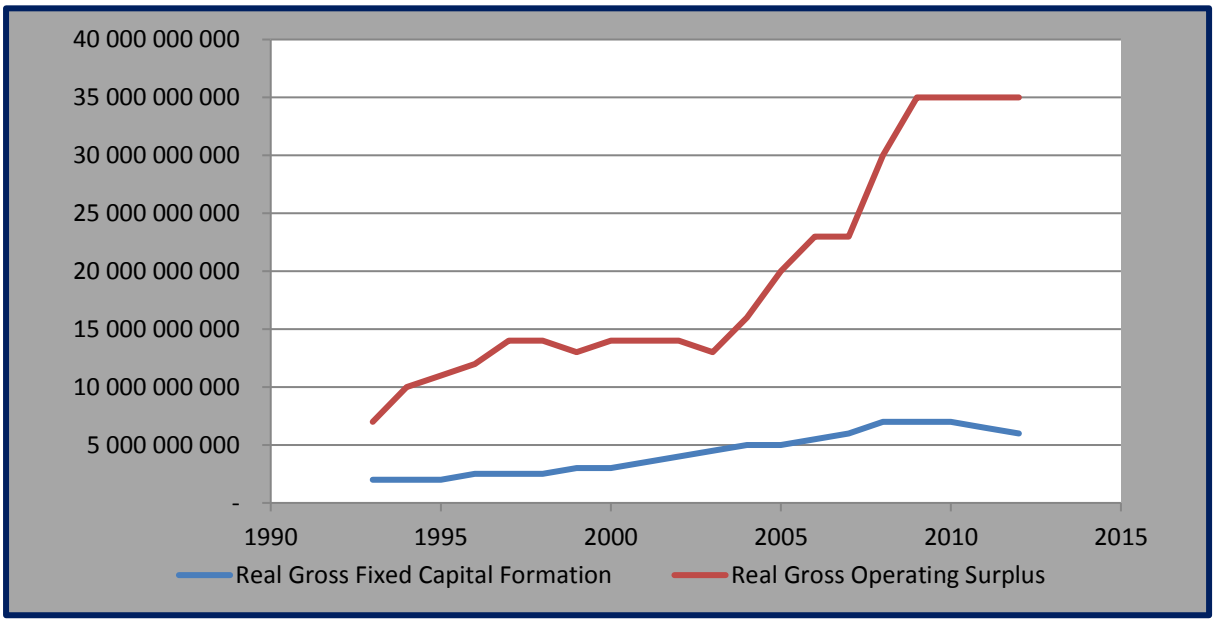

Figure 2.2. Construction sector capital and real gross operating surplus (Cottle, 2014).

According to Cottle (2014) in the year 1970, the tendency to concentrate power within the construction industry was in decline and when the new government came into power in 1994,

the trend was reversed (Fig. 2.2). In 1993 the gross operating profit was R6.9 billion compared to R12.5 billion in 2003 and R35.1 billion in 2012, amounting to a 412% increase over 19 years. (Cottle, 2014). In 2010 the growth in the construction sector was largely due to the infrastructure built to support the World Cup (KZN DOT, 2015b).

The so called "Big Five" JSE listed construction companies namely Murray and Roberts, Wilson Bayley Holmes (WBH), Avenge, Basil Read and Group Five, were each allocated work worth billions of Rand for the 2010 infrastructure projects (Cottle, 2014). The "Big Five" aggregate profit around 1997 was approximately R382 million which was nearly tripled in 2012, amounting to a net gain of over R961 million, a huge 151% profit increase in real terms over a 15 year period. Evidently after the apartheid laws were abolished there has been a dramatic increase in centralization tendencies within the construction industry and the industry dominated by fewer big companies. The capital accumulation and capitalist competition in the past 20 years has resulted in improved profitability (Cottle, 2014). The 4.7% ratio of average investment during the 20 year period from 1993 to 2012 indicates a reluctance to invest due to the neoclassical view that the profits are reduced by high wages which in turn impacts on budgets available to kick-start economic growth (Cottle, 2014).

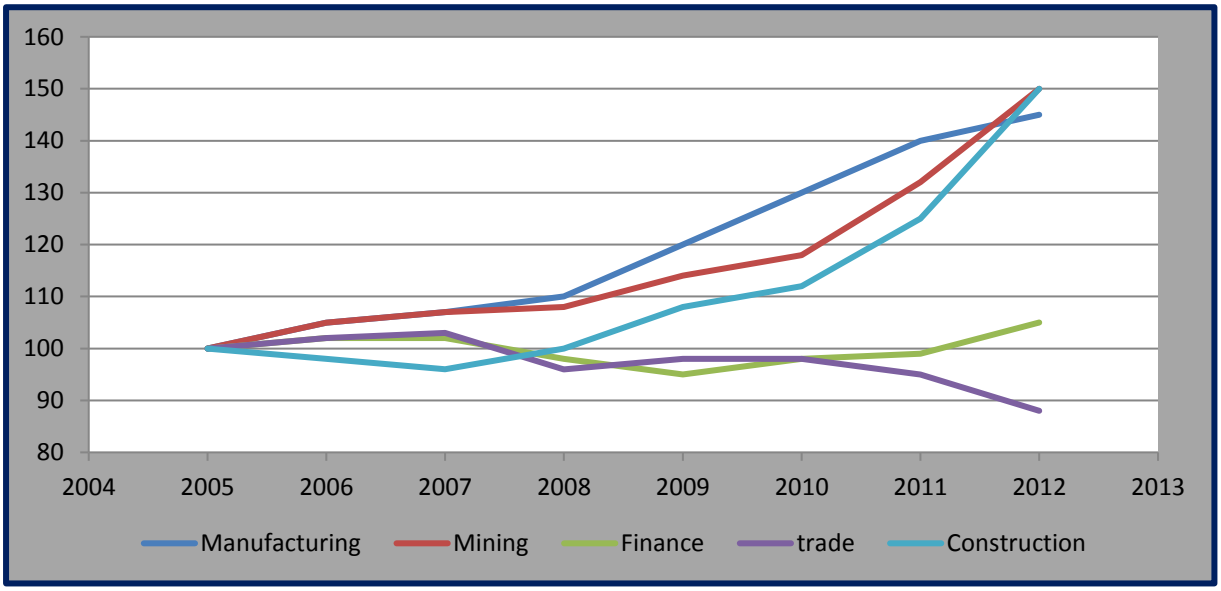

Figure 2.3. Capital intensity in South Africa (Cottle, 2014).

The compromised deal between capitalist and labour organizations led by COSATU, of linking productivity and high labour employment did not spell a good economic future for the country because jobs became short-term to satisfy EPWP requirements (KZN DOT, 2015b). Despite the so-called labour "Framework Agreement" which was later agreed upon by government as a policy of labour intensive programmes, South Africa experienced significant

economic growth in the construction sector, the capital intensity rising from 100 in 1994 to 150 by 1999, and increasing by 26% between 2009 and 2012 as seen in Figure 2.3 (Cottle, 2014).

According to Cottle (2014) the rising capital intensity in the construction sector and the construction economic crisis in the 1990s influenced the way construction production was carried out so that operating costs were reduced and the competitiveness enhanced. The construction sector changed from hiring direct casual labour to a system where labour was hired through labour-brokers or sub-contractors (KZN DOT, 2015b). The normal trend and practice has been that contractors only keep a core skilled team as permanent employees, resulting in down-sizing their workforce at any given period. The general trend in construction companies was to hire multi-skilled personnel that did not restrict company growth. The site workforce normally comprises 5% supervisory, 19% skilled, 26% semi-skilled and 50% unskilled workers. While the semi-skilled and unskilled component totals just over 75% of the total number of workers, most construction companies have no interest in skilling this group of labour (Cottle, 2014).

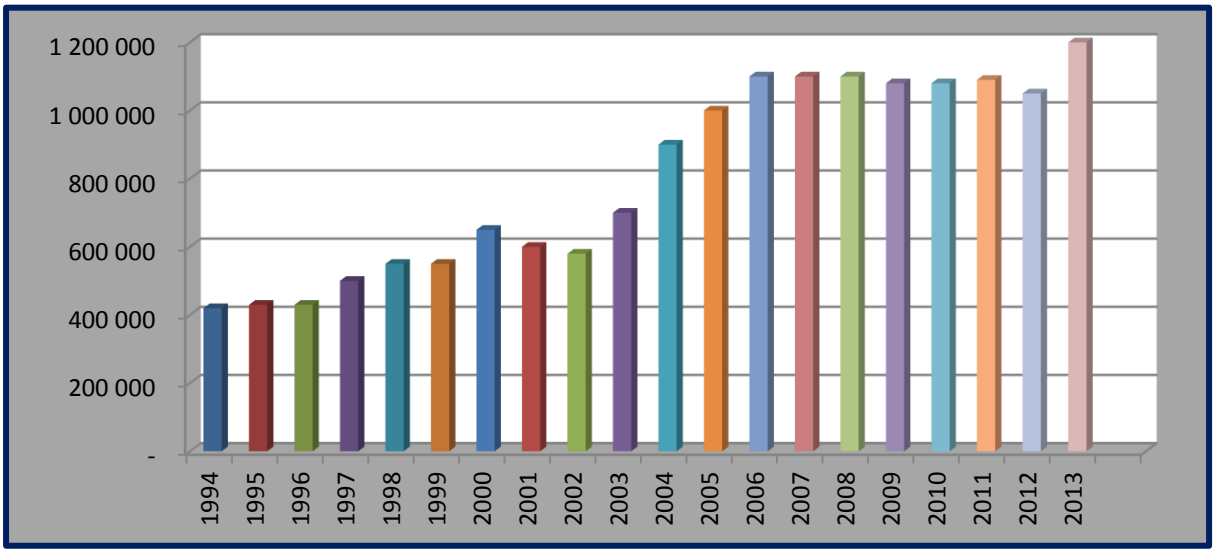

Figure 2.4. Movement of the reserve army of labour in construction (Cottle, 2014).

According to Cottle (2014) employment in construction was at its lowest in 1994 with 438 665 people employed and increased by 2013 to 1 204 000 (Fig. 2.4). This indicated growth of 174% since 1994 in the construction industry. Despite capital growth in the construction sector, the production expansion required a continuous increasing labour pool to be employed. However, it must be noted in the construction sector employment fluctuates between intake of labour when there is a boom in the market and retrenchment during

economic meltdown and shrinking. A good example to illustrate this point was during the 2010 Soccer World Cup when there were numerous job opportunities due to infrastructure development and thereafter the construction sector shrunk when the economy slowed down. The increase in the semi-skilled and unskilled labour market therefore created less demand in the labour market and many companies took advantage of the situation and employed people as cheap labour, perpetuating what the apartheid government did to the majority of people (Cottle, 2014).

According to Cottle (2014), over the 20-year period between 1994 and 2003, the construction productivity increased by 123%, with a 6.1 % productivity increase per annum (Fig. 2.5). The wage increase after 2006 was due to the incomes of the skilled workers, management and supervisory incomes. After 2006 the change trend continued with a drastic increase in labour productivity annually from R40 000 to over R90 000 by 2013 (KZN DOT, 2015b). The gains of labour productivity exceeded wages by 100% in 2013.

Through both increase in relative value and surplus value, the level of productivity were achieved. When machines are introduced to do certain tasks, labour hours are reduced but higher productivity is achieved – that is called relative surplus value.

Figure 2.5. Labour productivity in the construction sector (Cottle, 2014).

In South Africa working hours vary from 40 to 45 hours per week. In the construction sector workers mostly work longer hours – at least 4 hours per week overtime or 16 hours per month.

			CHANGE	
SECTOR	**2010**	**2014**	**HOURS**	**PERCENTANGE**
Agriculture	51.3	50.9	-0.4	-0.7
Mining	50.0	50.1	0.1	0.2
Manufacturing	47.4	48.5	1.1	2.2
Electricity, Water & Gas	47.8	50.2	2.4	5.1
Construction	47.8	48.7	0.9	1.9
Retail Trade	48.4	50.0	1.6	3.4
Transport	50.4	53.5	3.2	6.4
Financial Services	48.7	51.0	2.3	4.7
Community Services	45.0	45.3	0.3	0.6

Table 2.1 : Mean hours worked per economic sector (Cottle, 2014).

Project or production bonuses have also been used in the construction sector to increase labour intensity, especially because most construction projects have deadlines to meet (Cottle, 2014).

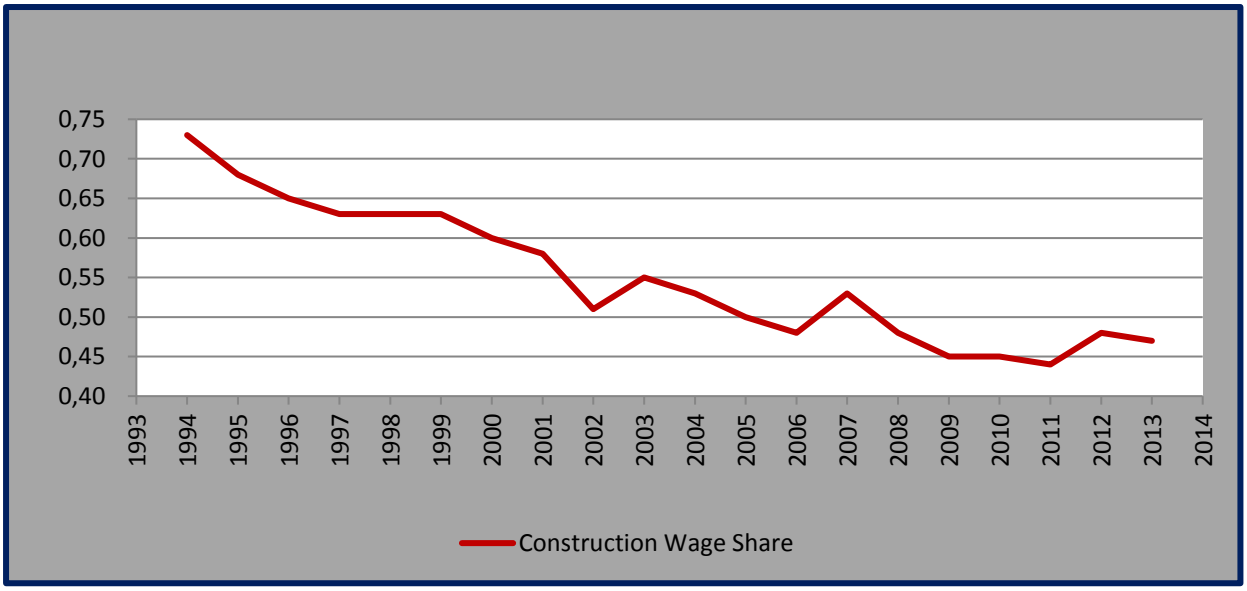

Figure 2.6. Decline in the construction wage share (Cottle, 2014).

The share wage dropped from 72% in 1993 to about 46% in 2013 (Fig. 2.6. This is in line with the scenario depicted in Figure 2.2 which shows profit levels increasing progressively

from 1994 to 2013 (KZN DOT, 2015b). In 2013 R98 billion was invested in infrastructure by the new South African government (Cottle, 2014). The additional projects in 2010 also assisted in increasing the level of activities in the construction industry. The remuneration of CEOs, senior managers and managers is included in the calculation of the construction wage share, as can be seen in Figure 2.6, influencing the wage share fall of 46% (Cottle, 2014).

Since 1994 there has been an increase in productivity in the construction sector but a drop or decline in the average real wages of construction workers as seen in Figure 2.6 (KZN DOT, 2015b). Apart from overtime, bonuses related to production has been given to the workforce to speed up productivity, more especially on critical projects that were time-bound like the construction of stadiums during 2010 that had to be safely completed ahead of time. The 6% increase in productivity per annum in the construction sector has surpassed the wage increase of -2% per annum while the wage share declined from as high as 72% in 1993 to below levels 46% in 2013.

Cheap black labour was a result of the apartheid regime when exploitation occurred along the racial lines – that was how the social and economic challenges in South Africa originated Cottle (2014). According to Cottle (2014) even in 2012 the earnings of an average worker since 1995 has not changed and remained below R2,000 a month since 1995.

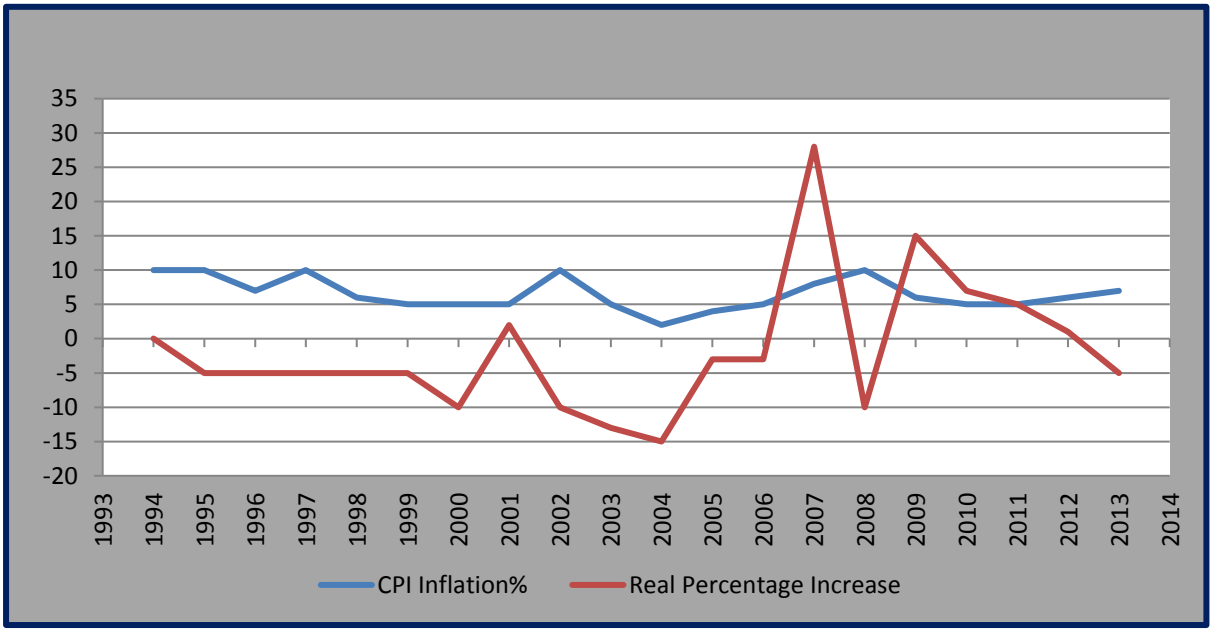

Figure 2.7. Real average wage increase in the construction sector (Cottle, 2014).

Research by the Labour Research Service, showed that construction workers were earning R2 535 per month in 2012, an amount not very far off from workers who were earning

around R2000.00 a month Cottle (2014). This implied that salaries in the construction sector have not changed since the apartheid era.

YEAR	**2004**	**2013**
Average Annual CEO Remuneration	3 453 000	9 519 000
African Bank Investment	20 628	33 204
Wage Gap	**167**	**287**

Table 2.2. The construction wage gap (Cottle, 2014).

In 2004 in the construction industry, it took a lowest paid general worker 167 years to earn the CEOs average annual income Cottle (2014). By 2013 this gap has widened to 287 years, which is an increase of 71%. One can conclude that the gap of inequalities is getting wider and wider in the construction sector.

Cottle (2014) stated that the issue of the inequalities was discussed at length at COSATU, as it appeared in the September Commission Report of the COSATU Congress in 1997. The unions signed the Framework Agreement on labour intensive construction methods as proposed by government that actually led to the marginalisation of trade unions (Ramaphosa, 2013). That agreement was about the RDP projects. Parastatals and the public sector in general would be encouraged that small and black businesses were to get opportunities and that was where workers were vulnerable (Ramaphosa, 2013). Furthermore, the Expanded Public Works Programme (EPWP) was the vehicle upon which the government was going to deliver its infrastructure projects and alleviate unemployment but it was paying workers almost half of what the other workers were earning outside the EPWP.

2.8 CONSTRUCTION AND INFORMATION TECHNOLOGY

Information technology (IT) is generally used as an enabler in achieving objectives of any programme (Thorpe, Edum-Folwe & Mead, 2013). In construction, IT could be used at all levels, starting from planning and designing to implementing projects. With the fast-growing globalisation environment whereby the economy is characterized by intense competition and volatility, companies that have a competitive edge are the ones that adapt their work systems as they conduct their business (Thorpe, Edum-Folwe & Mead, 2013). The speed and quality in order to meet client demands are achieved by companies being responsive. Traditionally construction is characterized by constant communication in verbal, graphic and textual

formats. IT could be used to enhance and integrate these forms of communication to ensure smooth and speedy information sharing. With many companies merging in recent times, IT would ensure that information flows at high speed to intended recipients (Thorpe, Edum-Folwe & Mead, 2013).

Many changes characterise the modern day construction industry: changes in technology, procurement systems, finance, etc. (Nimon, 2015). These changes greatly influence the construction industry. Coupled with the changes is a great demand from customers and clients for cost-effective solutions. The use and employment of Information and Communication Technologies (ICT) is vital to all these approaches (Nimon, 2015).

The performance of both individuals and construction projects is dependent on information being managed effectively. The use of ICT has evolved in three phases: in the first phase ICT was employed to improve efficiency and cost-saving as information was being processed; the focus was on bookkeeping, spread sheets and word programmes rather than speed (Nimon, 2015). The second phase focused more on aligning construction activities, improving on process flows for effective and efficient delivery of projects. The third phase emphasized integration of systems within a company or among a group of, for an example the use of teleconferencing which improved efficiencies dramatically (Nimon, 2015).

2.9 IMPACT OF IT ON CONSTRUCTION

A virtual organisation is formed, either individually or within the construction, with the help of technology. This minimizes physical interaction among members but increase the speed of communication and getting the message through the organization more quickly and smoothly. ICT decreases the use of paper, reducing the negative impact on the environment while achieving better communication within the organization. In this environment, team members seldom need to drive to see each other for purposes of communication. Transport costs are reduced and teleworking improves dramatically (Thorpe et al., 2013).

2.9.1 Site Operations

There is fierce competition between organizations and new strategies are constantly employed by company managers who are compelled to innovate and operate in order to gain the competitive edge. IT applications like the Dragon Voice system allow the user to capture information by dictating information to their computers and in the future keyboard input

could be a thing of the past (Nimon, 2015). Projects located in remote areas can now be coordinated and monitored visually in real time from various offices located anywhere in the world. The future site inspection reports will soon be archived electronically as a normal acceptable practice in the construction industry. The culture and processes will soon change due to ICT or specifically by using the GENIAL programme which quantify required materials according to specification from the design stage (Thorpe et al., 2013).

2.9.2 Gaps in Using Information Technology

While IT has advanced and influenced the construction industry, there are still concerns and gaps in the implementation of IT. These gaps include staff training within the industry (so that IT becomes a universal construction language), legal matters and usability requirements. In the construction sector, information generally cascades up or down in a linear manner, for example information may flow from the engineering consultants to the main contractor to the nominated sub-contractor; however, with the use of IT, information can be stored in a central hub and accessible to all users with a unique pass word. This circumventing of information could have negative professional and liability issues. Companies should also ensure that there is continuous training so that staff keep abreast with the rapidly evolving technology; however, with low profit margins and the unpredicted future in construction, companies have been very reluctant to make large IT investments (Thorpe et al., 2013).

2.10 CONSTRUCTION PROJECT MANAGEMENT

Project management in construction is not a new concept (Fong & Kwok, 2014). From ancient days projects have been implemented and undertaken with great success. Formal project management started in 1950s, first used by defence teams and evolved to be adapted by many organizations including the construction sector (Emery & Nyasulu, 2013). Project management is about managing teams of people, avoiding risk where possible and implementing objectives as planned effectively and efficiently. However, in modern times projects have become complicated and massive, and are no longer as simple as they used to be. They involve capital investment, encompass several disciplines, are widely dispersed, have to adhere to high quality standards, operate on rigid time schedules, etc. The new, continuously developing ICT has influenced project management in the construction sector to a great extent (Fong & Kwok, 2014).

2.10.1 Project Management Challenges

All people in The government, private sector industry and other clients are all seeking change in the construction industry towards better quality, profitability, competitiveness and value for money of the client's investment (Fong & Kwok, 2014). Forums such as the Construction Clients Forum (CCF), Construction Task Force (CTF), Construction Industry Board (CIB) and Government Construction Client Panel (GCCP) are seeking solutions to improve the construction sector. The improvement focuses on promoting a culture of standardizing, teamwork and on-going performance improvement (Fong & Kwok, 2014).

According to Fong and Kwok (2014) other interrelated and interdependent factors that influence the changing environment in construction include:

- Marketplace globalization: this affects almost all sectors. Labour can now move beyond borders, barriers on tariffs eventually fall off. Internationally firms are now able to compete with local firms due to the advantages of economies of scales, quality and price.
- Forces due to economy: this significantly affects project objectives and client organisations.
- Project complexity: normally projects are complicated by the number of specialists who need to take decisions on the implementation thereof.
- Pre-specified resources: if resources are limited and specified, it places additional pressure on the project team to deliver.
- Rapid changes in project scope to meet expanding benefits: some projects have continually moving needs and benefits targets.
- Sophisticated clients: more demanding clients are a major drive of quality.

2.10.2 Limitations of Project Management Practices

Project management practices have many shortcomings in dealing with the above challenges mentioned in Paragraph 2.10.1. Fong and Kwok (2014) summarize these limitations and shortfalls as follows:

- Inadequate communication: project practices often operate in silos and in isolation from the other stages or aspects of a project. Information not dispersed or received on time often results in having to redo the work. An example of this occurs when

the architects or engineers effect changes on the drawings and the amended drawings fail to reach the contractor responsible for construction. This affects the client's construction budget.

- Introduction of technology in management practices: although there is a significant move towards using IT in the construction sector to enhance communication, contractors still prefer to keep hard copies for record and audit purposes. Furthermore, when drawings which have been revised are circulated to stake holders, they still need to be signed and stamped as proof that the stakeholders or the project team have acknowledged the receipt of these documents; this endorsement procedure cannot be completed electronically.
- Inadequate standards procedures for project management: projects are normally coordinated by a project manager who uses his/her own experience to lead a project team. This practice leads to big project scope variation in how projects are managed.

2.11 SELECTING A CONTRACTOR FOR A PROJECT AND TRANSACTION COST

According to the transaction-cost theory the decision to outsource or to manufacture in-house is determined by the difference in the relative cost incurred between these two economic models (Lingard, Hughes & Chinyio, 2014). In construction the decision to make or buy leads to contract formation. Reducing production cost is always desirable. To determine the best bidder there are two models used, namely, multi-parameter and quantitative models (Lingard, Hughes & Chinyio, 2014). To minimize the cost incurred, the process of selecting a contractor becomes important. Construction projects are invariably outsourced.

2.11.1 Contractor Selection

To award work to a contractor normally follows negotiation or competition, using predetermined criteria in the request for proposals or tenders which have to be submitted to the client by interested firms (Lingard, Hughes & Chinyio, 2014). Bidding is done either through selection or an open tendering system. In the open tender system all tenderers are invited and allowed to participate in tendering for the project. If tendering is done through selection, only pre-qualified tenderers are invited to tender for the project. There are instances where clients would like to engage in negotiations with potential contractors without any competition but even in such cases the initial negotiation process will include a few

contractors, and only afterwards reduced to one or two in a second round of negotiations (Lingard, Hughes & Chinyio, 2014).

Contract selection is an important phase of a project life cycle as it influences and impacts on the quality, out-puts and cost of the project. Caution must be exercised when evaluating a tender price. The lowest tender is not always the best; nevertheless, a good price needs to be competitive as far as possible. The selection of the lowest price could culminate to undesired project outcomes like poor quality and workmanship, project cost overrun and late project completion (Lingard, Hughes & Chinyio, 2014).

2.11.2 Bidding Competitively

According to Lingard, Hughes & Chinyio, (2014) competitive tendering is the system best preferred system by most clients, in either the public or private sector. The lowest bidder in the competitive tendering system is often awarded the contract, but in the public sector there are other compulsory returnable documents that must be attached to the tender document, including valid tax clearances, declaration documents, details of ownership etc. (Lingard, Hughes & Chinyio, 2014). Indeed it could be argued that if the client received the lowest bid that would automatically mean the client would get value for money. In the construction industry contractors often submit low bids in order to win contracts. Bidding competitively has a tendency of producing very unrealistic low bids (Lingard, Hughes & Chinyio, 2014). Projects awarded through competitive bidding, often yield bad results – either the quality is compromised, the project is not delivered on time or it overruns the budget (Lingard, Hughes & Chinyio, 2014).

Competitive bidding may also result in contract uncertainty due to project estimate errors and the purposely low estimates submitted. Low project bidding is one of the well-known strategies that are often used by contractors to ensure that their staff are kept in employment while waiting for improvement in the economic situation in the industry (Lingard, Hughes & Chinyio, 2014). However, this practice increases a number of potential risks for the client if the project is not delivered on time (Lingard, Hughes & Chinyio, 2014).

2.11.3 Bid Evaluation Comparative Models

Bid or tender evaluation is a process of comparing tenders or bids with the sole purpose of selecting the most suitable contractor with the required capacity to execute a particular

project (Lingard, Hughes & Chinyio, 2014). The process involves comparing the received tenders with the pre-prepared specifications, standards and price as benchmarks to get the correct service provider. Risks, errors and opportunistic behaviour are exposed by the evaluation prior to the contract being concluded. Unethical practices such as overloading rates and collusions by companies could be easily identified during bid evaluation.

The comparative tender evaluation process is based on the assumption that the conditions and environment will remain until the project is completed (Lingard, Hughes & Chinyio, 2014) However, often that is not the case – initial design and specifications are often changed during construction. Prices are normally affected by the existing economic conditions, organizational and technological factors and it is always difficult to predict exactly how much a project will cost. Under normal circumstances bid evaluations only take into account prices and exclude other factors like the reputation of a contractor, previous occupational health and safety performances and quality (Lingard, Hughes & Chinyio, 2014).

2.12 KNOWLEDGE MANAGEMENT IN CONSTRUCTION

Knowledge management (KM) is important in the construction sector. In the current competitive and dynamic business environment knowledge management automatically becomes one of the key assets of an organization (Alshawi & Ingirige, 2003). KM adds value to any organization – it has the ability to engineer the formal and informal structures, processes and functions to leverage the intellectual base of any organization. In the construction sector KM should be initiated with the purpose of disseminating essential knowledge through the projects, staff and the organisation (Alshawi & Ingirige, 2003). Organisational culture becomes an aspect that needs to be considered for KM to be successful. With the fast developing construction industry and competition amongst companies it becomes very important that knowledge is properly managed. Other programmes in construction like labour-based construction techniques rely heavily on previous practices and experience and it is for this reason that construction is rich in knowledge. The vast pool of knowledge needs to be carefully documented for future reference by upcoming generations (Alshawi, & Ingirige, 2003). Therefore, structured knowledge management is equally important for current projects and new innovations.

According to Alshawi and Ingirige (2003) the concept of KM is not new – even in ancient times people used passed their knowledge on through the generations to support people's lives, such as indigenous methods of healing, food preparation and production of desired goods and services. Generally speaking people by nature do share knowledge even though it may not be in any systematic or formal way. Without a structured system of knowledge sharing within a company the risk is that when people leave, his/her knowledge will be lost (Alshawi and Ingirige, 2003). If knowledge management is properly instituted it would ensure better secured and managed information.

As the construction industry is project-based, a group of multi-disciplinary professionals share and feed the project construction team with large amounts of information which requires managing and storing properly (Alshawi and Ingirige, 2003). This knowledge could also be used in concurrent and future projects, thus allowing project teams to solve existing challenges by applying tried and tested concepts (Alshawi and Ingirige, 2003). Generally, when previously tested knowledge is used in new construction projects it increases efficiency (Alshawi and Ingirige, 2003).

2.13 DIFFICULTIES EXPERIENCED BY CONTRACTORS IN SOUTH AFRICA

There are a number of challenges and difficulties faced by construction contractors in South Africa. Following Murray (2013), the list below a summarizes of a few of these challenges:

- Competition has increased with the advent of globalisation. European and US contractors are establishing themselves in South Africa and elsewhere in Africa.
- Sub-Saharan Africa is not a suitable market due to political instability in some of the countries.
- The South African construction industry is fragmented, perpetuated by government with unstructured emerging contractor programmes. Contracts, ranging from R20 000.00 to millions of Rands, stretching and weakening resources that are meant to run these projects successfully.
- The poor education in system in South Africa has a snowball effect on the construction industry, resulting in shortages of capable and educated human power which could strengthen the construction sector.

- Emerging contractors have further challenges such as inadequate capital, financial institutions unwilling to invest, lack of required experience and lack of development and mentoring in financial and general training.

2.14 COMPETITION COMMISSION INVESTIGATION IN CONSTRUCTION

The anti-competition behaviour was highlighted and became the talk of the year after the 2010 World Cup infrastructure projects were completed. The so-called "Big Five" construction companies were alleged to have been involved in the non-compliance of competitive behaviour (Price-Waterhouse-Coopers, 2013). The reputation and image of the companies involved were hugely dented. In June 2013 these companies were fined by the Competition Commission a total amount of R1.46 billion for tender collusion and anti-competitive behaviour and for inclusion of major projects not only done for the support of the 2010 World Cup but also done before, during the 2006 and 2011 financial years (Price-Waterhouse-Coopers, 2013).

The affected companies were concerned about their reputation and eager to restore client confidence in the construction sector. Statements from the affected companies claimed that individual people who had already left their companies were the suspected (Price-Waterhouse-Coopers, 2013). The companies conducted their own internal investigations into the allegations by the Competition Commission. To curb this kind of behaviour, companies started to conduct training and awareness campaigns on the Competition Law. They reportedly expressed zero tolerance towards corruption and any form of unethical behaviour (Price-Waterhouse-Coopers, 2013).

2.15 ALLEGED CONSTRUCTION COMPANIES INVOLVED IN THE 2010 CONSTRUCTION PROJECTS COLLUSION

Companies	Action Taken
1. **Murray & Roberts**	• Issue a declaration of all their tenders bi-annually. • Produce a guiding document which they called The Group's Statement of Principles which was to be circulated and adhered to by the Group as a policy. • Every employee involved in their marketing and tender

	processes had to declare, prior to submitting a tender, that they were not involved in unethical behaviour.
2. Aveng and Basil Read	• Conduct continuous training on Competition Commission requirements. • Recruit financial managers. • Standardize processes relating to competition. • Reviews of project by executives. • Continuous consultation with customers and public sector regarding the planned projects. • Contract and financial risk identification and management. • Continuous training of staff. • Stringent screening of recruited staff prior to appointment.
3. WBHO	• Embark on self-certification, vigorous training, and governance enhancement drives.
4. Stefanutti	• Improve infrastructure to ensure that Competition Commission guidelines and processes are adhered to.
5. Group Five	• Train staff on competition law. • Implement the competition procedure and policy within the company. • On-going reporting to executives of all transgressions. • Commitment to work closely with stakeholders, government and other clients in order to ensure compliance.

Table 2.3. Alleged construction companies involved in the 2010 construction projects collusion (Price-Waterhouse-Coopers, 2013).

2.16 CAPITAL PROJECTS: PLAN AHEAD TO AVOID COST-TIME OVERRUNS

The large and multi-year funded projects come with their own inherent risks such as complicated procurement issues and other requirements. They require close monitoring from senior management, given the risk of cost or budget and time overruns which has a negative impact on the company's financial health. The board's function is to ensure that the organization's strategy is implemented and key risks are mitigated without having any adverse impact on the business objectives (Stats SA, 2014). In order to avoid severe consequences for a project the board needs to play an overarching oversight role. A classic example occurred in the power sector where the regulators rejected all requests for additional budgets because they were of the view that management and the board had not played the required oversight role regarding scheduling of the project, costs and inherent risks (Stats SA, 2014).

Any institution that has authority or is responsible for major infrastructure projects knows that projects often suffer complications during implementation, for example time or cost overruns (Price-Waterhouse-Coopers, 2013). Project controls, processes and procedures need to be in place to mitigate any project overrun before it is too late. The active participation and support of management and the board add positive value to the success of a project (Price-Waterhouse-Coopers, 2013).

Unique challenges are faced by developing nations: culture and language barriers in negotiating projects, different legal standards, political interference at times, shortage of skilled labour, and at times the import of materials and equipment. Africa remains a targeted continent since it is under-developed. In 2012 the Industrial Development Corporation invested a total of R6.2 billion in development projects in 16 African countries; the majority of these projects were in industrial infrastructure, mining and tourism. The South African government plans to invest R4 trillion in the near future on rail, roads, energy, water, sanitation and communication projects. In Africa, infrastructure is among the top priorities for development (Price-Waterhouse-Coopers, 2013).

2.17 INFRASTRUCTURE SPLURGE MAKES THE RICH RICHER

South Africa has invested over R1 trillion in infrastructures between 2009 and 2014. Infrastructure projects that were rolled out included: road construction and maintenance, electric plant and power stations expansion and construction, sports facility upgrades, water supply projects and construction of new hospitals and schools. Government thought this infrastructure splurge would solve the socio-economic challenges that the country faces. According to Price-water-house-Coopers (2013), South Africa is not alone in this belief that infrastructure will solve socio-economic issues, but the truth is that, since massive infrastructure projects require big and experienced contractors, it could perpetuate inequalities by making the richer even richer.

Indeed the poor do get employment opportunities in construction projects but these benefits are far less than what the wealthy company owners earn in profits. This big gap between the poor and the rich is a future political recipe for disaster (Agency, 2015). A typical example to illustrate this point is the development of the new King Shaka Airport in Durban, with a total cost of R10 billion. The people who benefited the most were the land owners, who occupied land 30 to 50 km around the area along the N2 between Durban and Stanger – the value of their properties sky rocketed (Agency, 2015). It goes without saying that the biggest beneficiaries of this massive project were people who were already rich (Agency, 2015). Obviously under normal circumstances the airport development would always be biased towards the rich (Agency, 2015).

The Airports Company of South Africa (ACSA) remained with a burden of paying back the debt and eThekwini Municipality also found itself having to divert money to maintain this airport (Agency, 2015). This budget could have been used to build infrastructure for the poor. Furthermore, the South African National Roads Agency Limited (SANRAL) spent over R2 billion on infrastructure which had to be completed ahead of the new airport, with a further planned budget allocation of R8 billion to improve capacity on the N2 access leading to the new airport (Agency, 2015).

On the other hand the construction of the new airport has been a success. Ballito town and surrounding areas have been booming with development (Agency, 2015). It is currently is the fastest growing town in the country with a total private investment of over R180 billion (Agency, 2015). In the two years after the commissioning of the new airport, Tongaat-Hulett, the largest property owner within the airport area owning a total of over 8200 hectares of

land, reported a profit of R2 billion on property sales, still with 8000 hectares of land to be sold (Agency, 2015).

The investment at Ballito forced the state to further invest billions on the infrastructure to support the growth. Thus the value of local properties continues to grow, making the rich even richer. Agency (2015) stated that the budget invested post-1994 and during the 2010 World Cup continued to support rich South Africans. Companies that benefited from the R120 billion infrastructure development include Group Five, Basil Read and Wilson Bayly Holmes, which are owned by white South African males (Ramaphosa, 2013). This is completely opposite to what the African National Congress (ANC) fought for and indeed this is not what was promised to the majority of the people during their manifesto campaigns in South Africa – the ANC promised that all South African people would share in the country's wealth (Ramaphosa, 2013).

2.18 PRINCIPLE OF EMPLOYMENT INTENSIVE IN CONSTRUCTION

In construction it is practical and possible to implement high labour-based construction strategies instead of the popular conventional capital-intensive methods. This would create work for people while projects would still be completed within the stipulated time, cost and quality (Department of Labour, 2014). Activities that could be done include high-standard road infrastructure and also high traffic volume roads in urban areas, this could be achieved by ensuring that construction activities like kerbs and channeling are done by hand mixing concrete on site (Department of Labour, 2014). The developmental objectives of providing good infrastructure through labour-based initiatives to the under-developed areas in order to stimulate economic growth and to provide basic infrastructure needs, could be achieved (Department of Labour, 2014).

Department of Labour (2014) acknowledges that there are construction concepts that support the adoption of high labour employment and labour-intensive construction methods. The empirical justification for implementation of such projects should be done through technical assessment and assessment of economical efficiencies – resources should not be wasted just because there is a big drive to recruit more workers. When labour-intensive projects are considered, an economic and social balance must be kept in mind (Agency, 2015).

According to Agency (2015), in order to earmark a particular project for a labour-intensive methodology, the following principles could act as a guide:

- The construction activity must be doable through labour-based methods.
- It is imperative that a detailed technical analytical report is done.
- Project detail designs, specifications and procedure manual should be done prior to implementation.
- Employment contracts must be detailed and explained to participants.
- Salaries must be fair and equivalent to the value of the work done per day.
- Labour tasks must be practical and achievable.
- Relevant and appropriate tools must be provided and maintained.
- Local workforce or labour must come to work by their own means of transport.
- The workforce must obey instructions from their mentors and supervisors.
- The site must be professionally managed.
- There must be a close relationship between the site staff and the community, but roles of both parties must be understood to avoid interference.

2.19 CONCLUSION

The construction industry remains an important key sector in the economy of South Africa. Large infrastructure projects create many employment opportunities for various classes of people. When people are employed and earn income it generates further economic growth in other sectors. It is an undisputed fact that during the period leading up to the 2010 FIFA World Cup, there was increased economic activity as a result of construction activities that were happening in the country. According to Stats SA (2014), spending more money on infrastructure will automatically grow the economy, because there is a close correlation between construction and economic growth.

On closer examination of emerging contractors worldwide, one may conclude that it requires time and effort in order to succeed. In the field of construction, indeed many job opportunities could be created through construction projects, since construction has an ability to employ many people as it happened during the 2010 World Cup infrastructure development (Stats SA, 2014). It is important to note that conditions must be favourable for emerging contractors to flourish. This means projects must be unbundled into smaller projects, there must be support from all stakeholders, mentoring and skills development must be done, management and financial skills must be transferred and payment of emerging contractors must be done on time.

Emerging contractors and community-based programmes in construction is a vehicle for delivering infrastructure to people while ensuring that economic activities take place within the area. In this way communities are empowered by being actively involved and participating in a project. For both emerging-contractor development and community-based programmes it is important to ensure that quality standards are met and that there should be value for money during the provision of the infrastructure.

Chapter 3 Research Methodology

3.1 INTRODUCTION

The previous chapter provided a review of literature on the background to and rationale behind the establishment of the Vukuzakhe and programme and similar ventures, in a bid to develop self-sustainable road building contractors. This chapter considers the research methods available to measure the success of the Vukuzakhe programme, along with supporting reasons for their use. Conducting research requires a clearly defined methodology. According to Parker (2011) research methodology is defined as a systematic way to solve problems or a scientific way of conducting a study. As an example a researcher will need to choose an appropriate research method that would yield the best results for a particular study. In the chapter the targeted population and sampling method are also discussed. The ethical requirements and data analysis are briefly addressed. According to Parker (2011) the research should be structured such that it yields intended results only if facts are undiluted and are presented without interpretation. The research objectives must be clear, with no ambiguity and the idea or product being researched must be feasible (Parker, 2011). The construction, reliability and administration of the research instrument are also dealt with.

3.2 AIM AND OBJECTIVE OF THE STUDY

The primary aim of this research is to establish whether the Vukuzakhe contractors' development programme, initiated by the KwaZulu-Natal Department of Transport, is successfully developing self-sustained road construction contractors. The construction sector has an ability to create employment and change the socio-economic outlook of the country (KZN DOT, 2015a).

The study aims to achieve the following objectives:

- To investigate if people participated in the Vukuzakhe programme mainly due to entrepreneurship reasons or not.
- To investigate how skills of key personnel impact on the success of being a contractor.
- To investigate if profits made by contractors on their projects are invested back into their business or not.

- To establish if Vukuzakhe contractors have any business opportunities other than those made available by the KZN DoT.

3.3 RESEARCH QUESTIONS

The main question formulated from the objectives are:

- What were the main reasons for people to become Vukuzakhe contractors?
- Do the skills of the key personnel have a significant impact on the success of contractors?
- Are the profits made by contractors on their projects re-invested back into businesses?
- Are Vukuzakhe contractors pursuing any business opportunities from other client departments other than the Department of Transport?

3.4 LOCATION OF THE STUDY AND SELECTION OF PARTICIPANTS

The province is divided into four regions, namely Empangeni, Ladysmith, Pietermaritzburg and Durban (KZN DOT, 2015a). All four regions report to and are coordinated from the Head Office. The regions each manage three to four district offices as shown in Table 3.1.

Table 3.1. KZN Transport various Regions, District and Area Offices (KZN DOT, 2015a)

Region No	Region	District Council	District Office
1	Empangeni	DC 28	Eshowe
		DC 27	Hluhluwe
		DC 26A	Vryheid
		DC 26B	Ulundi
2	Ladysmith	DC 23	Estcourt
		DC 24	Dundee
		DC 25	Newcastle
3	Durban	DC 21	Port Shepstone
		Metro	Durban Metro
		DC 29	Stanger
4	Pietermaritzburg	DC 22	Pietermaritzburg
		DC 43A	Ixopo
		DC 43B	Umzimkhulu

According to the KZN DOT, (2015a) the KwaZulu-Natal Department of Transport is a provincial department with headquarters situated in Pietermaritzburg. The core function of the Department is to plan, design, construct, maintain and repair the public road infrastructure within the province.

The Regional Management and staff are committed to ensuring that the preventative and routine maintenance programmes of the Department run on schedule (KZN DOT, 2015a). Activities such as blading, betterment and re-graveling and blacktop patching are carried out to ensure that the aging provincial road network is maintained, and the life of the roads prolonged to ensure the safety of road users (KZN DOT, 2015a).

3.5 STUDY HYPOTHESES

- If the emerging construction company is participating based on entrepreneurial reasons, it will be profitable.
- If the emerging contractor's key personnel are skilled, the contractor will be professional and successful.
- If the emerging construction company is reinvesting its profits back into the business, the business will grow.
- If the emerging construction company collaborates in a joint venture with another construction company with more or similar experience, the key personnel will be empowered or gain more diverse skills and experience.

3.6 SAMPLING AND SIZE

Projects below R500 000 are referred to as quotations and those above R500 000 are referred to as tenders (KZN DOT, 2015a). The following table shows the different stages of migration of Vukuzakhe contractors and the value of the work that could be allocated per contractor per instance. It must be noted that for a grade one contractor to be promoted to grade two he/she needs to have at least successfully completed two projects within the particular grade (KZN DOT, 2015a). For Grade 2s and 3s, as shown below, contractors should have done at least two or more projects to be promoted to a higher grade than Grade 1.

Therefore, for the purpose of the current research only grade 2s and 3s were considered since they were deemed to have done at least a few projects prior to being promoted to higher

grades. Most of the grade 1 contractors had not done enough work to be considered for upgrade to higher stages. Thus the total population size considered for this research was the combined number of Grade 2 and 3 contractors totaling 150. A sample of 127 Vukuzakhe contractors was randomely selected .

Table 3.2 shows that there are three grades of Vukuzakhe contractors. Apart from the fact that Grade 1 contractors were excluded from the study because they did not satisfy the requirements for promotion to a higher grade, their area of work is limited to local municipal boundaries whereas the Grade 2s and 3s are not limited by boundaries – they could travel and obtain tenders from anywhere within the province.

Table 3.2. Vukuzakhe Contractor Designation (KZN DOT, 2015a)

VUKUZAKHE CONTRACTOR GRADING DESIGNATION			
Grade	**1**	**2**	**3**
Value of Contracts	R 200 000	R 650 000	R 2 000 000
Number of contractors on a programme	10 000	71	79

The contractors were interviewed during site inspection meetings. Site inspection meetings are publicly advertised and convened by the department in order for the departmental officials to meet the contractors and explain or clarify the terms and conditions of a particular tender.

With permission received from the department to conduct the study, the contractors were requested to participate in the research by filling out questionnaires. The process was personally administered.

3.7 DATA COLLECTION INSTRUMENT

According to Vandana-Chandra et al., (2001), there are three commonly used data collection methods utilized widely in studies of this nature, namely: electronic, mailed and personally administered questionnaires. The advantages and disadvantages of these methods are:

Table 3.3. Mode of data collection (Vandana-Chandra et al., 2001)

Mode of data collection	Advantages	Disadvantages
Personally administered Questionnaires	➢ The rapport could be established; respondent could be motivated. ➢ On-the-spot clarification of any doubts from participants. ➢ 100% rate of response could be easily achieved. ➢ High anonymity of respondent. ➢ Very economical with large target group	➢ Bias from pre-explanations. ➢ Time consuming and more effort might be needed. ➢ Respondents could be easily intimidated by the facilitator.
Mail questionnaires	➢ Respondents could respond in their own time. ➢ High rate of anonymity which would produce independent outcomes. ➢ Geographically remote respondents could be reached.	➢ Very low response rate. ➢ Questions cannot be further clarified. ➢ Repeated follow up procedure could irritate respondents. ➢ Mail could be lost or wrongly delivered
Electronic questionnaires	➢ Less effort to administer ➢ Not expensive at all. ➢ Quick delivery to respondents. ➢ International respondents could be reached easier and faster. ➢ Respondents can respond at their leisure.	➢ Respondent must be computer literate. ➢ Respondent might be a very busy person and could find the survey time wasteful. ➢ Emails could be hacked and incorrect responses could be received.

		➢ Discriminatory, only people with access to emails could respond.

3.7.1 Construction of the Research Instruments

A questionnaire with 21 questions was used as research instrument. The questionnaire was made up of 4 main sections, though the questions were not grouped according to the different sections. Individual questions were scattered between sections. Objectives 1 and 2 comprised 4 relevant questions each, objective 3 contained 6 and objective 4 contained 5 questions, as shown in Table 3.4:

Table 3.4. Study objectives linked to questions in the survey questionnaire

Objective 1	**Objective 2**	**Objective 3**	**Objective 4**
Question 2	Question 3	Question 7	Question 8
Question 4	Question 6	Question 12	Question 9
Question 13	Question 10	Question 15	Question 11
Question 19	Question 14	Question 16	Question 18
		Question 17	Question 21
		Question 20	

- ***Objective 1***: To investigate whether people became Vukuzakhe contractors for entrepreneurship reasons or not.
- ***Objective 2***: To investigate how skills of key personnel impact on the success of contractors.
- ***Objective 3***: To investigate whether profits made by contractors on their projects were re-invested back in their business or not.
- ***Objective 4***: To establish whether Vukuzakhe contractors have pursued any business opportunities other than those available within the Department of Transport.

3.7.2 Reliability of the Research Instrument

The reliability of the research instrument was tested using Chronbach's alpha coefficient. "Chronbach's alpha is the measure of internal consistency, i.e. how closely related a set of items are as a group" (Keller, 2014). The results depicted a 0.74 reliability which means that the research instrument was reliable.

3.7.3 Administration of Questionnaire

A total of 127 contractors, randomly picked at the three various tender site inspection meetings, were selected. Each contractor was asked to fill in and complete the questionnaire composed of 21 questions within 45 minutes. Clarifications and queries on some of the questions were done prior to the contractors filling in the questionnaires. After 45 minutes all completed questionnaires were collected – the response rate was 100%.

3.8 ETHICAL CONSIDERATIONS AND LIMITATIONS

According to Stacey (1996) a variety of ethical issues should be considered when collecting research data, particularly those affecting people that are participating in the research either as sponsors, data collectors or respondents. Firstly, before the research could commence an approval letter from the university had to be obtained (UKZN, 2013). It is important that participants remain anonymous and participate voluntary. The data obtained by the researcher from participants must be strictly confidential and under no circumstances may the researcher be compelled to disclose personal details of respondents. The findings of a researcher, being either against or in favour of any situation, are to be accepted as such (UKZN, 2013). In addition, according to UKZN (2013) the following points are to be considered:

- Information provided by the respondent must be treated strictly confidential and his or her privacy must be respected at all times.
- Under no circumstance may the researcher mislead the participants as to the purpose and the final use of the research findings and recommendations.
- The self-respect and self-esteem of the respondents must never be compromised or violated.
- No one should be coerced to participate in a study against his or her will; participation should always be voluntary, not compulsory.
- Under no circumstances should the data collection date be manipulated or misrepresented or even distorted.
- It is also the respondent's obligation to be honest and truthful in their responses.
- Under no circumstances should there be monetary gains by participants in a survey.

3.9 DATA COLLECTION

Three important issues should be considered when collecting data: equivalence of responses, timing of data collection and soberness and the mood of a person that collects the data. Equivalent responses are achieved by using the same uniform procedure, irrespective of cultural background of the respondents. It is important that the study is introduced to participants similarly and instructions to be consistent. For cross-cultural comparison purposes it is imperative that the collection timing is carefully monitored (Chandra et al., 2001).

In cases where the researcher's current work position could possibly influence participants' responses, it would be wise to allow a manager to appoint a representative to collect the data and do interviews on behalf of the researcher, in order to avoid direct contact with the respondent (Miller, 1998). However, this would largely depend on what type of information is being asked in the questionnaire. Questions should be phrased appropriately, depending on whether clients or employees or other contractors are interviewed – this will ensure intended responses are forthcoming. As a manager one would be able to gauge and ascertain to what level of complexity the data should be collected. Managers would also be able to differentiate between relevant and irrelevant questions, bearing in mind the cultural diversity and background of participants (Miller, 1998).

3.10 DATA ANALYSIS

The data obtained from the research participants was captured on a WINDOWS XP 2015, MS EXCEL spread sheet. From the quantitative data collected, the results were presented in graphs and tables as descriptive statistics.

3.11 DATA MANAGEMENT

Research data management (RDM) has become an important aspect of modern research. RDM is part of the technical research framework (Curdt & Hoffmeister, 2015). According to these authors RDM involves all processes and steps taken to ensure that research data are well structured and organized, electronically backed up and accessible and reusable at all times when required. The RDM for this research would entail electronic information kept in a cloud file so that it is secure, accessible at all times and not tampered with (Chandra et al.,

2001). A set of documents would also be kept by the research project supervisor and the final copy submitted to the Graduate School of Business and Leadership at the University of KwaZulu-Natal, as procedurally required, for further safe-keeping and publication.

3.12 CONCLUSION

In must be noted that there was no pilot test planned and done for this research. Because the Vukuzakhe Contractor's programme is for emerging contractors who are unemployed, conducting a pilot test was going to be costly for them, since they had to travel specifically for the research. This chapter has described the various research methodologies adopted in this study. Various data collection strategies were also presented. The population and sample size were explained, as well as the rationale behind the method used to select the sample. The following chapter presents an analysis of the data in detail.

Chapter 4 Research Findings and Analysis

4.1 INTRODUCTION

In this chapter the research findings are presented. All the findings presented emanate from responses recorded through the survey questionnaire. It must be emphasized that the results obtained in this survey were an expression of Vukuzakhe contractors' individual opinions at the time the survey was conducted. The survey was conducted with the aim to establish whether the KwaZulu-Natal Department of Transport's Vukuzakhe Contractor's Development Programme was able to meet its objective of developing self-sustainable road construction contractors. The population consisted of grade 2 and 3 contractors, graded according to CIDB. People participating in the survey were either directors or senior managers of the companies. This chapter presents the findings of the 127 contractors who participated in the study.

4.2 ADMINISTRATION OF QUESTIONNAIRES

From a population of 150 numbers of Vukuzakhe contractors a sample of 127 Vukuzakhe contractors was drawn randomly. According to Parker (2011) a contractor is a person or a firm that enters into an agreement or contract in order to provide labour or materials to perform a task. The questionnaire survey was administered personally. Three sets of interviews were done using three different departmental offices of KZN DoT as venues, namely: the Ixopo Area Office, Ndwedwe Area Office and the Stanger Cost Centre Office. Since the questionnaires were administered on site, 100% of the questionnaire forms were returned fully completed.

4.3 OBJECTIVES AND RELATED QUESTIONS

The study instrument comprised of 21 questions. The questionnaire was differentiated into 4 sections, aligned to 4 different research objectives:

- ***Objective 1***: To investigate whether people became Vukuzakhe contractors for entrepreneurship reasons or not.
- ***Objective 2***: To investigate how skills of key personnel impact on the success of contractors.

- ***Objective 3***: To investigate whether profits made by contractors on their projects were re-invested back in their business or not.
- ***Objective 4***: To establish whether Vukuzakhe contractors have pursued other business opportunities other than those available within the Department of Transport.

Table 4.1. Study objectives linked to questions from the survey questionnaire

Objective 1	**Objective 2**	**Objective 3**	**Objective 4**
Question 2	Question 3	Question 7	Question 8
Question 4	Question 6	Question 12	Question 9
Question 13	Question 10	Question 15	Question 11
Question 19	Question 14	Question 16	Question 18
		Question 17	Question 21
		Question 20	

4.4 RELIABILITY OF THE RESEARCH INSTRUMENT

Reliability and validity are two important aspects to be considered when the research instrument is constructed (Keller, 2014). The other option of verifying the reliability is to measure the same subject several times and if the same results are obtained that would mean the research instrument is reliable. A reliability coefficient of 0.70 or higher is regarded as acceptable (Keller, 2014). The Table 4.2 shows the Cronbach's alpha scores obtained from the questionnaire items.

Table 4.2. Cronbach Alpha scores

Sections	**Research Objectives**	**Number of Items**	**Cronbach's Alpha**
1	To investigate whether people became Vukuzakhe contractors due to entrepreneurship reasons or not.	**4**	**0.722**
2	To investigate how skills of key personnel impact on the success of contractors.	**5**	**0.829**
3	To investigate whether profits made by contractors on their projects were re-invested back into their business or not.	**5**	**0.843**

4	To establish whether Vukuzakhe contractors have pursued any business opportunities other than those available within the Department of Transport.	**5**	**0.811**
	OVERALL	**19**	**0.791**

The Cronbach's Alpha results as shown in Table 4.2 confirms that all four sections scores exceeded the lower limit of 0.7 and the overall reliability score of 0.791 was obtained, therefore the research instrument is regarded as reliable for the study.

4.5 RESULTS

4.5.1 General Questions

The first general questions deals with the registration compliance of the emerging contractors. A contractor had to register with the CIDB Construction Industry Development Board (CIDB) and the Vukuzakhe emerging contractors' database in order to qualify to submit tenders for work with the Department of Transport (KZN DOT, 2015b).

Question1: In which year was your business registered with Department of Transport Vukuzakhe data base? The participants' responses are summarized in Table 4.3 and Figure 4.1.

Table 4.3. Registration of contractors on the Department of Transport database.

Year Intervals	Number of Contractors	Percentage (%)
Before 2000	7	**6 %**
2000 – 2005	29	**23 %**
2006 – 2010	64	**50 %**
2011 – 2015	28	**22 %**
TOTALS	**127**	**100 %**

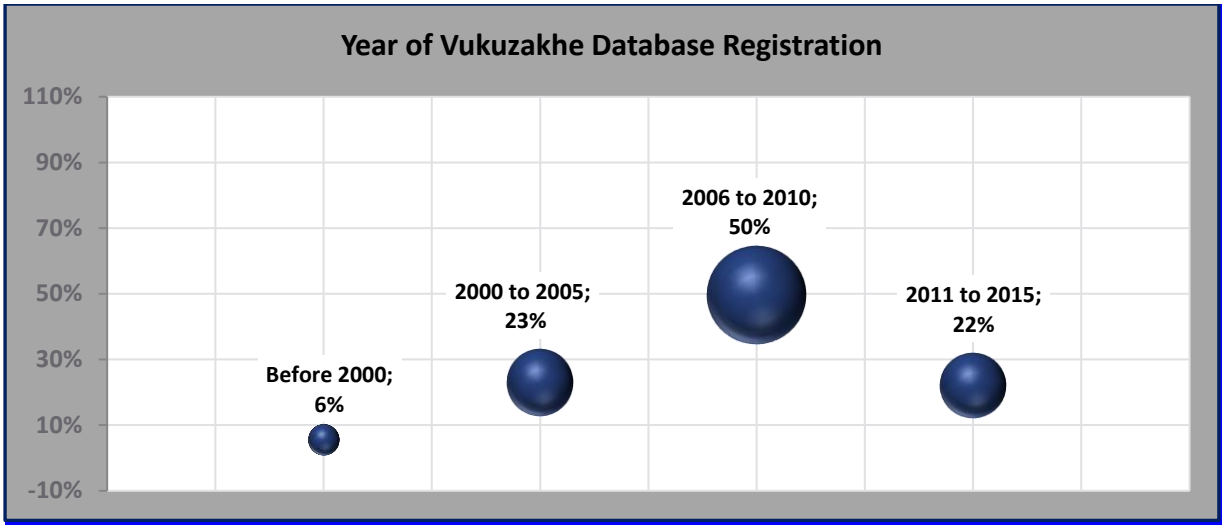

Figure 4.1. Registration of contractors on the Department of Transport database.

Question 5: What qualification does the owner/director with the highest education, possess? The answers to this question are presented in Table 4.4 and Figure 4.2.

Table 4.4. Education qualifications of the company owners/directors.

Qualification / Grade	Number of Contractors	Percentage (%)
Grade 1 - 7	33	**25 %**
Grade 8 - 9	51	**40 %**
Grade 10 - 12	38	**30%**
Certificate	2	**2 %**
Diploma	2	**2 %**
Degree	1	**1 %**
Other	0	**0 %**
TOTALS	**127**	**100 %**

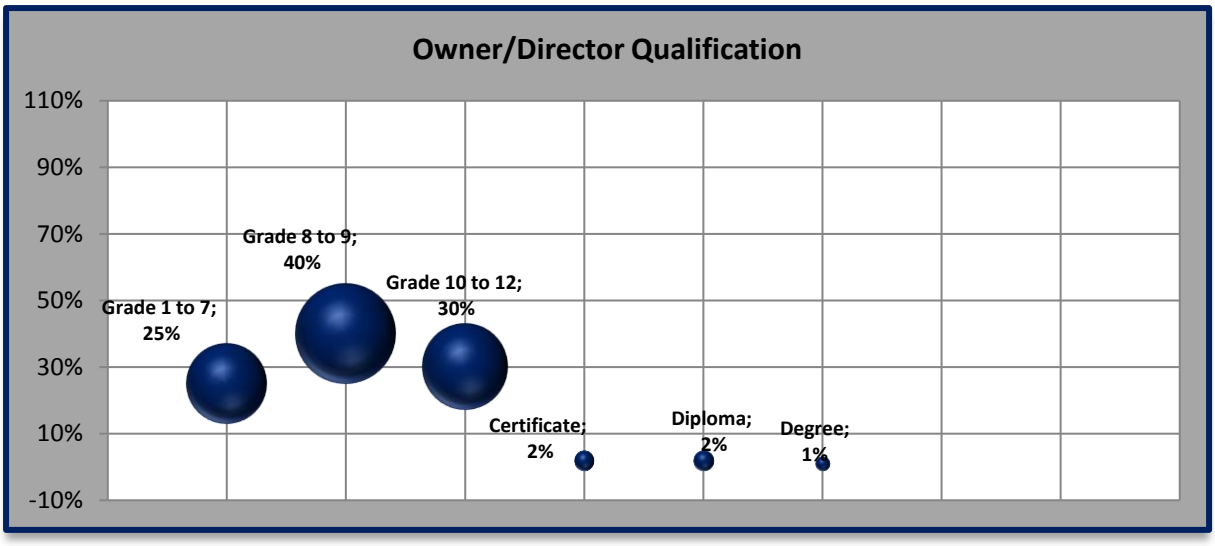

Figure 4.2. Education qualifications of the company owners/directors.

4.5.2 Objective One: People became Vukuzakhe Contractors for entrepreneurship reasons

According to Parker (2011) contractors can be defined as professional people who are not individual employees for a large firm but operate in their own limited companies with an aim of providing a service on behalf of a client company. Although a contractor may be working for a company they are not directly employed like employees, but are rather providing a service via a contract which has deliverables (Parker, 2011).

Contractors would have identified business opportunities in different fields, for an example in the construction sector, for them to become contractors. Entrepreneurship could be defined as the capacity and willingness to establish a business venture and manage business associated risks, in order to make a profit (Azapagic, 2012). Entrepreneurship can be scary because there are no guarantees that the business will succeed and money might be lost in the first few years (Azapagic, 2012).

Question 2: What is the current CIDB grading of your company? The responses received for this question are summarised in Table 4.5 and Figure 4.3.

The Construction Industry Development Board (CIDB) grades contractors according to their financial and technical capabilities, for example grade 1 can only do projects valued less than R200 000.00 whereas grade 2 has a maximum threshold project value of R650 000.00 (KZN DOT, 2015b).

Table 4.5. CIDB grading of companies.

CIDB GRADES	Number of Contractors	Percentage (%)
Grade 1	3	**3 %**
Grade 2	57	**45 %**
Grade 3	64	**50 %**
Grade 4	2	**2 %**
Grade 5	0	**0 %**
Grade 6	0	**0 %**
Grade 7	1	**1 %**
TOTALS	**127**	**100 %**

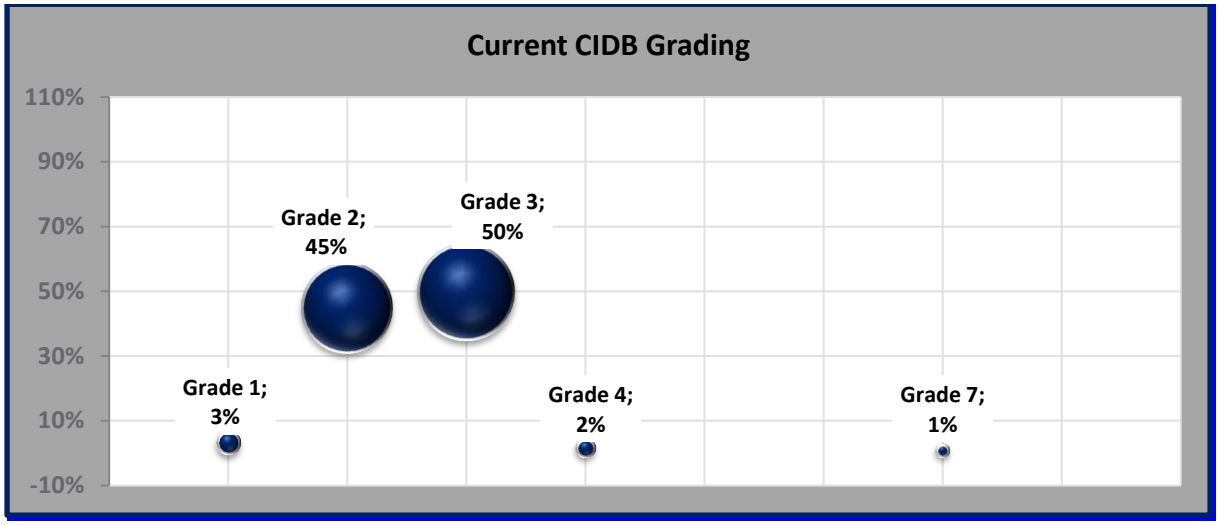

Figure 4.3. CIDB grading of companies.

Question 4: What are the Vukuzakhe owner's reasons to venture into a construction company? Table 5.4 summarises five different questions relating to the reasons for the Vukuzakhe owners' venturing into construction.

According to Mahadea, (2012) entrepreneurs have a common purpose: they develop and venture into business because they want to be employers, have job flexibility, enjoys unlimited earnings, have time freedom and leave a legacy for future generations.

Table 4.6. Vukuzakhe owners' reasons to venture into a construction company.

	QUESTION	YES/NO	RESPONSE		Total
	Vukuzakhe owners' reasons to venture into construction company is to:		No	%	%
A	Ensure that they are employers?	YES	76	**60%**	**100 %**
		NO	51	**40%**	
B	Have job flexibility?	YES	76	**60%**	**100 %**
		NO	51	**40%**	
C	Have unlimited earnings?	YES	76	**60%**	**100 %**
		NO	51	**40%**	
D	Have time freedom?	YES	76	**60%**	**100 %**
		NO	51	**40%**	
E	Leave generation legacy?	YES	76	**60%**	**100 %**
		NO	51	**40%**	

Question 13: Do you foresee your company one day listed on the JSE? Answers to this question are presented in Table 4.7 and Figure 4.4.

According to Rossouw et al., (2002) the registration on the Johannesburg Stock Exchange (JSE) has many benefits for a company, including easier financial and capital access, such as loans from the bank and the ability for the company to raise huge capital from selling shares to the public or approaching big investors in order to fund its growth strategy.

Table 4.7. Future JSE listing for companies.

Description	YES/NO	RESPONSE		%	Total %
Do you foresee your company one day listed on the JSE?	YES	76	127	**60 %**	**100%**
	NO	51		**40 %**	

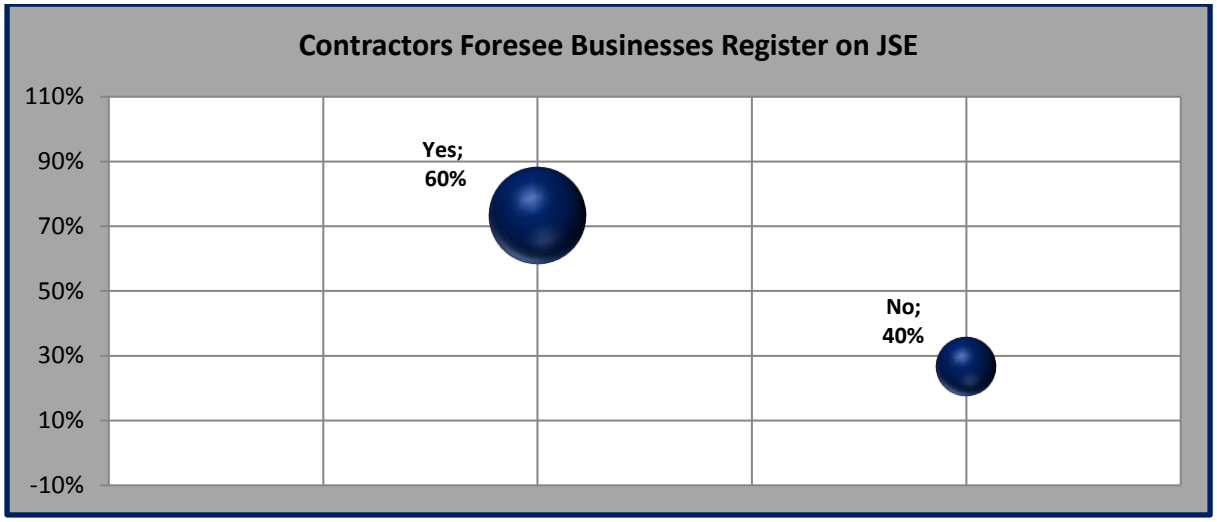

Figure 4.4. Future JSE companies listing.

Question 19: Are the directors passionate about construction works? The answer to this question is presented in Table 4.8 and Figure 4.5.

"The people I have seen achieving the greatest success in their profession and personal lives are passionate people that lead, support, and mentor others" David Lucatch, CEO of YappCorp (Reigle, 2012).

Table 4.8. Passion of directors for construction.

Description	**YES/NO**	**RESPONSE**		**%**	**Total %**
Are the directors passionate about construction works?	YES	50	127	**39 %**	**100%**
	NO	77		**61 %**	

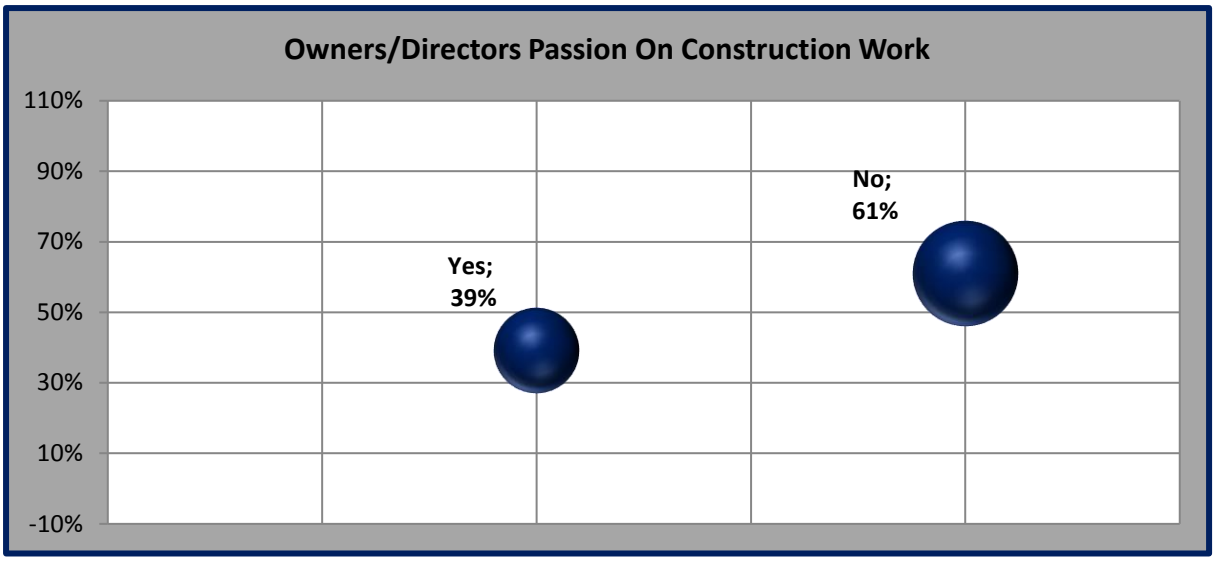

Figure 4.5. Passion of directors for construction.

4.5.3 Objective Two: Impact of the skills of key personnel on the success of contractors

"People skills are considered to be an important asset for any organization to succeed" (Narsee, 2014). According to Jack and Harris (2015) organisations exist in order to deliver value to their stakeholders, i.e. investors, customers, employees and suppliers. Skills required for a business to succeed include communication skills, team work, commercial awareness, problem solving, time management and management curiosity (Jack & Harris, 2015).

Question 3: How many projects in total, has your company already done? Answers to this question are presented in Table 4.9 and Figure 4.6.

Table 4.9. Number of projects done by Vukuzakhe contractors.

Description	Range of Projects	Percentage (%)
Fewer than or equal to 2	80	**63 %**
More than 2	47	**37 %**
TOTALS	**127**	**100 %**

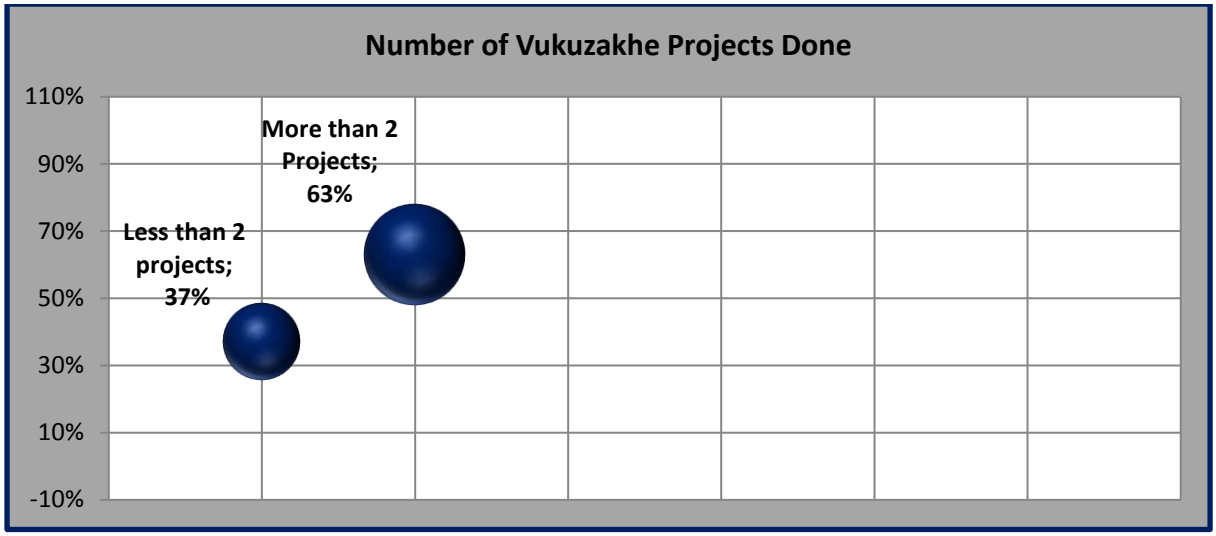

Figure 4.6. Number of projects done by Vukuzakhe contractors.

Question 6: Amongst the owners/directors/managers, what are the combined years of experience? Summarized responses are given in Table 4.10 and Figure 4.7.

There are no rules that govern how much experience is needed for one to start a business; however, industry-relevant experience is essential and key in order for any business to succeed (Narsee, 2014).

Table 4.10. Combined senior management years of experience

Years	Number of Contractors	Percentage (%)
0	95	**75 %**
1 - 5	25	**20 %**
6 - 10	7	**5 %**
11 - 15	0	**0 %**
16 - 20	0	**0 %**
Over 20	0	**0 %**
TOTALS	**127**	**100 %**

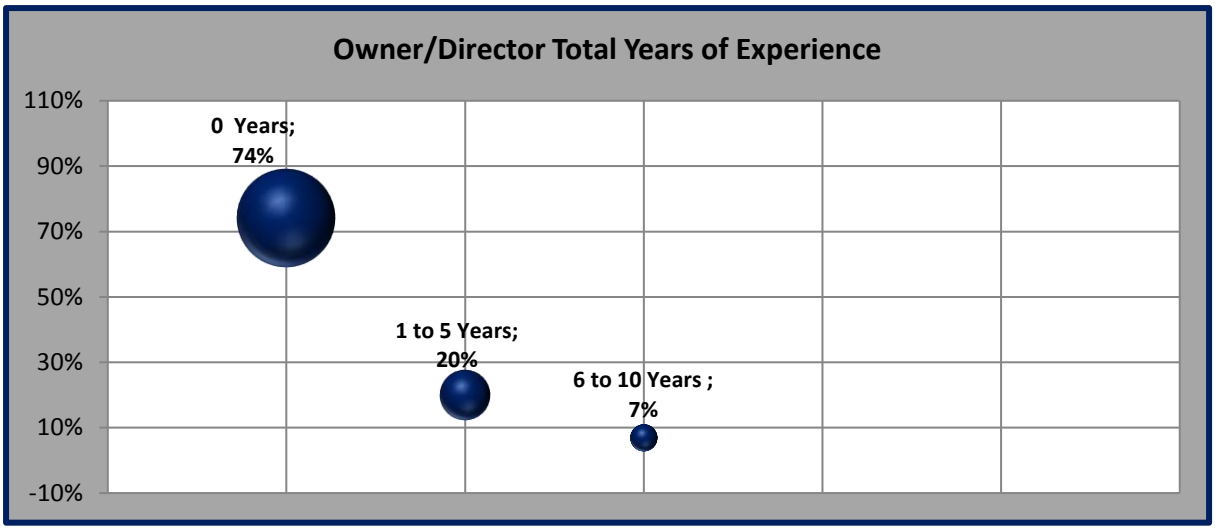

Figure 4.7. Combined senior management years of experience.

Question 10: Please rate your key personnel skills according to the following table (1-Poor, 3-Average, 5-Good). The various answers to this question are presented on Table 4.11.

Table 4.11. Personnel skills rating.

	QUESTION	SCALE	RESPONSE		Total
	Please rate your key personnel accordingly (1:Poor, 3:Average, 5:Good)			%	%
A	Communication skills (able to negotiate)	1	102	**80%**	**100 %**
		3	13	**11%**	
		5	12	**9%**	
B	Team work (work successful with other employees)	1	103	**81%**	**100 %**
		3	13	**10%**	
		5	11	**9%**	
C	Commercial awareness (Problem solving)	1	93	**73%**	**100 %**
		3	10	**8%**	
		5	24	**19%**	
D	Problem solving (dealing with the unexpected)	1	66	52 %	**100 %**
		3	52	**41%**	
		5	9	**7%**	

E	Time management (meet deadlines)	1	103	**81%**	**100 %**
		3	11	**9%**	
		5	13	**10%**	
F	Enthusiasm (100% committed)	1	103	**81%**	**100 %**
		3	10	**8%**	
		5	14	**11%**	

Question 14: In the past 5 years, have any of your projects been terminated by the client due to your company's failure to execute? The responses are summarized in Table 4.12 and Figure 4.8.

Contract is a legal obligation between two parties, if one party fails to deliver a project on the agreed terms, depending on the seriousness of the case, the innocent party may terminated a contract and recover the financial losses from the guilty party. The breach of contract in construction may include refusal to produce, the site abandoned, unable to make payments to suppliers and failure to rectify defects (Narsee, 2014).

Table 4.12. Projects terminated due to non-performance.

Description	**YES/NO**	**RESPONSE**		**%**	**Total %**
Have any of your projects been terminated by the client due to your company's failure to execute?	NO	123	127	**97 %**	**100%**
	YES	4		**3 %**	

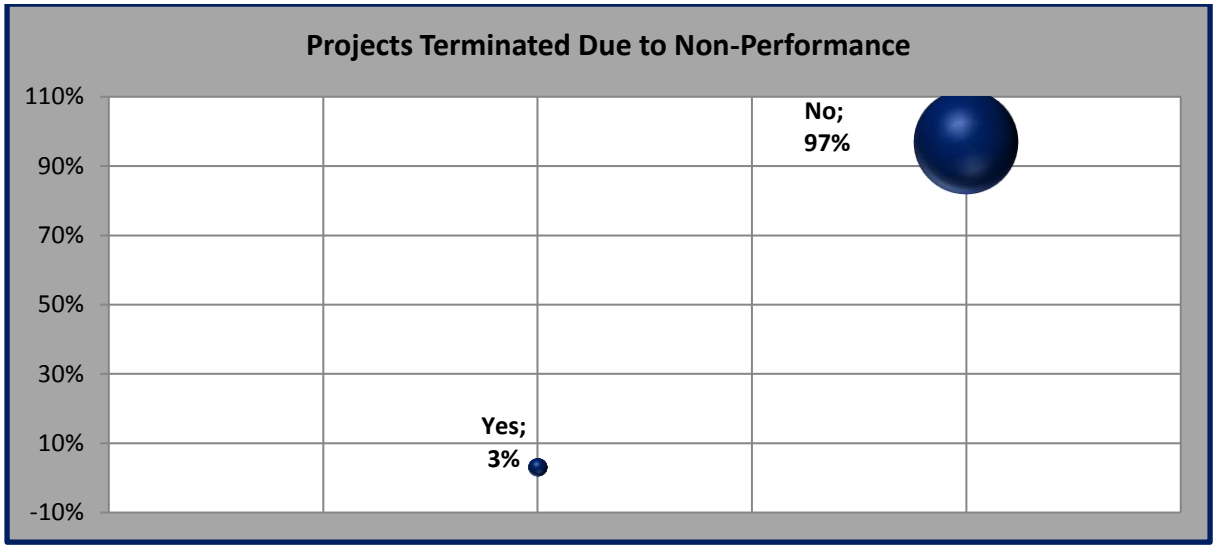

Figure 4.8. Projects terminated due to non-performance.

4.5.4 Objective Three: Re-investment of profits back in the business

When business is profitable, owners are faced with two options – they can either distribute profits to the business owners or reinvest those profits back in the business to improve the company or expand operations (Mahadea, 2012). If a company reinvests or funds a business expansion or improvements it could avoid incurring excess debt. Interest earned can be taken as an indicator of the financial health of a company (Eaglen et al., 2015).

Question 7: In the past 3 financial years, how much profit did your contractor make? The answers to this question are summarized in Table 4.13 and Figure 4.9.

Table 4.13. Three years cumulative profit.

Profit Range	Number of Contractors	Percentage (%)
0 to < 50 Thousand	30	**24 %**
50 Thou. to < 1 Thousand	75	**59 %**
1Thou. to < 4 Million	19	**14 %**
4Million to 10 Million	2	**2 %**
Over 10 million	1	**1 %**
TOTALS	**127**	**100 %**

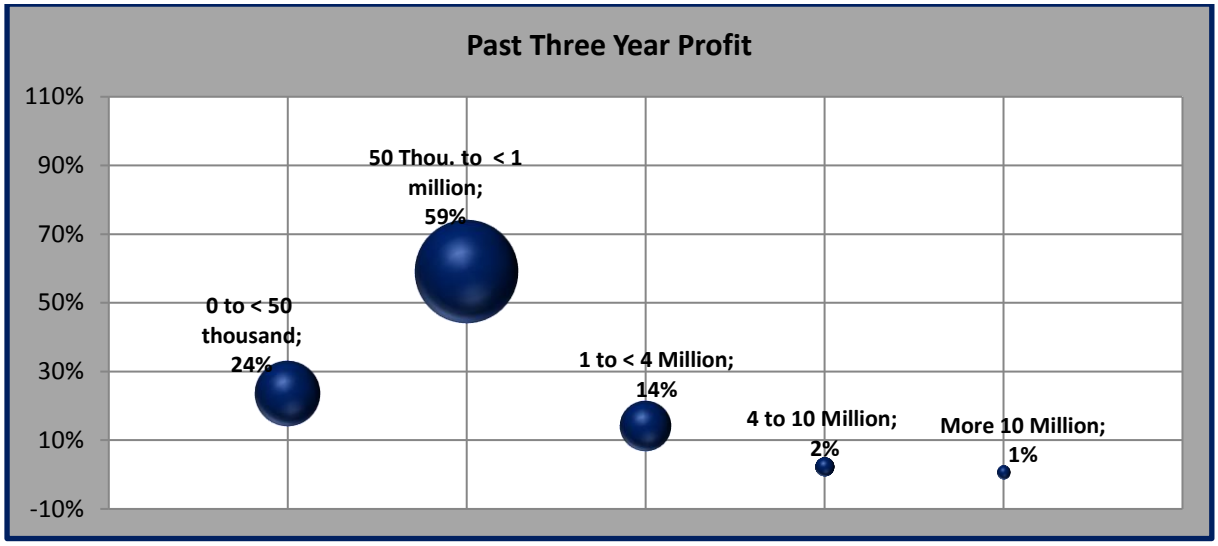

Figure 4.9. Three years cumulative profit.

Question 12: What is the current value of your business assets? Summarized responses are given in Table 4.14 and Figure 4.10.

Table 4.14. Current value of business assets.

Profit Range	Number of Contractors	Percentage (%)
0 to < 50 Thousand	17	**13 %**
50 Thou. to < 1 Thousand	84	**66 %**
1Thou. to < 4 Million	19	**15 %**
4Million to 10 Million	5	**4 %**
Over 10 million	2	**2 %**
TOTALS	**127**	**100 %**

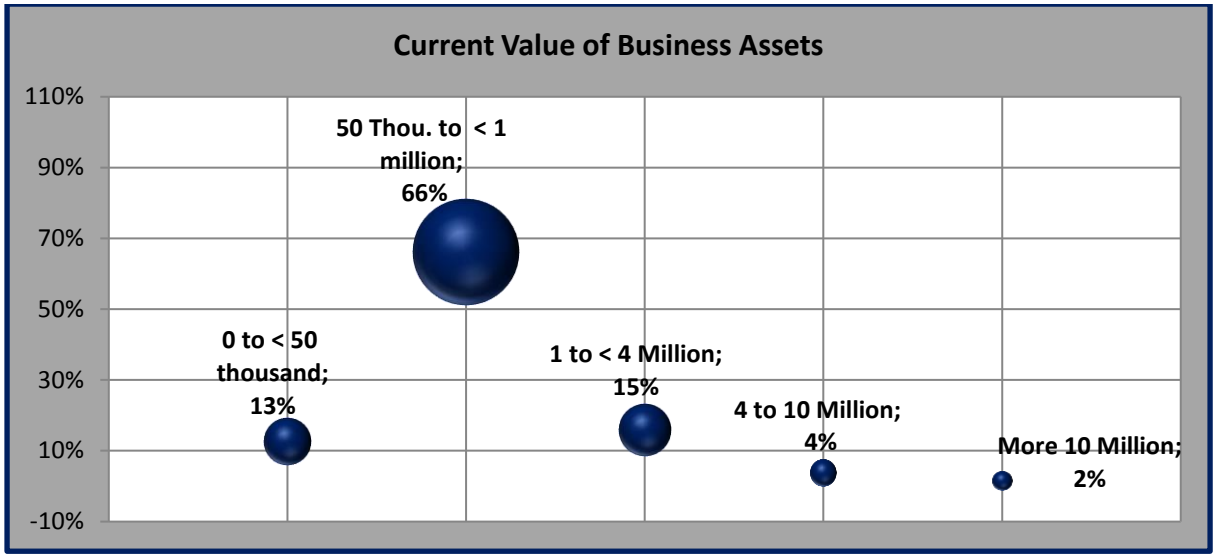

Figure 4.10. Current value of business assets.

Question 15: Has your company spent its available profits without compromise on marketing, information management systems, training and mentoring? The responses from participants are summarized in Figure 4.11.

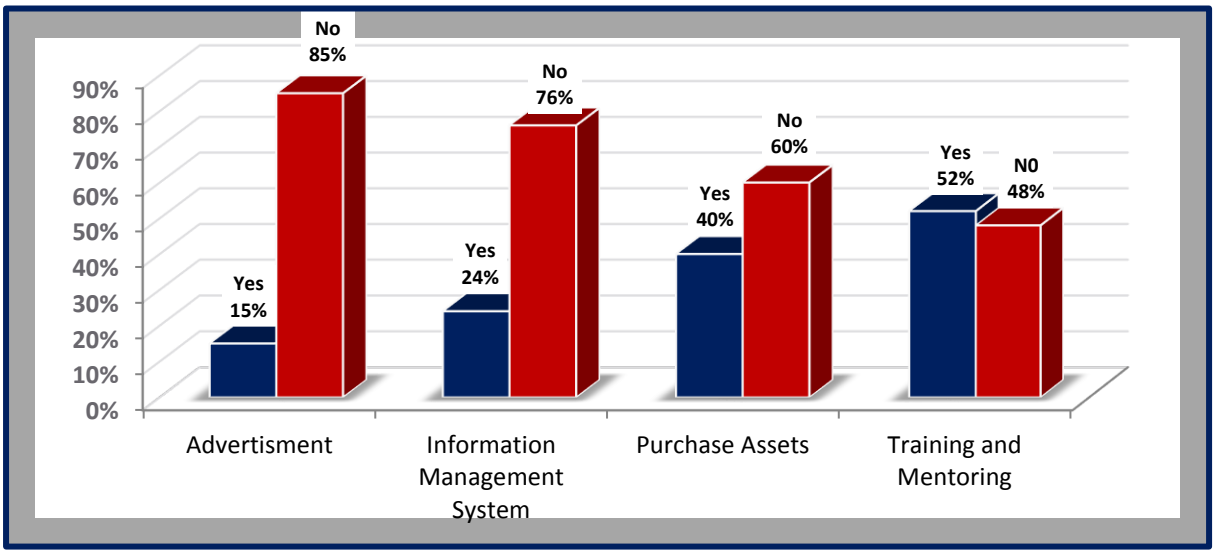

Figure 4.11. Reinvestment of company profits.

Question 16: In the last financial, year has your company bought significant items that were not for business purposes? The participants' responses are summarised in Table 4.15 and Figure 4.12.

Table 4.15. Assets purchased which don't add value to the business.

Description	**YES/NO**	**RESPONSE**		**%**	Total %
Have your company bought significant things that were not for business purposes?	No	76	127	**60 %**	**100 %**
	YES	51		**40 %**	

Figure 4.12. Assets purchased which don't add value to the business.

Question 17: In the last few years, did any of the directors/managers attend any construction-related workshops/seminars/courses? Answers to this question are presented in Table 4.16 and Figure 4.13.

Table 4.16. Further development and training for shareholders.

Description	**YES/NO**	**RESPONSE**		**%**	**Total %**
Did any of the management attend any construction relater workshops/ seminars/courses?	No	119	127	**94 %**	**100 %**
	YES	8		**6 %**	

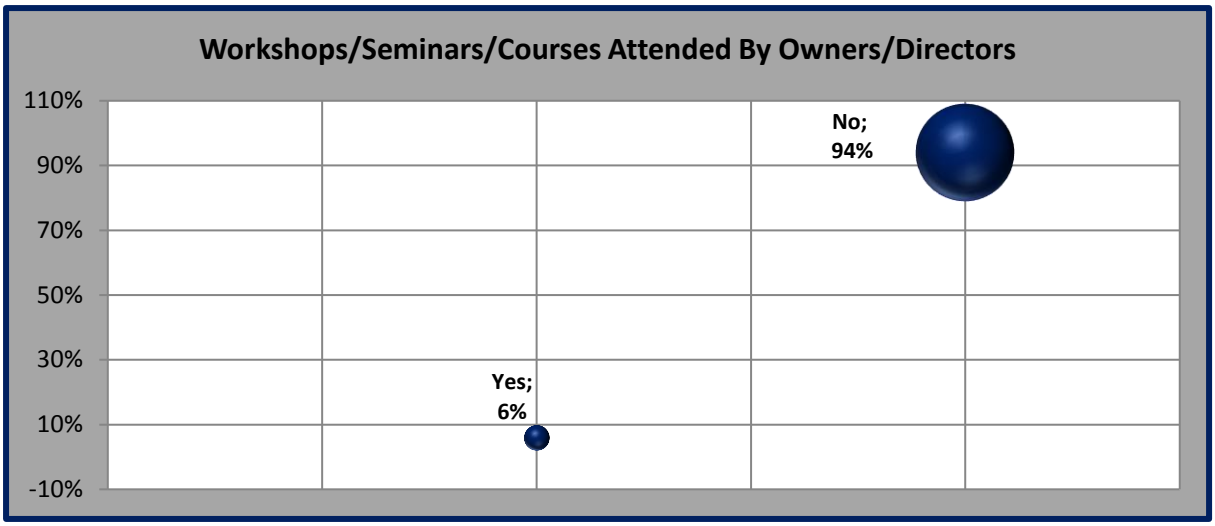

Figure 4.13. Further development and training for shareholders.

Question 20: Is the work done by your company being advertised in any media/newspapers for marketing purposes? The participants' responses are summarized in Table 4.17 and Figure 4.14.

Table 4.17. Company's marketing strategies.

Description	**YES/NO**	**RESPONSE**		**%**	**Total %**
Is your company being advertised in any of the media/newspapers for marketing purposes?	YES	9	127	**7 %**	**100 %**
	NO	118		**93 %**	

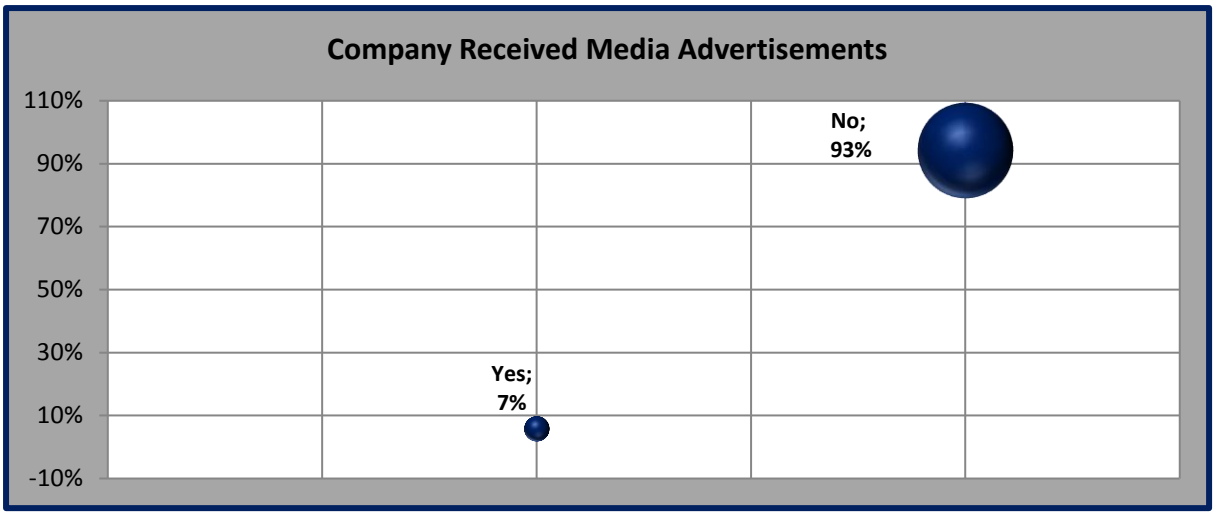

Figure 4.14. Company's marketing strategies.

4.5.5 Objective Four: Opportunities available to Vukuzakhe contractors outside the Department of Transport.

According to KZN DOT (2015a) successful contractors are not the ones that focus on a single client only but rather look for opportunities everywhere in order to sustain their business. "Businesses that are more diverse and inclusive cast wider nets for best available business opportunities" (KZN DOT, 2015a). There are also developmental construction opportunities available from other government departments. Municipalities have a contractor developmental programme called Sihamba Sonke, in which emerging contractors get construction opportunities in a protected environment; projects are not advertised publicly but only offered within the Sihamba Sonke incubator programme (Agency, 2015).

Question 8: Is your company registered on any database other than that of the Department of Transport? Answers from the respondents are presented in Table 4.18 and Figure 4.15.

Table 4.18. Company registration on any data bases other than the Department of Transport database.

Description	**YES/NO**	**RESPONSE**		**%**	**Total %**
Company registered on other than Department of Transport database	NO	85	127	**65 %**	**100 %**
	YES	44		**35 %**	

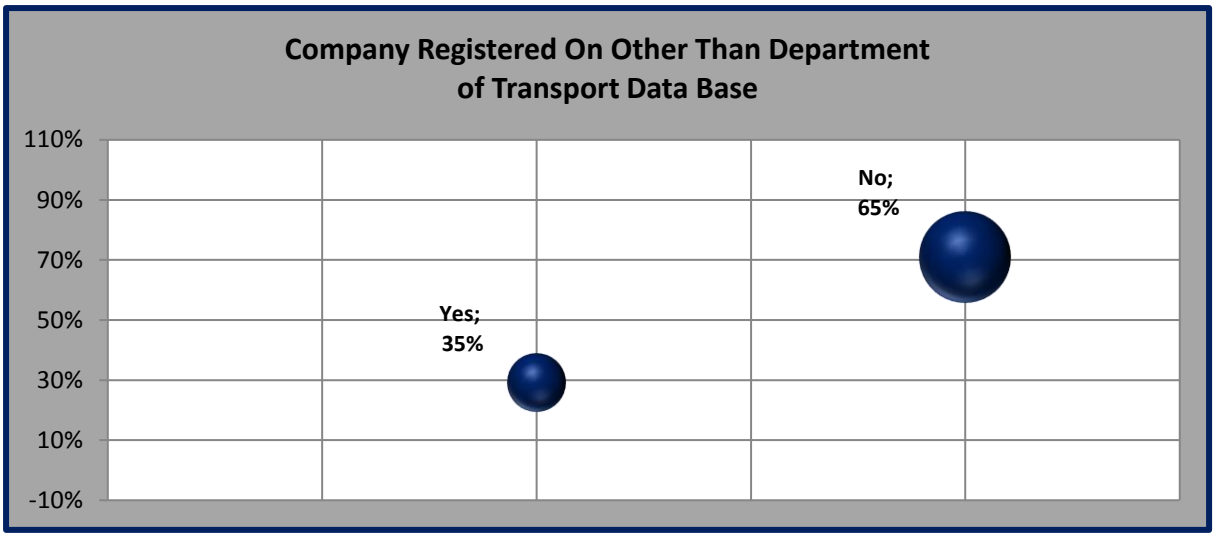

Figure 4.15. Company registration on any databases other than the Department of Transport database.

Question 9: In the last 5 years, has your company been awarded work outside The Province of KwaZulu-Natal? The participants' responses are summarised in Table 4.19 and Figure 4.16.

Table 4.19. Projects awarded outside the KwaZulu-Natal Province.

Description	**YES/NO**	**RESPONSE**		**%**	**Total %**
In the last 5 years has your company been awarded projects outside the KZN Province	YES	15	127	**12 %**	**100 %**
	NO	112		**88 %**	

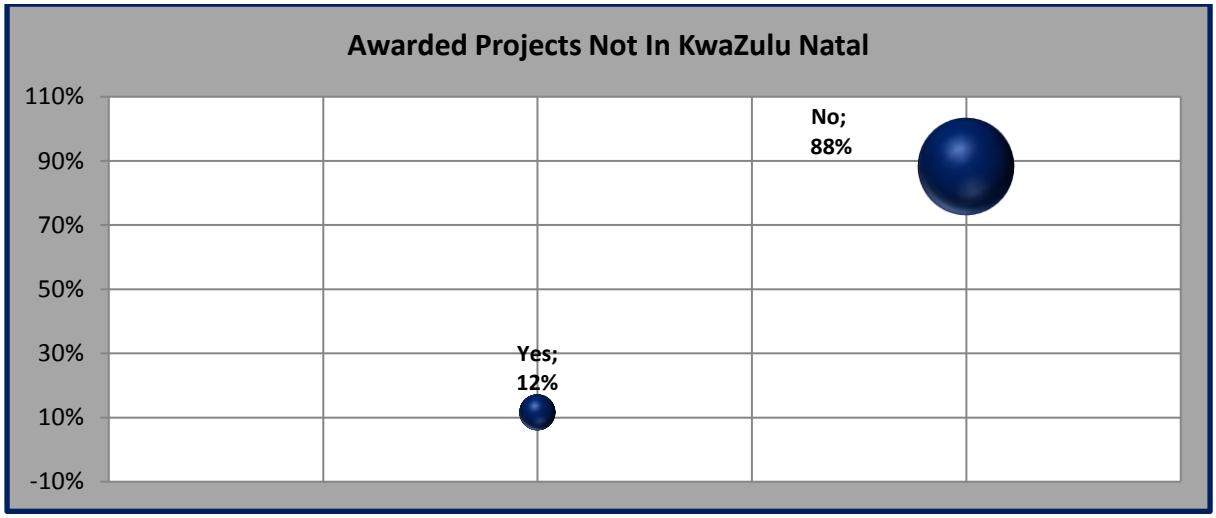

Figure 4.16. Projects awarded outside the KwaZulu-Natal Province.

Question 11: If an opportunity arose, could your company sub-contract work from other construction businesses? The answers to this question are summarized in Table 4.20 and Figure 4.17.

Table 4.20. Work done through sub-contracting.

Description	**YES/NO**	**RESPONSE**		**%**	**Total %**
If an opportunity arose, could your company subcontract work from other construction businesses	YES	9	127	**70 %**	**100%**
	NO	38		**30%**	

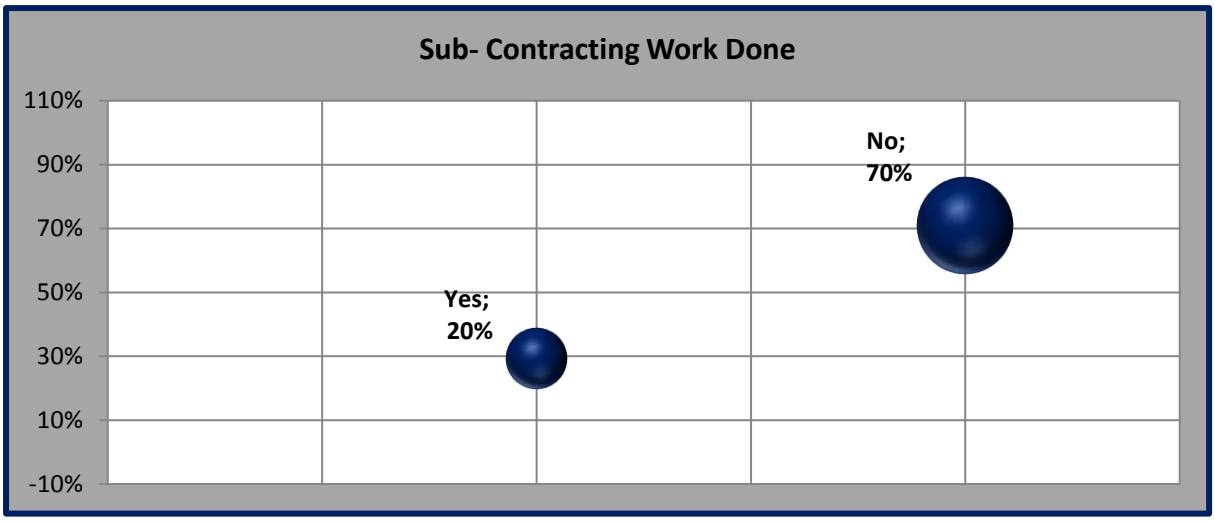

Figure 4.17. Work done through sub-contracting.

Question 18: Has your company attempted or secured business or tenders from municipalities, other provincial departments, national government and/or the private sector? The participants' responses are summarised in Figure 4.18.

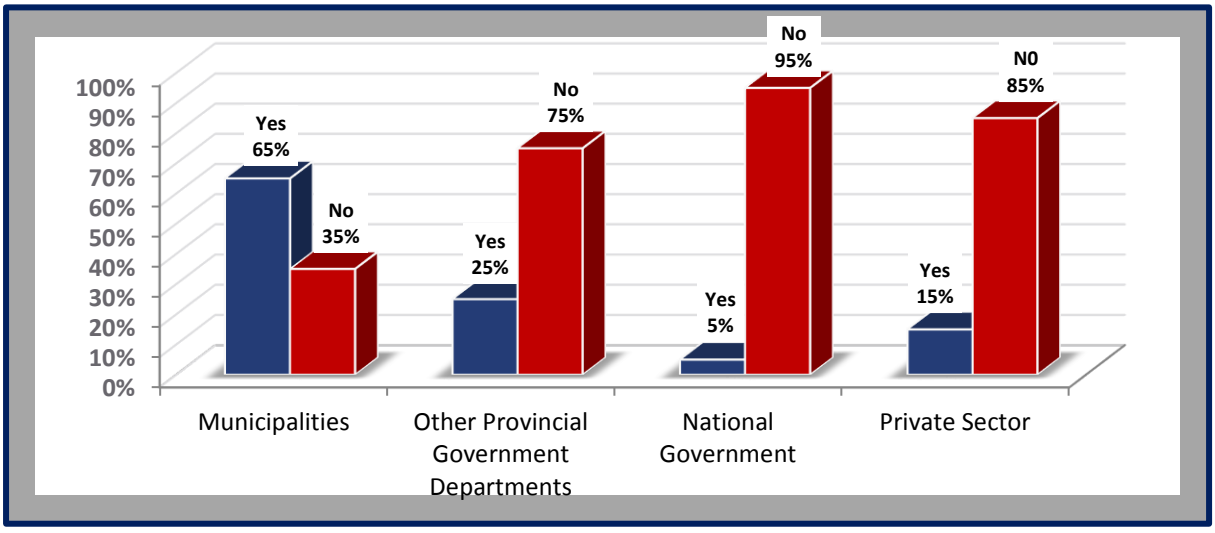

Figure 4.18. Company search for work from other clients.

Question 21: In the past few years, has your company done work in a joint venture arrangement with another construction company? Answers to this question are presented in Table 4.21 and Figure 4.19.

Table 4.21. Business joint venturing with other companies.

Description	**YES/NO**	**RESPONSE**		**%**	Total %
Has your construction company done work in a joint venture with another construction company?	YES	11	127	**9 %**	**100 %**
	NO	116		**91 %**	

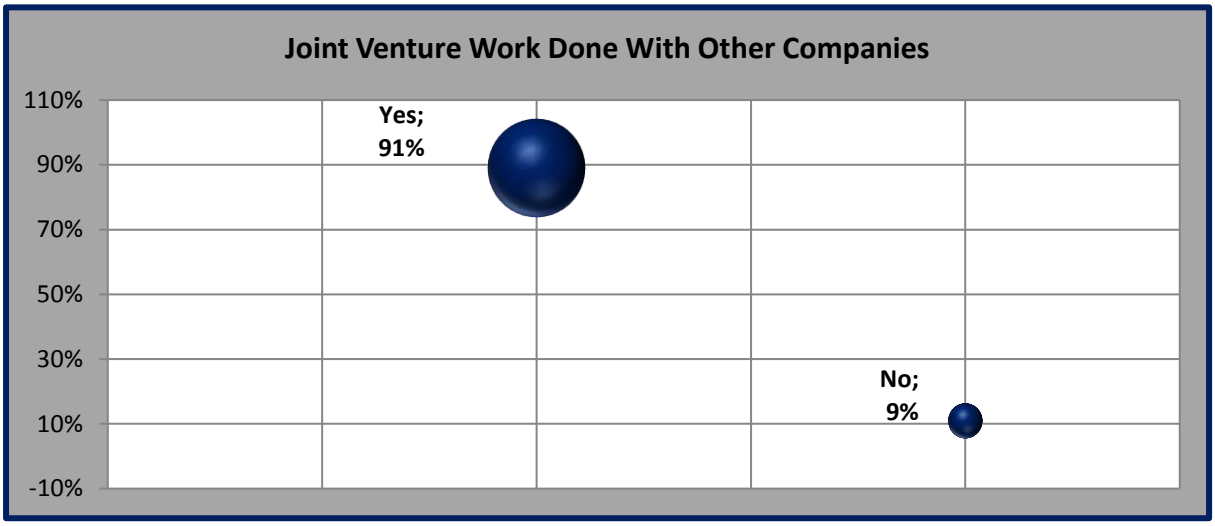

Figure 4.19. Business joint venturing with other companies.

4.6 CORRELATION ANALYSIS

In this section the Pearson's Product Moment Correlation Coefficient (r) was used to analyse the correlation of various factors in this study. According Gerald (2014), if r = 1 the relationship is perfectly strong and if r = -1 it is perfectly negative. The interrelationships between CIDB grading, the skills of the key personnel, entrepreneurship, director's passion, courses attended by directors, completed projects, advertisement of a business, joint venture projects, amount of profit made and subcontract work done for other construction businesses were analysed.

4.6.1 Correlation between the skills of the company's key personnel and the Vukuzakhe owner's reasons to venture into construction

Table 4.22. Correlation between the skills of the company's key personnel and the contractors' entrepreneurship reasons to venture into construction.

		Key personnel skills	Owner's reasons to venture into construction
Key personnel skills	Person	1	0.711
	Sig.(2-tailed)		0.017
Owner's Reasons to venture into Construction	Person	0.711	1
	Sig.(2-tailed)	0.017	
	Sample Size (N)	127	127

**. Correlation is significant at the 0.001 level (2-tailed)

The analysis shows a weak but positive correlation between the owner's entrepreneurship reasons to venture into construction and the skills of the contractor's personnel (Pearson correlation coefficient (r) = 0.017).

4.6.2 Correlation between the skills of the company's key personnel and the 3 years company's profit

Table 4.23. Correlation between the skills of the main contractor's personnel and the profits made by contractors over 3 years.

		Key personnel skills	3 year company's profits
Key personnel skills	Person	1	0.465
	Sig.(2-tailed)		0.610
3 years cumulative profits	Person	0.465	1
	Sig.(2-tailed)	0.610	
	Sample Size (N)	127	127

**. Correlation is significant at the 0.001 level (2-tailed)

The analysis shows a strong positive correlation between the skills of the main contractor's personnel and the profits made by the contractor (Pearson correlation coefficient (r) = 0.610).

4.6.3 Correlation between skills of the company's key personnel and business subcontracting opportunities

Table 4.24. Correlation between seeking subcontracting opportunities and of the company's key personnel.

		Subcontracting opportunities	Key personnel skills
Subcontracting opportunities	Person	1	0.108
	Sig.(2-tailed)		0.410
Key personnel Skills	Person	0.108	1
	Sig.(2-tailed)	0.410	
	Sample Size (N)	127	127

**. Correlation is significant at the 0.001 level (2-tailed)

The analysis shows a moderate but positive correlation between the seeking subcontracting opportunities and skills of key personnel (Pearson correlation coefficient (r) = 0.410).

4.6.4 Correlation between the Vukuzakhe owner's reasons to venture into a construction company and the company profits over 3 years

Table 4.25. Correlation between profits made by contractors and entrepreneurship reasons to venture into contracting business.

		Owner's reasons to venture into construction	Company profit
Owner's reasons to venture into construction	Person	1	0.128
	Sig.(2-tailed)		0.001
Company profits	Person	0.128	1
	Sig.(2-tailed)	0.001	
	Sample Size (N)	127	127

**. Correlation is significant at the 0.001 level (2-tailed)

The analysis shows a very weak but positive correlation between the profits made by contractors and the entrepreneurship reasons for owners to start contracting (Pearson correlation coefficient (r) = 0.001).

4.6.5 Correlation between the directors' passion for construction works and the directors/managers attending construction workshops/seminars/courses

Table 4.26. Correlation between directors' passion for construction and courses attended by directors.

		Directors' passion for construction	Courses attended by directors
Directors' passion for construction	Person	1	0.488
	Sig.(2-tailed)		0.711
Courses attended by directors	Person	0.488	1
	Sig.(2-tailed)	0.711	
	Sample Size (N)	127	127

**. Correlation is significant at the 0.001 level (2-tailed)

The analysis shows a very strong positive correlation between the directors' passion for construction and the Directors/Managers attending workshops/seminars/courses (Pearson correlation coefficient (r) = 0.711).

4.6.6 Correlation between directors' highest qualifications and the 3 years company profits over 3 years

Table 4.27. Correlation between the directors'/owners' qualifications and profits made by contractors.

		Directors qualifications	Company profits
Directors' qualifications	Person	1	0.615
	Sig.(2-tailed)		0.712
Company profits	Person	0.615	1
	Sig.(2-tailed)	0.712	
	Sample Size (N)	127	127

**. Correlation is significant at the 0.001 level (2-tailed)

The analysis shows a strong positive correlation between the directors' or owners' qualifications and the profits made by contractors (Pearson correlation coefficient (r) = 0.712).

4.6.7 Correlation between the company being advertised in any of the media for marketing purposes and the number of projects done by a company

Table 4.28. Correlation between the business advertisement and projects done by contractors

		Business advertisement	Projects done
Business advertisement	Person	1	0.058
	Sig.(2-tailed)		0.003
Projects done	Person	0.058	1
	Sig.(2-tailed)	0.003	
	Sample Size (N)	127	127

**. Correlation is significant at the 0.001 level (2-tailed)

The analysis shows a very weak but positive correlation between the business advertisement and projects already done by contractors (Pearson correlation coefficient (r) = 0.003).

4.6.8 Correlation between the company's current CIDB grading and the company profits over 3 years

Table 4.29. Correlation between the contractor's year of registration and profits made by contractors.

		Company's CIDB grading	Company Profits
Company's CIDB grading	Person	1	0.231
	Sig.(2-tailed)		0.003
Company profits	Person	0.231	1
	Sig.(2-tailed)	0.003	
	Sample Size (N)	127	127

**. Correlation is significant at the 0.001 level (2-tailed)

The analysis shows a very weak but positive correlation between the year the contractors were registered on the CIDB database and the profits made by contractors (Pearson correlation coefficient (r) = 0.003).

4.6.9 Correlation between the company being advertised in any of the media for marketing purposes and the work awarded outside KZN Province over a period of 5 years

Table 4.30. Correlation between works awarded outside the KZN Province and business Advertisement.

		Business advertisement	Work awarded outside the KZN Province
Business advertisement	Person	1	0.058
	Sig.(2-tailed)		0.590
Work awarded outside the KZN Province	Person	0.058	1
	Sig.(2-tailed)	0.590	
	Sample Size (N)	127	127

**. Correlation is significant at the 0.001 level (2-tailed)

The analysis shows a moderate but positive correlation between the work awarded to contractors outside the KwaZulu-Natal Province and the business advertisement done by them (Pearson correlation coefficient (r) = 0.590).

4.6.10 Correlation between the skills of the company's key personnel and the project being terminated due to the company's failure to execute

Table 4.31. Correlation between the skills of contractor's key personnel and project execution failure.

		Key personnel skills	Project execution failure
Key personnel skills	Person	1	0.229
	Sig.(2-tailed)		0.690
Project execution failure	Person	0.229	1
	Sig.(2-tailed)	0.690	
	Sample Size (N)	127	127

**. Correlation is significant at the 0.001 level (2-tailed)

The analysis shows a strong positive correlation between the skills of the main personnel and project execution failure (Pearson correlation coefficient (r) = 0.690).

4.6.11 Correlation between the work done in a joint venture with another construction company and the skills of the company's key personnel

Table 4.32. Correlation between joint venture works and key personnel skills.

		Joint ventures	Key personnel skills
Joint ventures works	Person	1	0.456
	Sig.(2-tailed)		0.599
Key personnel skills	Person	0.456	
	Sig.(2-tailed)	0.599	
	Sample Size (N)	127	127

**. Correlation is significant at the 0.001 level (2-tailed)

The analysis shows a strong positive correlation between the contractors that have participated in joint ventures and the skills of the contractor's key personnel (Pearson correlation coefficient (r) = 0.599).

4.6.12 Correlation between the project being terminated due to the company's failure to execute and the company buying significant items that were not for business purposes

Table 4.33. Correlation between project termination and non-business related investment

		Project termination	Non business related investment
Project termination	Person	1	0.456
	Sig.(2-tailed)		0.796
Non business related investment	Person	0.456	
	Sig.(2-tailed)	0.796	
	Sample Size (N)	127	127

**. Correlation is significant at the 0.001 level (2-tailed)

The analysis shows a very strong positive correlation between the projects being terminated due to the company's failure to execute and non-business related investments (Pearson correlation coefficient (r) = 0.796).

4.6.13 Correlation between the work done in a joint venture with another construction company and the company profits over 3 years

Table 4.34. Correlation between joint venture works and company profits

		Joint Ventures	Company's profit
Joint venture	Person	1	0.456
	Sig.(2-tailed)		0.324
Company profits	Person	0.456	
	Sig.(2-tailed)	0.324	
	Sample Size (N)	127	127

**. Correlation is significant at the 0.001 level (2-tailed)

The analysis shows is a moderate but positive correlation between the construction company that had done work in a joint venture with another construction company and the company profits over 3 years (Pearson correlation coefficient (r) = 0.324).

4.6.14 Correlation between company registering on other databases and projects already done

Table 4.35. Correlation between company registering on other databases and projects already done

		Other Databases	Projects done
Other Databases	Person	1	0.701
	Sig.(2-tailed)		0.424
Projects done	Person	0.701	
	Sig.(2-tailed)	0.424	
	Sample Size (N)	127	127

**. Correlation is significant at the 0.001 level (2-tailed)

The analysis shows is a strong but positive correlation between the construction company registered on any other data base other than that of the Department of Transport and the total number of projects done already by Vukuzakhe company (Pearson correlation coefficient (r) = 0.424).

4.6.15 Correlation between projects terminated by clients to failure to execute and non-business related items bought by the company

Table 4.36. Correlation between projects terminated by clients to failure to execute and non-business related items bought by the company

		Projects Terminated	Non business related purchased items
Projects Terminated	Person	1	0.690
	Sig.(2-tailed)		0.341
Non business related purchased items	Person	0.690	
	Sig.(2-tailed)	0.341	
	Sample Size (N)	127	127

**. Correlation is significant at the 0.001 level (2-tailed)

The analysis shows is a strong but positive correlation between the projects been terminated by the client due to the Vukuzakhe construction company failure to execute projects and the non-business related items purchased by the company (Pearson correlation coefficient (r) = 0.341).

4.6.15 Correlation between Vukuzakhe Company registration on other databases and work awarded outside KZN province

Table 4.37. Correlation between Vukuzakhe Company registration on other databases and work awarded outside KZN province.

		Other Database registration	Work awarded outside KZN province
Other Database registration	Person	1	0.688
	Sig.(2-tailed)		0.502
Work awarded outside KZN province	Person	0.688	
	Sig.(2-tailed)	0.502	
	Sample Size (N)	127	127

**. Correlation is significant at the 0.001 level (2-tailed)

The analysis shows is a strong but positive correlation between Vukuzakhe Company registration on other databases and work awarded to a company from outside KZN province. (r) = 0.502).

4.7 SUMMARY

In this chapter the survey results were presented in tables and figures. A correlation analysis was done to explore the relationships between contractor's entrepreneurship, key personnel skills, reinvestment of profits and other available opportunities. Further analysis, interpretation of the results and discussions follow in Chapter 5.

Chapter 5 Discussion of Results

5.1 INTRODUCTION

The main purpose of this chapter is to analyse, discuss and interpret the findings presented in the previous chapter. The aims and objectives of the study are linked to the research findings reported in chapter four. Thereafter conclusions are drawn on the main thesis of the study.

According to Chandra et al., (2001), South Africa's long-term problems of poverty and unemployment could be resolved through SMME construction contractor development. This author argued that since the unemployed and people living with poverty include the majority of the young and uneducated, SMME entrepreneurship programmes would not be a strong driver for job creation.

The survey done by Chandra et al., (2001) suggests that the largest percentage of owners of SMMEs in South Africa are people that are actually looking for work. As these people find other opportunities they adapt their strategy to suit their changed circumstances. In other words the majority of previously disadvantaged people, predominantly black, venture into entrepreneurship or open new businesses only with the intention of ensuring that they survive the hardship of poverty. The increase of 30% in construction companies registered before 2010 was due to the high expectations created by the imminent event of the FIFA Soccer World Cup – predictably a slump in company registrations occurred after 2010.

5.2 PRESENTATION OF RESULTS

The results will be discussed as follows: results of the two general questions in the survey will be discussed first. Thereafter the results of the survey questions relating to each of the four objectives will be discussed under the headings for the specific objectives. Table 4.1 shows the grouping of questions under each objective.

5.2.1 General Questions: Discussion of Survey Results

Question1: In which year was your business registered on the Department of Transport Vukuzakhe database?

As shown in Table 4.3 and Figure 4.1, the registration of contractors on the DOT database started just before the year 2000 when 6% of the contractors participating in the study registered. The slow start in registration was expected since the Vukuzakhe programme was newly introduced by the Department of Transport. A growth of 17% in registration from before year 2000 to year 2005 was recorded, totaling an increase of 23% in registration between years 2000 to 2005. From 2006 to 2010 the registration grew by 50%. This was due to the 2010 FIFA Soccer World Cup infrastructure projects. A sudden drop in registration from 2011 to 2015 occurred and only 22% of the contractors participating in the study registered during these years. The decline in registration was due to the fact that the Vukuzakhe programme did not live up to the expectations of the contractor ; the opportunities for contractors created by the Department were limited and not all registered contractors were able to get projects.

Question 5: The owner/director with the highest education qualification, what qualification does he/she have?

Results as shown in Table 4.4 and Figure 4.2 revealed that 65% of the owners or directors of Vukuzakhe companies had studied up to Grade 9 or lower, while 30% had studied up to Grade 12. Only 5% had tertiary qualifications. Ramaphosa (2013) lists fifteen reasons illustrating why education is generally imperative, a few of which are cited below:

- Education brings happiness, independent and stable life.
- Education helps to attract useful people to one's life and you are able to control your own destiny.
- Education propels one to achieve one's own goals and be in charge of one's own life.
- Education helps an individual to contribute to the economic growth of the country and the benefit of the nation.
- Education creates awareness of people on ethical culture.
- Education allows a person to adapt easily to new techniques and increase production
- Education gives an individual an exposure to ideas.

Managers and business leaders are important for business success; they are the decision-makers that shape the business's future. Managers have the ability to motivate, inspire and lead the employees in an organization. This results in good team performance, reduction of absenteeism and a highly competitive organization (Bosch, 2013).

5.2.2 Objective One: Discussion of Survey Results

Objective 1: To investigate whether people became Vukuzakhe contractors due to entrepreneurship reasons or not.

Question 4: This question contained 5 separate questions focusing on:

- Whether people wanted an opportunity to control their own destiny, striving to ensure that they were not employees but employers.
- Whether people wanted job flexibility and freedom, spend time doing what is deemed important to them.
- Whether people wanted unlimited earnings possibilities, and were self-motivated to build their own profitable businesses.
- Whether people yearned for independence of location, have freedom to be wherever they wanted to be.
- Whether people had a desire to leave a lasting legacy, have their company passed down through generations.

On all 5 sub-questions 60% of respondents replied YES and 40% replied NO (Table 4.6). Entrepreneurs are people who cherish independence and are mostly driven by passion and determination. According to Aburdene (2015) entrepreneurs like to be independent so that they are able to explore and experiment with new ideas that would bring maximum economic returns. About 60% of emerging of emerging contractors like to be independent and they are likely to succeed in their business venture whereas the remaining 40% were not self-motivated to build their own profitable business, suggesting that construction was not a long-term business goal for them.

Question 13, whether the management foresaw their Vukuzakhe company one day listed on the Johannesburg Stock Exchange (JSE), elicited a 40% YES response while 60% could not see this ever happening to their companies (Table 4.7, Figure 4.4). According to Rossouw et al. (2002), registration on the Johannesburg Stock Exchange (JSE) has many benefits, including easier access to finance and capital, the potential to raise huge capital from selling shares to the public as well as approaching big investors in order to fund the company's growth strategy. In as much as there are benefits in being listed on the JSE there are also challenges. The Security Exchange Act of 1934 regulates all JSE listed companies (Rossouw et al., 2002). For a small company it is often expensive to be listed. The high cost includes the

compilation of professional reports, hiring external auditors, increase in the company structure and payment of committees to do the oversight.

Question 19: Asked if the directors of Vukuzakhe companies were passionate about construction work, 39% of respondents replied YES and 61% NO. According to Curry, Rodin and Carlson (2015), employers' commitment to and passion for their business has recently emerged as imperative to the success of any business venture. It also improves business connections between the management and the business activities. Based on their responses, 61% of these Vukuzakhe contractors are not likely to succeed; only 39% have the potential to succeed.

5.2.3 Objective Two: Discussion of Survey Results

Objective 2: To investigate how skills of key personnel impact on the success of contractors.

Question 3: How many projects in total, have your company already done?

Responses from participants showed that 63% of contractors had done fewer than two projects whereas only 37% had done more than two projects (Table 4.9, Figure 4.6). The fewer the projects done by contractors the more difficult it is to sustain the construction business. The key skilled personnel that are required to sustain the business will need to work continuously to in order to earn an income.

Question 6: Amongst the owners/ directors/managers, what are the combined total years of experience?

Results from the survey indicated that 75% of owners/directors/ did not have any experience at all in construction, 20% had between 1 and 5 years of experience, and only 5% had 5 years or more of experience. Experience is important in construction; since the Vukuzakhe programme is targeting emerging contractors these figures highlights the reality that the majority of contractors (75%) will need mentoring and coaching as they execute their projects. Only 25% has any potential to succeed as it stands, since they have some form of construction experience and they need less mentoring and coaching.

Question10 consisted of 6 separate questions, as shown on Table 4.11 above, to ascertain the various work skills amongst Vukuzakhe contractor's key personnel, i.e. communication, teamwork, business, problem-solving and time management skills.

The majority of Vukuzakhe key personnel (80%) admitted that their communication skills were poor. Only 20% of the contractors indicated that they had average or good communication skills and were able to negotiate effectively. According to Eaglen et al., (2015) employers regard effective communication as key to today's very competitive business environment.

Amongst Vukuzakhe Contractors' key personnel, the vast majority (81%) conceded to poor teamwork skills while only 19% regarded their teamwork skills and ability to work successfully with other employees as good. Human resources are essential to successful organizations. Skills transfer amongst fellow employees is better achieved through teamwork. According to Eaglen et al. (2015), businesses that have a culture of working as teams, i.e. not have a silo mentality, often become very successful in meeting business objectives.

Similarly most of the key personnel among the Vukuzakhe contractors acknowledged that their commercial awareness skills were poor. Only 19% regarded their commercial awareness skills good enough to solve any financial problem effectively. It is important for any manager to be aware of the sector market trends and financial predictions in order to make informed decisions (Ganne & Lu, 2015).

The majority of key personnel among Vukuzakhe contractors also confessed to poor problem solving skills. A mere 19% of the contractors were of the opinion that they had good problem solving skills and were able to deal with unexpected issues whereas 81% of the contractors realized that their commercial awareness was poor. Whether big or small, construction is about solving problems, therefore it becomes an advantage for a construction business to have people that excel in problem-solving.

Most key personnel among Vukuzakhe contractors' key personnel admitted to poor time management skills. Only 19% regarded their time management such that they are able to meet deadlines whereas 81% of the contractors admitted to poor time management. Construction is about ensuring that projects are completed on time as there are huge costs associated with time overruns.

On the last question (Q10-F) in the Group under Question 10, the majority of Vukuzakhe key personnel disclosed that they were not enthusiastic about their work. Only 19% of the contractors stated that they are always enthusiastic and totally committed. Business commitment is vital to any success of any organisation.

Question 14: In the past 5 years, have any of your projects been terminated by the client due to your company's failure to execute?

There are a number of reasons that may lead to the non-performance of contractors. To deliver a project of high quality, within allowable budget, within the agreed period and meeting the client's needs, requires competent and skilled staff that will be able to plan and execute the project properly (Parker, 2011) .

An overwhelming 97% of contractors responded "NO" to a question of whether projects were terminated due to non-performance. This could be attributed to either leniency of the Department of Transport to terminate projects due to non-performance, or for developmental reasons (Table 4.12, Figure 4.8). According to Murphy (2011), an effective and efficient way of developing emerging contractors is to ensure that firstly they are keen and willing to be trained, secondly the contractors need to invest in their human resources and they must be literate, with a tertiary qualification an added advantage. The client must also ensure that the contractor is paid on time so that cash flow is not affected.

5.2.4 Objective Three: Discussion of Survey Results

Objective 3: To investigate whether profits made by contractors on their projects were re-invested back into their business.

Question 7: In the past 3 financial years, how much profit did your contractor make?

Responses to this question indicated that 24% of the contractors made profits equal to or not more than R50 000.00, about 59% made between R51 000.00 – R1 million and only 17% made profits of more than R1 million (Table 4.13, Figure 4.9). This means that 17% of contractors will be able to re-invest back to their businesses and 59% might not be able to reinvest because of the low profits that has been made in the past 3 years.

Question 12: What is the current value of your business assets?

In response to this question 13% of the contractors conceded that their business had no value, about 66% valued their business to be below R1 million and only 21% valued their business to be above R1 million (Table 4.14, Figure 4.10). According to Harris (2015), all business owners must know the value or the worth of their businesses because it is a measure of the previous, current and future position of the business. This suggests that 79% of the

contractors would also need more guidance on how to grow their business value to be at least above R1 million.

Question 15: Has your company spent its available profits without compromise on marketing, information management systems, training and mentoring?

Question 15 was comprised of 4 sub-questions focusing on re-investment of profits into specific aspects of the business, including marketing and advertising, information technology, assets and equipment, and training and mentoring.

Some 85% of respondents said they did not spend money on marketing and advertising, whereas only 15% responded to have spent money on marketing (Figure 4.11). For a business to be professional it is not that easy, it requires dedicated staff, effective and efficient in resource utilisation. Companies need to be competitive in all business aspects in order to generate maximum profits. According to Parker (2011), guidelines to business success include setting up of goals, knowledge of market behaviour, enough capital and a talented team of people.

Re-investment of profits in an information management system (IMS) was a priority for 24% of the Vukuzakhe contractors while 76% did not re-invest in IMS. Similarly 40% of the Vukuzakhe contractors indicated that their companies spent available profits on the purchasing of assets like office accommodation and equipment while 60% did not. On the question whether available profits were re-invested in training and mentoring of staff, 52% of the Vukuzakhe contractors confirmed that more than half of their profits are re-invested in the business, whereas 48% responded with a NO.

Question 16: In the last financial year, has your company bought significant items that were not for business purposes?

Survey responses to Question 16 revealed that a majority of 60% of the Vukuzakhe contractors alluded to the company having bought significant items that were not for business purposes while 40% refrained from doing so (Table 4.12).

Question 17: In the last few years, have any of the directors/managers attended any construction related workshops/seminars/courses?

According Mahadea (2012), " for business owners, allowing employees to get out of the office, gain confidence in their ability, and bring fresh ideas back to the business, is an

investment in your own business". Responses to Question 17 indicated that a mere 6% of Vukuzakhe directors/managers, in the last few years, attended construction-related workshops/seminars/courses while 94% did not (Table 4.16, Figure 4.13). Thus it seems that 94% of contractors need to be assisted to invest in knowledge with the aim of growing their businesses.

Question 20: Is the work done by your company being advertised in any media/newspapers for marketing purposes?

In answer to Question 20, 93% of Vukuzakhe contractors confirmed that the work done by the company was advertised in the media or newspapers for marketing purposes whereas only 7% did not advertise their work in the media (Table 4.17, Figure 4.14). According to Patel & Graham (2012), advertising has been categorized as one of the most important techniques for the marketing of services or products. Some benefits associated with advertising are:

- customers are informed,
- new customers are gained and loyal customers retained,
- product demand increases, which influences sales positively,
- people's attitude towards a product or service is altered, and
- employment is created.

5.2.5 Objective Four: Discussion of Survey Results

Objective 4: Opportunities available to Vukuzakhe Contractors outside the Department of Transport.

Growing a business requires huge investment of one's available resources, money and effort. The following points are worth considering when growing a business: targeting other markets, diversify, merge with other construction companies and joint ventures, open another construction branch office in a busy location, etc. (Appiah-Baiden & Murray, 2013).

Many SMMEs would indeed like to secure business opportunities from government, whether it is from national, provincial or local government. Entrepreneurs who plan to win government tenders or submit proposals must have a clear business plan or complete tender documents issued by government correctly and in full. The Preferential Procurement Policy

Framework Act 5 of 2000 was drafted with the purpose to promote, support and encourage small businesses in this regard (KZN DOT, 2015a).

Question 8: Is your company registered on any database other than that of the Department of Transport?

From the responses to Question 8 it was gleaned that 65% of the Vukuzakhe contractors had not registered their companies on databases other than that of the Department of Transport whereas 35% had done so (Table 4.18, Figure 4.15). There are three spheres of government in South Africa, i.e. national, provincial and local government. All these spheres of government have businesses that they deal with, thus each of them have their own database of suppliers. As an SMME it is important to expand your business opportunities by registering on other departments' supplier databases.

Question 9: In the last 5 years, has your company been awarded work outside the Province of KwaZulu-Natal?

Responses to this question indicated that the majority of contractors (88%) had never been awarded work outside the province of KwaZulu-Natal whereas only 12% confirmed that they had been (Table 4.19, Figure 4.16). The 12% of contractors who had already managed to find new clients outside the KZN Province stand a better chance of growing their business.

Question 11: If an opportunity presented itself, would your company subcontract work from other construction businesses?

Responses to Question 11 suggested that only 30% of the Vukuzakhe contractors would, if an opportunity came up, subcontract work from other construction businesses whereas 70% would not. The 30% of contractors who are prepared to subcontract would in the future be able to partner with other contractors and so grow their businesses. Subcontracting work from a main contractor affords small and disadvantaged businesses an opportunity to participate in large projects run by large construction companies. For large multi-billion Rand government projects where tenders have been awarded to large contractors, the agreement or conditions of the contract stipulate that a certain percentage of work should be subcontracted to small businesses, including female-owned businesses, previously disadvantaged population groups, people with disabilities and veteran-owned enterprises. According to the Department of Transport, on major projects exceeding R10 million, 50% of the project value are work for which subcontracting work opportunities are reserved for small developing businesses or

Vukuzakhe contractors (KZN DOT, 2015a). The main contractor is required to report on the project progress and subcontracting beneficiary targets electronically to the Department.

Question 18: Has your company attempted or secured business or tenders from a municipality, other provincial departments, national government and/or the private sector?

Question 18 comprised four questions, all of which were trying to establish whether Vukuzakhe contractors had ever submitted tenders to or won tenders with large organizations in the public (other than with the KZN Department of Transport) or private sectors. According to the responses 56%, 25%, 5% and 15% of contractors confirmed to searching work with municipalities, provincial government, national government and the private sector respectively (Figure 4.18). About 35%, 75%, 95% and 85% denied to searching work with municipalities, provincial government, national government and the private sector respectively. Construction companies are dependent mainly on tendering for work from various client bodies and not only depend on one client. Therefore, if a contractor does not tender on any available construction works, chances of success are slim. An average of 80% of contractors are not broadening their client base which might impede the future growth of their business.

Question 21: In the past few years, has your company done work in a joint venture arrangement with another construction company?

In response to Question 21, a mere 9% of Vukuzakhe contractors could confirm that their companies, in the past few years, had done work in a joint venture arrangement with another construction company and shared equipment, whereas the vast majority of 91% never had. With the construction sector rapidly growing and gaining momentum, joint ventures (JVs) have become the new way of life in construction (Murphy, 2011). Entering into joint ventures carries benefits such as exposure to new building technologies or techniques, access to finance and gaining new markets. Jack and Harris (2015) emphasise that entering into a new joint venture could be synonymous to entering into a new marriage due to the problems and risks it presents.

5.3 CORRELATION ANALYSIS

The Pearson's Product Moment Correlation Coefficient was used to determine various factors in this study. The various factors considered were entrepreneurship, key personnel skills,

profits, business opportunities, director's passion, courses attended by directors, completed projects, advertisement of a business, contractor's CIDB registration and joint venture projects.

- **Correlation between the skills of the company's key personnel and the Vukuzakhe owner's reasons to venture into a construction company**

The correlation analysis shows a very weak positive correlation between the Vukuzakhe company owner's reasons to venture into a construction company and the skills of the key personnel (Pearson correlation coefficient (r) = 0.017). The higher the skills of key personnel, the more reason there is for the Vukuzakhe company owner to venture into a construction business.

- **Correlation between the skills of the company's key personnel and the cumulative company profits over 3 years**

The correlation analysis shows a strong positive correlation between the skills of key personnel and the profits made by businesses (Pearson correlation coefficient (r) = 0.610). The higher the skills of key personnel, the more profits are made by Vukuzakhe companies.

- **Correlation between the business subcontracting opportunities and the skills of the company's key personnel**

The correlation analysis shows a moderately positive correlation between the business subcontracting opportunities and the skills of the company's key personnel (Pearson correlation coefficient (r) = 0.410). More subcontracting opportunities lead to better skills of key personnel in Vukuzakhe companies.

- **Correlation between the Vukuzakhe owner's reasons to venture into a construction company and the cumulative company profits over 3 years**

The correlation analysis shows a very weak positive correlation between the Vukuzakhe company owner's reasons to venture into a construction company and the company profits over 3 years (Pearson correlation coefficient (r) = 0.001).The more reason Vukuzakhe owners have to venture into a construction company the more the cumulative company profits over 3 years are**.**

- **Correlation between the director's passion for construction works and the directors/managers attending construction workshops/seminars/courses**

The analysis shows a very strong positive correlation between the director's passion for construction and the directors/managers attending workshops/seminars/courses (Pearson correlation coefficient (r) = 0.711). The deeper the director's passion for construction works the more the directors /managers are inclined to attend workshops / seminars/courses.

- **Correlation between directors' highest education qualifications and cumulative company profits over 3 years**

The analysis shows a strong positive correlation between the education qualification of directors or owners of a contractor and the profit made by contractors (Pearson correlation coefficient (r) = 0.712). The higher the education qualification of the directors or owners of a contractor, the more the profits that are made by the contractor.

- **Correlation between the company being advertised in any of the media for marketing purposes and the number of projects done by the company**

The analysis shows a very weak positive correlation between the business advertisement and projects already done by contractors (Pearson correlation coefficient (r) = 0.003). The more the business is advertised the more projects contractors are awarded.

- **Correlation between the company's current CIDB grading and the company profits over 3 years**

The analysis shows a very weak positive correlation between the years the contractors were registered on the CIDB database and the profits made (Pearson correlation coefficient (r) = 0.003). The more years the contractors have been registered on the CIDB database, the more profits they have made over 3 years.

- **Correlation between the company being advertised in any of the media for marketing purposes and the work awarded outside KZN Province over a period of 5 years**

The analysis shows a moderately positive correlation between the work awarded to contractors outside the KwaZulu-Natal Province and the business advertisement done by

contractors (Pearson correlation coefficient (r) = 0.590). The more business advertisement contractors do, the more work they are awarded outside the KwaZulu-Natal Province.

- **Correlation between the skills of the company's key personnel and the project being terminated due to the company's failure to execute**

  The analysis shows a strong positive correlation between the skills of key personnel and failure of project execution (Pearson correlation coefficient (r) = 0.690). The higher the skills of key personnel and the lesser chances for a project to fail or loose profits.

- **Correlation between the work done in a joint venture with another construction company and the skills of the company's key personnel**

  The analysis shows a moderate but positive correlation between the skills of key personnel and the work done in joint ventures (Pearson correlation coefficient (r) = 0.599). The more contractors participate in joint ventures the better the skills of the contractor's key personnel are.

- **Correlation between the project being terminated due to company's failure to execute and the company buying significant items that were not for business purposes**

  The analysis shows a very strong positive correlation between the projects being terminated due to company's failure to execute and the company buying significant items that were not for business purposes (Pearson correlation coefficient (r) = 0.796). The more contractors buy significant items that are non-business related, the more often projects are terminated due to the company's failure to execute.

- **Correlation between the work done in a joint venture with another construction company and the cumulative company profits over 3 years**

  The analysis shows a moderately positive correlation between the construction company that had done work in a joint venture with another construction company and company profits over 3 years (Pearson correlation coefficient (r) = 0.324). The more work the construction company does in a joint venture with another construction company, the better the cumulative company profits are over 3 years.

- **Correlation between company registering on other databases and projects already done**

  The analysis shows is a strong but positive correlation between the construction company registered on any other data base other than that of the Department of Transport and the total number of projects done already by Vukuzakhe company (Pearson correlation coefficient (r) = 0.424).

- **Correlation between projects terminated by clients to failure to execute and non-business related items bought by the company**

  The analysis shows is a strong but positive correlation between the projects been terminated by the client due to the Vukuzakhe construction company failure to execute projects and the non-business related items purchased by the company (Pearson correlation coefficient (r) = 0.341).

- **Correlation between Vukuzakhe Company registration on other databases and work awarded outside KZN province**

  The analysis shows is a strong but positive correlation between Vukuzakhe Company registration on other databases and work awarded to a company from outside KZN province. (r) = 0.502).

5.4 CONCLUSION

The primary findings and correlations were discussed in this chapter. The research questions that were answered by participants were also linked to the literature review in Chapter 2. The aim of this chapter was to establish the relationship between the literature review and the findings of the study. In the following chapter conclusions are drawn and recommendations made to address shortcomings of emerging contractors and their environment.

Chapter 6 Conclusion

6.1 INTRODUCTION

This chapter summarises the research findings and link research objectives with the results of the study. In conclusion recommendations are put forward for remedial action and for future research. The main purpose of this research was to gain insight into the Vukuzakhe Contractor Development Programme of the KwaZulu-Natal Department of Transport. The perception is that the programme is not succeeding in meeting its objective of developing self-sustained contractors. This study attempted to establish the reasons that contribute to the non-development and lack of economic growth among the emerging contractors who participate in the Vukuzakhe Programme.

Four research objectives had been set, namely: to investigate if people became Vukuzakhe contractors only for reasons of entrepreneurship, how skills of key personnel impact on the success of a particular contractor, if profits made by contractors on their projects are re-invested in the business and to establish and whether Vukuzakhe contractors have business opportunities other than those opportunities available within the Department of Transport.

6.2 OBJECTIVES OF THE VUKUZAKHE PROGRAMME

The Vukuzakhe programme seeks to create a constructive platform for the effective transformation of the KZN roads infrastructure sector by first creating an enabling environment, looking at the supply side interventions, availability of procurement opportunities and also ensuring that there is technical, management and financial support for the contracting entities in the Vukuzakhe Programme (KZN DOT, 2015a).

The programme aims to develop a pool of historically disadvantaged individual (HDI) contractors that are highly skilled to enable them to compete in the open market for the 2010 infrastructure opportunities and beyond. The Department of Transport offer support to Vukuzakhe contractors in order to ensure sustainability and effectiveness of organizational development (KZN DOT, 2015a).

The programme focuses on wealth and job creation in the communities that had historically been most disadvantaged by the legacy of apartheid. It is clear that the programme promotes

and supports emerging contractors from the communities that had been most disadvantaged. The decision to target and prioritize black people in the programme was based on the fact that the KwaZulu-Natal Provincial Government is fully aware that the construction sector reflects vast inequalities in ownership, with little transformation having taken place. Black participation is principally at the micro- and small business level where there are also low levels of sustainability (KZN DOT, 2015a).

As a result, there is little penetration of black contracting entities in those sectors that are capital and knowledge intensive. This situation is exacerbated by the absence of adequate financial and other support mechanisms for new black market entrants. In line with the Medium-Term Expenditure Framework (MTEF), the Department has set three-year targets for the development and participation of vulnerable groups. These targets are subject to reviews on an annual basis as part of the Annual Performance Plan of the Department (KZN DOT, 2015a).

6.3 RESEARCH FINDINGS

- ***Objective 1***: To investigate whether people became Vukuzakhe contractors due to entrepreneurship reasons or not.
    - Results from the survey question suggest that a majority (60%) of contractors became vukuzakhe contractors for the following entrepreneurship reasons:
        (i) The company owners wanted to control their own destiny but also they did not want to become employees, but wanted to be future employers in the construction sector.
        (ii) Vukuzakhe companies' owners also wanted job flexibility and freedom, spend time doing what is deemed important to them.
        (iii) Owners also were motivated to build their own profitable businesses.

        The correlation analysis revealed that neither the skills level of personnel nor the company profits had a very significant bearing on a contractor's decision to enter into entrepreneurship (0.017 and 0.001 respectively). Fewer (40%) Vukuzakhe contractors responded to the survey questionnaire by answering "NO", they did not ventured into to construction business due to entrepreneurship reasons.

- The questionnaire results also suggest that fewer contractors (40%) also foresaw their construction companies being registered on the Johannesburg Stock Exchange (JSE) and large number of contractors (60%) was either not sure or did not foresee their companies growing to an extent of registering on the JSE.

  The correlation between the high qualification of directors and the company success is strong and positive (0.712). According to the results from the questionnaire it can be concluded that Vukuzakhe contractors had poor understanding of the existence and the objectives of the JSE, since the majority (65%) of the directors or owners only studied up to grade 9.
- The survey results suggest that fewer (39%) were passionate about construction and the majority (61%) were not self-motivated. The correlation analysis revealed that there is a strong bearing (0.711) between the directors' passion for construction and the company being able to make business profits. The conclusion could be drawn that only 39% of the construction companies would be able to be successful in the future and 61% that are owned by directors who were not prior self-motivated and did not have entrepreneurship reasons to venture into construction are likely to fail.

➢ ***Objective 2***: To investigate how skills of key personnel impact on the success of contractors.

- Results from the survey questionnaire suggest that a majority (63%) of Vukuzakhe contractors has previously done two or less projects and only a few (37%) that have been successful to secure over two projects per company. The correlation analysis (0.610) revealed that the Vukuzakhe contractors which have skilled key personnel are more likely to be successful in their businesses.
- The results from the survey questionnaire suggest that a large number (75%) of Vuluzakhe contractors don't have experience in construction and only few (5%) that that had more than five years of experience as per their responses. The correlation analysis (0.714) reveals that there is a strong bearing between the experience of the contractors' key personnel and the success of contractors. The conclusion can be drawn that only 5% of Vukuzakhe contractors that have

experience staff are likely to be successful in their business and 75% will fail based on the fact that they don't have enough experience to perform.

- The results from the survey questionnaire suggest that a majority (95%) of Vukuzakhe contractors never had their projects terminated due to their own poor performance. The correlation analysis (0.714) reveals that there is a strong bearing between the experience of the contractors' key personnel and the success of contractors. The non-termination of Vukuzakhe projects by KwaZulu Natal Department is attributed by the lenience and accommodative policy conditions to Vukuzakhe contractor programme as it is regarded as development programme for emerging contractors.

➢ ***Objective 3***: To investigate whether profits made by contractors on their projects were re-invested back in their business or not.

- Results from the survey questionnaire suggest that few (17%) of Vukuzakhe contractors made at least R 1 million profit from previous projects and they would be able to re-invest back to their business and the majority (59%) of contractors will not be able to re-invest since they did not make profits. The correlation analysis (0.612) revealed that the skills of the company's key personnel have a very significant bearing in profits made by the Vukuzakhe contractor.
- Questionnaire results also showed that few (15%) of the Vukuzakhe contractors have reinvested on marketing their businesses and the majority (85%) did not invest. The correlation analysis (0.003) revealed that there is a weak bearing on Vukuzakhe contractors advertising themselves and the number of projects awarded or secured by the Vukuzakhe contractor.
- Results from the survey questionnaire revealed the majority (60%) of Vukuzakhe contractors bought significant items that were not for business purposes while 40% refrained from doing so. The correlation analysis (0.690) reveal that there is opposite but very significant bearing between purchasing items not for business and the Vukuzakhe contractors' projects terminated due to the company's failure to execute projects.
- Results showed that only few (6%) of Vukuzakhe contractors directors/managers invested on skills enhancement by attending construction

related workshops/seminars/courses while 94% did not. The correlation analysis (0.770) revealed that attending construction related workshops/ seminars/courses by directors has a very significant bearing on the Vukuzakhe contractors' directors passion for construction.

- ***Objective 4***: To establish whether Vukuzakhe contractors have pursued other business opportunities other than those available within the Department of Transport.
    - The results from the survey questionnaire revealed that the majority (65%) of the Vukuzakhe contractors had not registered their companies on databases other than that of the Department of Transport whereas few (35%) had done so. The correlation analysis (0.701) revealed that the number of projects done by Vukuzakhe contractors had a very significant bearing on the number of contractors that have pursued opportunities by also registering on their companies on databases other than that of the Department of Transport.
    - Questionnaire survey revealed that the majority (88%) of Vukuzakhe contractors had never been awarded work outside the province of KwaZulu-Natal whereas only a few (12%) that confirmed that they had been. The correlation analysis (0.688) revealed that the Vukuzakhe contractors that have registered their companies on databases other than that of the Department of Transport had a very significant bearing on number of Vukuzakhe contractors that have managed to register their companies on databases other than that of the Department of Transport.

6.4 CHALLENGES OF IMPLEMENTING THE VUKUZAKHE PROGRAMME

There are a number of challenges that face the Vukuzakhe programme that were found during the study. They are summarised as follows:

- The programme was wide open for anyone who wanted to participate as a contractor; there was no skills audit or minimum level of education that was required as pre-entry criteria into the programme. Answers to question 5 indicated that 65% of the owners or directors of Vukuzakhe contractors had only passed up to Grade 9 at high school whereas only 35% had obtained minimum Grade 10 and also had tertiary qualifications. This made

it difficult for the Department of Transport to conduct financial and technical skills training with contractors.

- Since the projects were awarded to the best priced tender, only a few contractors were getting work rapidly – the situation would probably have been better if there were some kind of rotation strategy for work opportunities that could have at least guaranteed that the work would be shared amongst contractors. A majority of 63% of contractors had two or fewer than two projects.
- No exit strategy was found during the research, with the result that contractors could end up being in this programme for emerging contractors for an indefinite period of time.
- The finance capital still remains a challenge for the SMMEs and for developmental programmes like Vukuzakhe.

6.5 RECOMMENDATIONS TO SOLVE RESEARCH PROBLEM

The study analyzed the success of the Vukuzakhe programme in developing self-sustained roads construction contractors. The following recommendations are put forward in order to fill the shortcomings identified in the Vukuzakhe programme to ensure that the programme objectives are met.

6.5.1 The growth of contractors

Since the Vukuzakhe programme is the contractor development incubator, it must be ensured that there are sufficient support systems in place to develop contractors. It is strongly recommended that the current system of getting work through tender processes should be reviewed. It is proposed that while the contractors are developed they should not compete with one another but should be groomed for a period of time until they are fully established to work on their own. The contractors are to be hand-held until they get to stage 3 where there are able to do work for at least R2 million on their own. Support systems should be in place to ensure that contractors gain meaningful exposure and experience in the construction industry without failing.

6.5.2 Management qualifications

The correlation analysis shows that there is a strong but positive correlation between the education qualification of directors or owners of a contractor and the profit made by

contractors (Pearson correlation coefficient (r) = 0.712). The higher the education qualification of the directors or owners of a contractor, the more profits are made by the contractor.

The qualification of the owners of business is a vital aspect as it is one of the determining aspects of a successful company. Contractors at the entry level should at least have Grade 12 with a pass in mathematics and/or business economics. This would assist the department in doing effective training, and transferring knowledge and skills to the contractors without them failing to comprehend.

6.5.3 Marketing and advertising strategies

In order to ensure that the business is sustainable there must be loyal customers. People become loyal to the business when positive memories are created about the business for the buyers and stakeholders. Though Vukuzakhe contractors fall under the category of SMMEs they still need to market their businesses to other public and private sector clients in order to grow their business opportunities.

6.5.4 Re-investment of profits

It is strongly recommended that Vukuzakhe contractors re-invest their profits back into their businesses in order to expand at an early stage of their business journey. According to Brown (2010) there are five ways a small business could invest their profits in the business, namely:

- Pay off debts – paying off debts should be a primary focus as it helps the business to be financially independent.
- Maximize inventory or service capacity – though this depends on the type of business, having enough stock helps the business to maintain prices and deliver orders.
- Brand expansion – in most cases small businesses are not too sure where to begin, but employing a marketing person part-time to manage the business brand and introducing the brand could benefit a small company in the long run.
- External investment – this is sometimes called a “rain day” fund. Investing money in other markets and not directly into the business could enhance the financial company’s portfolio.

- Employ a chief financial officer (CFO) – managing business finances could be difficult for a small business; it might be wise and benefiting to invest in hiring a CFO part-time to manage the finances and give financial advice.

6.5.5 Sub-contracting opportunities

There are a number of reasons why sub-contracting is done in the construction sector. The main contractor could subcontract work to increase productivity, to manage and control cost, to increase product quality or to outsource. Thus it is recommended that a small business venture into these sub-contracting opportunities in order to gain experience, exposure and to make profits.

6.5.6 Business Joint Ventures (JV)

The analysis shows that there is a moderate but positive correlation between the construction company that have done work in a joint venture with another construction company and company profits over 3 years (r) = 0.324. The more work the construction company has done in a joint venture with another construction company, the more company profits are over 3 years.

The joint venture company (JVC) is a popular form of an organizational structure, where companies jointly venture into a construction business. Joint ventures afford companies an opportunity to complement one another with skills and increase their competitive edge which could improve the company's chances to access more markets. It is recommended that small companies find suitable partners that they can trust to form a JV, which could act as a catalyst in skills transfer from the main contractor to the small or emerging contractor.

6.6 LIMITATIONS OF THE STUDY

The Vukuzakhe contractor development programme targets the historically and previously disadvantaged people. Although the contractors understand the English language well enough to get by, the poor education background was a limiting factor. It would also have been ideal if all contractors in all districts within the Province of KwaZulu-Natal were afforded an opportunity to participate in this study but, due to cost implications, only 127 contractors could be interviewed.

The study was conducted only in the Province of KwaZulu-Natal, as it is the only province implementing a contractor development programme. It would provide further insights to do a country-wide study with the aim of finding similarities and differences across South Africa on similar programmes for developing emerging contractors.

6.7 FUTURE RESEARCH

This study only focused on the Vukuzakhe contractors. It is f recommended that further research be done on the impact and contributions made by the Vukuzakhe trainers and mentors to the success of the KZN Department of Transport Vukuzakhe Development Contractor's programme.

Further research should also be done on why women participation in the Vukuzakhe construction programme is lower than male participation. The question to be researched, is whether the construction business is still perceived by women as the type of work that is only reserved, suitable and favourable for men?

6.8 CONCLUSION

The Vukuzakhe programme implemented by the Department of Transport in KwaZulu-Natal is definitely a sound concept that could be replicated by governments in other provinces within South Africa and in other under-developed countries in order to establish emerging construction contractors. To get the majority of the people into the main stream of the economy and create jobs, education and skills development are imperative.

There is no doubt that the recommendations put forward in this chapter, if implemented correctly, could indeed enhance the Vukuzakhe programme to meet its objectives fully.

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APPENDIX 1. Application for Ethics Approval

UKZN HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE (HSSREC)

APPLICATION FOR ETHICS APPROVAL

For research with human participants

INFORMED CONSENT RESOURCE TEMPLATE

Note to researchers: Notwithstanding the need for scientific and legal accuracy, every effort should be made to produce a consent document that is as linguistically clear and simple as possible, without omitting important details as outlined below. Certified translated versions will be required once the original version is approved.

There are specific circumstances where witnessed verbal consent might be acceptable, and circumstances where individual informed consent may be waived by HSSREC.

3.1 Information Sheet and Consent to Participate in Research

Date: .....

Greeting: **Vukuzakhe Emerging Contractors**

My name is **Siboniso Mbhele** from the Department of Transport, employed as a General Manager for the Durban Region.

You are invited to consider participating in a study that involves research on the Vukuzakhe Emerging Contractors Programme. The aim and purpose of this research is

- To investigate if people became Vukuzakhe contractors due to entrepreneurship reasons or not.
- To investigate how skills of key personnel impact on the success of contractors.
- To investigate if profits made by contractors on their projects were re-invested back to their business or not.
- To establish if Vukuzakhe contractors have pursued other business opportunities other than those available within the Department of Transport.

The study is expected to enroll 360 participants within the four Regions in the KZN Province, Empangeni, Ladysmith, Pietermaritzburg and Durban. It will involve the answering of a questionnaire form. The duration of your participation if you choose to enroll and remain in the study is expected to be 30 min. The study is NOT funded by anyone.

The study does not involve any risks and/or discomforts that the researcher is aware of. We hope that the study will create more understanding of the Vukuzakhe Emerging Contractors developmental programme.

In the event of any problems or concerns/questions you may contact the researcher at (provide contact details) or the UKZN Humanities & Social Sciences Research Ethics Committee, contact details as follows:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

RESEARCH OFFICE, WESTVILLE CAMPUS
GOVAN MBEKI BUILDING
Private.BagX54001
Durban
4000

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2604557- Fax: 27 31 2604609

Email: HSSREC@ukzn.ac.za

The participation in this research is voluntary and participants may withdraw participation at any point. In the event of refusal/withdrawal of participation the participants will not incur any penalty or financial loss or being prejudice in any way in future. There are no potential consequences to the participant for withdrawal from the study. The researcher may terminate the participant from the study only if the participant is unwilling to participate or there is mutual misunderstanding between the participant and the researcher.

There will be no costs that might be incurred by participants as a result of participation in the study. There are also no incentives or reimbursements for participation in the study.

To protect the confidentiality of participants, the participants will be required NOT to fill their names and personal details on their questionnaire forms, participants will be participating purely voluntarily and anonymously.

N.B : THE HEAD OF KZN TRANSPORT HAS APPROVED THAT THIS STUDY BE CONDUCTED. *(SEE THE ATTACHED APPROVAL LETTER)*

APPENDIX 2. Consent Form

CONSENT

I …….. from the Vukuzakhe registered company called

……have been informed about the study entitled Research on Vukuzakhe Emerging Contractors Programme by Mr Siboniso Mbhele (General Manager: Transport).

I understand the purpose and procedures of the study.

I have been given an opportunity to answer questions about the study and have had answers to my satisfaction.

I declare that my participation in this study is entirely voluntary and that I may withdraw at any time without affecting any of the benefits that I usually am entitled to.

I have been informed about any available compensation or medical treatment if injury occurs to me as a result of study-related procedures.

If I have any further questions/concerns or queries related to the study I understand that I may contact the researcher at (provide details).

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers then I may contact:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

RESEARCH OFFICE, WESTVILLE CAMPUS
GOVAN MBEKI BUILDING
Private.BagX54001
Durban
4000

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2604557 - Fax: 27 31 2604609

Email: HSSREC@ukzn.ac.za

_____ _____

Signature of Participant **Date**

_____ _____

Signature of Witness **Date**

(Where applicable)

_____ _____

Signature of Translator **Date**

(Where applicable)

APPENDIX 3. Questionnaire

Thank you for taking the time to complete this survey. Your responses are anonymous. All individual responses will be kept confidential and will be used by the researcher. *Mark with an **"X"** the appropriate box.*

---

1. Which year was your business registered with department of transport Vukuzakhe data base?

Before 2000	2000- 2005	2006 -2010	2011-2015

2. What is the current CIDB grading for your company?

Grades	1	2	3	4	5	6	7

3. How many projects in total, has your company already done?

Less or equal to 2	More than 2

4. The Vukuzakhe owner's reasons to venture into a construction company is to

		YES	NO
A	Have an opportunity to control their own destiny (ensuring that they are not employees but employers)		
B	Freedom to spend time doing what's important (Job flexibility)		
C	Unlimited earnings possibilities (self-motivated to build your own profitable business)		
D	Location independence (having freedom to be where you want)		
E	Desire to leave a lasting legacy (have your company passed down through generations)		

5. The owner/director with the highest education qualification, what qualification does he/she possess?

Grade	Grade	Grade	Certificate	Diploma	Degree	Other
1 - 7	8 - 9	10 -12				

6. Amongst the owners/ directors/managers, what are the combined total years of experience?

Years	Years	Years	Years	Years
0-5	6 -10	11 - 15	16 -20	Over 20

7. In the past 3 financial years, how much profit did your contractor make?

Thousands R	Thousands R	Millions R	Million R	Million R
0 - 50	51 - 999 999	1 - 3	4 - 10	Over 10

8. Is your company registered on any other data base other than that of the Department of Transport?

NO	YES

9. In the last 5 years have your company been awarded with work outside The Province of kwaZulu-Natal?

YES	NO

10. Please rate the your key personnel skills according to the following table (1 – poor) (3 –Average) (5 – Good)

		1	3	5
A	Communication skills (able to negotiate)			
B	Team work (work successful with other employees)			
C	Commercial awareness (Problem solving)			
D	Problem solving (dealing with the unexpected)			
E	Time management (meet deadlines)			
F	Enthusiasm (100% committed)			

11. If an opportunity can present itself can your company subcontract work from other construction businesses?

YES	NO

12. What is the current value of your company's business assets?

Thousands R	Thousands R	Millions R	Million R	Million R
0 to < 50	50 to < 1million	1 to < 4	4 to 10	Over 10

13. Do you foresee your company one day listed on the JSE?

YES	NO

14. In the past 5 years, have any of your projects been terminated by the client due to your company's failure to execute?

NO	YES	N/A

15. Has your company spent its available profits without compromise on the following

		NO	YES
A	Marketing and advertising		
B	Information Management system		
C	Purchase Assets (building and construction machinery)		
D	Training and Mentoring Staff		

16. In the last financial years has your company bought significant things that were not for business purposes?

YES	NO

17. In the last few years, have any of the directors/managers attended any construction related workshop/seminar/course?

YES	NO

18. Has your company attempted or secure business or tendered to at-least the following clients

		YES	NO
A	Municipalities		
B	Provincial Government other than Transport		
D	National Government		
F	Private Sector		

19. Are the directors passionate about construction works?

YES	NO

20. Is the work done by your company being advertised in any of the media/newspapers for marketing purposes?

YES	NO

21. In the past few years, has your construction company done work in a joint venture arrangement with another construction company?

YES	NO

APPENDIX 4. ETHICAL CLEARANCE

APPENDIX 5. **(Letter from Employer)**

APPENDIX 6. Turnitin Report