

Management College of Southern Africa

**Evaluating the Entrepreneurial Skills Sets of Emerging Contractors in Civil
Engineering in KwaZulu-Natal**

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**Evaluating the Entrepreneurial Skills Set of Emerging Contractors in Civil
Engineering in KwaZulu-Natal**

By

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**Dissertation submitted in partial fulfilment of the requirements for the degree of
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Declaration

I, **Sakhile Dlamini**, do hereby declare that, evaluating the entrepreneurial skills sets of emerging contractors in civil engineering in KwaZulu-Natal province is my own personal work and that all the sources that were listed in the bibliography were indicated and acknowledged by means of complete references. The work has not been submitted and is not being utilized for any degree in any tertiary institution.

S. Dlamini

Date:

Dedication

I would like to thank my fiancée Trisha Joseph for being a pillar of strength. Without your support, I wouldn't have completed this research study. Thank you to my children, Bayanda and Zikhona who make me happy during hard times. To my parents, Jeremiah and Nelisiwe Dlamini, who always believe in me. I also wish to thank my siblings, my sister Slindile and my two younger brothers Melusi and Khulekani. Ngiyabonga Bongwane.

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Abstract

Previous studies interested in contractor's skills have emphasized the need for a certain skill set for emerging contractors in the civil engineering field on skills such as technical skills, on-site training skills, tendering and pricing skills etc. However, it seems most of the mentioned skills have fallen short of significant entrepreneurial skills for emerging contractors. These skills enable contractors to monitor and maintain their construction companies to grow successfully and ensure sustainability. A quantitative research study was carried out within the civil engineering field in the province of KwaZulu-Natal. This study was focused on evaluating the skill set of emerging contractors and the competency of skills they possess to run successful construction projects. The aim of this study was directed at gaining better insight to the type of entrepreneurial skills required by contractors to form and create competent and sustainable companies. The study focused on evaluating the skills of contractors and the skills they require to be successful in this field. A quantitative research was conducted using closed-ended questions which were administered to one hundred participants. The participants included contractors operating as civil engineers, project managers, site agents and foreman. The key findings indicate the lack of entrepreneurial skills of contractors demonstrates a huge gap between the knowledge contractors possess in their field, and the expertise they require for the sustainability and, ultimately, the success of the construction companies they service. These findings not only suggest that there is a disconnection between the skills of contractors and entrepreneurial skills, but they also emphasise the need for formal education and training in these areas. The recommendations from these findings indicate that Contractors require the correct skills development training to form a firm foundation of successful business practice. This includes grasping entrepreneurial skills and gaining more knowledge about the field of construction and entrepreneurship at large through education and further development.

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List of Acronyms

CDP: Contractor Development Programme

CIDB: Construction Industry Development Board

DCDP: National Contractor Development Programme

DPW KZN: Department of Work KwaZulu-Natal province

GDP: Gross Domestic Product

NDPWCIP: Department of Public Works Contractor Incubator Programme

SPSS: Statistical Package for the Social Sciences

Definitions of Key Terms

Business performance: Business performance management is defined as a set of both performance management and analytic processes that allows the management of an organization's performance to accomplish one or more planned goal. According to Bulut and Can (2013), business performance is described by the kind of policies an organization predicts and implements.

Business success: According to Lucky, Olusegun, and Bakar (2012:38), "...a business success is defined as the ability of the business to achieve its stated objective. It is the achievement of the business with regards to its business goals. It is having set goals and achieving them". A successful business is one which makes current customers happy while getting new customers as well as producing a significant profit. It shows that the business is gainful, operative, competent and fruitful.

Entrepreneur: The word entrepreneur is originally derived from the French verb "*entreprendre*", that means to undertake an idea, to seek for an opportunity and to fulfil an individual's needs by starting a business and being innovative (Kuratko & Hodgetts, 2004). Carland, Hoy, Boulton and Carland (1984: 358) explain an entrepreneur as an individual who establishes a new venture and manages it with the goal to be profitable and to be successful.

Entrepreneurship: is defined as purposeful innovation (Drucker & Noel, 1986). It involves the actions and activities of individuals working within firms or for themselves, incentives that encourage the risky endeavour of entrepreneurial activity seems essential, as is the infrastructure allowing the transfer of knowledge from knowledge generating actors to knowledge (Braunerhjelm, 2010).

Entrepreneurial behaviour: According to Gartner, Carter, and Reynolds (2010:99), entrepreneurial behaviour refers to "...a business activity of individuals who are involved with creating new organizations rather than, the activities of individuals who are involved with maintaining or changing the operations of on-going established organisation".

Entrepreneurial skills: Refers to the knowledge of economic opportunities and acting efficiently on them (Cooney, 2012). Nieuwenhuizen *et al.* (2008:1) articulate that "...these skills are also often regarded as soft skills as opposed to hard skills, such as financial management, human resource management, marketing management and other business functions as well as the management functions of planning, organising, leading and control".

Knowledge: Knowledge entrepreneurship involves the ability to identify or generate an opportunity and take action designed at realizing an innovative knowledge practice or product. Knowledge can be referred to entrepreneur's innovative capacity.

CHAPTER ONE: INTRODUCTION

1.1 Introduction

This chapter is an introduction to the structure of the dissertation as a whole. It shares insight on the modalities of research and the way in which it was carried out. This chapter includes the background of the entrepreneurial skill set amongst emerging contractors within the civil engineering field. It explains the frameworks and resources that are extracted from the entrepreneurial skill set in the hope of discovering and applying those skills necessary to keep emerging contractors at the forefront of their field technically. This chapter provides a detailed summary of the kind of training required for the optimum performance of emerging contractors in their respective fields. This research is about evaluating the entrepreneurial skill set of emerging contractors that are required for running effective business organisations.

1.2 Research Context: Background

The construction industry plays a major role in growing the socio-economic sector and creating a better livelihood in the KwaZulu-Natal province, and, the country at large. At the start-up phase of a business, the entrepreneur must be in possession of a set of certain characteristics, which includes being innovative and assertive (Littunen, 2000:295). Being innovative means that the entrepreneur must have the ability to produce solutions in new and unfamiliar situations. This is generally attained through training and experience. The characteristics of a successful entrepreneur include the ability to take risks; innovation; possessing knowledge of how the market functions; and, marketing and business management skills (Littunen, 2000: 295). This implies that civil engineering contractors, as emerging entrepreneurs, must possess a plethora of skills i.e. financial management, marketing, tendering, business monitoring and evaluation. Ncwadi and Dangalazana (2006:197) suggested that, “training in financial management should be given to emerging contractors, in order for them to acquire the necessary skills to successfully manage their own funds in accordance with business principles, thereby preventing them from experiencing a financial crisis”.

Special training programmes in construction business management, tendering processes and financial management are key areas in which this group of contractors should be assisted.

The entrepreneurial skill inconsistencies of emerging contractors within the construction industry jeopardise the Gross Domestic Product of the KwaZulu-Natal region and threatens employment and business opportunity within communities. This is supported by Thwala (2009), who stated that insufficient access to necessary resources, lack of skills and high rates also pose a constraint to micro enterprise growth. Such inconsistencies also lead to a poor standard of production and incompetence within the construction industry such as the low rate of project completion and the mismanagement of funds. The lack of entrepreneurial skills among emerging contractors has over the years resulted in decreasing the standards of quality within civil engineering projects throughout South Africa.

According to Brink, Cant and Ligthelm (2003), the failure rate of Small Medium Micro Enterprises in South Africa, is estimated between 70% and 80%. Billions of rands are lost on new venture creation because of inadequate skills to establish, sustain and grow new businesses. The survival rate of SMME's in general, is relatively low which indicates that less than half of newly established businesses survive beyond five years. These findings are not only true for South Africa's civil engineering sector but, they appear to be a global phenomenon (Brink *et al.*, 2003:19).

Mohlala (2016:42) explored "the relationship between project performance of emerging contractors in government infrastructure projects and their experience and technical qualifications: an analysis of 30 projects conducted in the Mpumalanga province between 2011 and 2013". In his study, Mohlala examined the relationship between qualification type and project performance, qualification level and project performance, emerging contractor company experiences and project performance, years in the construction industry and project performance, Construction Industry Development Board (CIDB) grade and project performance. His findings showed that contractors with technical qualifications and experience generally perform better than those with no technical background.

Bonga, Ntuli and Allopi (2013) studied the “impact of inadequate experience and skill in the construction Sector in KwaZulu-Natal”. Their findings revealed a skills shortage in the construction section and they suggested the need for continuous training of the contract employees. Makhura (2012) analysed the entrepreneurial competencies of the owners/managers of 26 small emerging contractor companies in the construction industry in Gauteng and Limpopo provinces. Some of the findings showed that owners/managers of emerging small contractor companies need support to build opportunity scanning, initiative, persuasion, assertiveness, self-confidence, systematic planning and problem-solving competencies. Makhura found that the owners/managers of emerging small contractor companies possess persistence, information-seeking, concern for high quality of work, commitment to work contract, use of influence strategies and efficiency orientation competencies. Makhura (2012) also studied relationship between profile in terms of area and age with competence; however, he does not involve any statistical test to confirm the relationship. The above studies did not address how emerging contractors rate their need for the skills required to perform effectively in the market-place and thus, build a successful, long-term enterprise.

The above study, although it did not give any statistical data, indicates that there is a need to fill the missing gaps among civil engineering contractors. It is recommended by the author of this study that corrective measures be put in place to mitigate inconsistencies so emerging contractors can develop and grow into sustainable enterprises

1.3 Aim of the Study

The aim of this research study was to gain an insight into the entrepreneurial skill set required for emerging civil engineering contractors in KwaZulu-Natal.

1.4 The Research Problem

The problem statement focuses on the lack of entrepreneurial skill and inconsistencies among emerging contractors in KwaZulu-Natal. These inconsistencies affect both the internal and external operation of emerging contractors in the civil construction industry. According to Ladzani and Van Vuuren (2002) as cited in Odia (2013:294) “despite the fact that entrepreneurship training is supposed to promote development of personal qualities such as creativity, risk-taking and responsibility and provide the technical and business skills that are needed in order to start a new business venture, there are concerns that many institutions offer very little entrepreneurial skills development courses in South Africa”. The inconsistencies mentioned above continued to create numerous issues for civil society, private owned companies, and government at large. This has resulted in financial shortfalls, poor standards of production, mismanagement, job loss and poor business practice. “The construction industry is an important player in the economy of South Africa. The South African government is the single largest construction client, representing between 40%-50% of the entire domestic construction expenditure in the country. Notwithstanding this, emerging contractors face serious challenges, including a sharp decline in the employment over the last 20 years, a steep decline in gross domestic fixed investment, slow delivery due to poor capacity, low productivity, poor quality workmanship and low profit margin for contractors” (Ncwadi & Dangalazana, 2006:186).

1.5 Research Objectives

The research objectives concerning emerging civil engineering contractors in KZN are to:

- Evaluate the skills sets of emerging contractors;
- Examine challenges faced by emerging contractors to run effective projects, and,
- Make recommendations that will improve the entrepreneurial consistency of emerging contractors.

1.6 Research Questions

The research questions concerning emerging civil engineering contractors in KZN are to determine: -

- What are the skills emerging contractors in the civil engineering field possess?
- Challenges being faced by emerging contractors when working on assigned projects?
- Recommendations are shared to improve the skill set of emerging contractors for entrepreneurial consistencies in KwaZulu-Natal?

1.7 Significance of the Study

Previous studies concerned with the entrepreneurial skills of contractors have emphasised the skill set required by emerging contractors in the civil engineering field, namely, technical skills, on-site training skills, tendering pricing skills. However, these skills do not include significant entrepreneurial skills which will enable owners/Managers of contractor companies to monitor the success of growth and development which enables sustainability.

Entrepreneurial behaviour is defined as "...a business activity of individuals who are involved with creating new organizations rather than, the activities of individuals who are involved with maintaining or changing the operations of on-going established organisations..." (Gartner *et al.*, 2010:99). The research is therefore very important in evaluating the entrepreneurial skills required by the emerging contractors to run their

operations successfully and to remain competitive within the construction industry. The study provides useful information to all stakeholders such as contractors, engineering firms, consulting industries and to relevant government entities. The significance of this research will play a huge role with regard to the training of the contractors to establish new markets, products or services and, to establish the new best approach to structure and management of the construction business.

1.8 Chapter Organisation

The following section is a draft of the content for each of the chapters within this dissertation.

Chapter One: Introduction

This section will include data in relation to the research problem, the dynamic of the problem at hand as well as a brief background to the problem.

Chapter Two: Literature Review

This chapter provides a critical evaluation and analysis of existing data that pertains to each research problem that arises within this research study.

Chapter Three: Research Methodology

This chapter contains the research methodology that further examines the validity of all original findings in this study.

Chapter Four: Findings of the study

This chapter presents the Findings, a Discussion and the Interpretation of the study.

Chapter Five: Conclusions and Recommendations

This chapter presents the conclusions and recommendations based on the research objectives.

1.9 Conclusion

This chapter identified the research problem which pertains to the inconsistency of entrepreneurial skills among emerging contractors and proves as a challenge when realising the growth potential and amount of skills required to be successful. There is a growing concern about challenges such as financial management, poor standards of work and the lack of creativity. This chapter presented the aim of study, research, research objectives, research questions and the significant of study, which provided a holistic mandate about the topic at hand.

The next chapter presents recent literature which will illustrate objectives and the problem statement. The chapter includes the identification of entrepreneurial skills which are required by all entrepreneurs to fulfil the purpose of being successful. This includes recent development programmes and challenges that are encountered by emerging contractors, mostly in KwaZulu-Natal.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents literature that is applicable to each of the objectives and the problem statement. It defines and identifies the entrepreneurial skills which are required by all entrepreneurs to fulfil the purpose of being successful. Recent development programmes and challenges that are encountered by emerging contractors, mostly in KwaZulu-Natal, are also identified and analysed. The process of registering and having a construction company is one that does not require any particular entrepreneurial skills or training prior to trading as a functional company. This has been a challenge as it is often lack of entrepreneurial skills that result in many emerging contractors being unsuccessful in trading and providing quality and up to standard service.

2.2 Business Concept “Entrepreneurship”

According to Pieterse (2014: 22) entrepreneurship can be understood as “... The act of forming a new organisation of value, the seemingly discontinuous process of combining resources to produce new goods and services, the creation of a new enterprise, the creation of an innovative economic organisation for the purpose of gain under conditions of risk and uncertainty”. Joubert (2007:14) further defines entrepreneurship as a well-known description for self-employment and the ability to start a business. Spinelli and Adams (2012:13) concur that entrepreneurship is a way of thinking, reasoning and acting that is opportunity obsessed, holistic in approach and leadership balanced.

Coulter (2003:6) explains entrepreneurship as the process where an individual uses effort to pursue a promising opportunity to create value through uniqueness and the five dimensions of entrepreneurial orientation. This explanation links entrepreneurial orientation to performance. It can be added that entrepreneurship also consists of the effective application of the dimensions of entrepreneurial orientation during the creation of a new venture and, during continuous development and growth phases of a venture

already in existence. Morris and Kuratko (2002:86) also state that “successful entrepreneurship occurs as the result of the preparation, characteristics, and values of the individual entrepreneur or champion, and the fit of the individual with the concept or venture, a unique, well-defined, consistent and viable business concept; and, a favourable set of environmental conditions”. The idea that Morris and Kuratko bring forward illuminates the thought that successful entrepreneurship is not solely based on one method or mode of success but rather that it entails a variety of factors which contribute all in their own capacity a holistic framework for success.

2.2.1 Defining an Entrepreneur

Shelton and Darling (2001) expound that an entrepreneur is a person who is a developer, an innovator and one who recognises and converts opportunities into workable ideas to add value.

The word entrepreneur is originally derived from the French verb “*entreprendre*” which means to undertake an idea, to seek an opportunity and to fulfil an individual’s needs by starting a business and being innovative (Kuratko & Hodgetts, 2004:28). According to Carland (20004:27) an entrepreneur can be described as an individual who establishes a new venture and manages it with the goal to be profitable and successful. Entrepreneur may further refer to an individual who has developed the ability to see and evaluate business opportunities, to gather the necessary resources, to take advantage of the resources gathered, and to initiate an appropriate action plan to ensure success (Kunene, 2009:71).

2.2.2 The Entrepreneurial Theoretical Frameworks

Entrepreneurial orientation originally involves the strategy-making process and represents the policies and practices that establish the foundation for entrepreneurial actions and decisions (Rauch, Wiklund, Lumpkin & Frese, 2009:38). George and Marino (2011:12) assert that entrepreneurial orientation is created by its dimensions, and that the dimensions were not manifestations of the entrepreneurial orientation construct. Covin and Slevin (1989:48) deduced that the level of applied entrepreneurial orientation in a business is often demonstrated by the extent to which entrepreneurs and managers are

willing to take risks in order to favour change and innovation to ultimately obtain a competitive advantage. Baran and Velickaite (2008:22) suggested that entrepreneurial orientation provides equipment for business development and growth and this leads to a sustainable competitive advantage.

Lumpkin and Dess (1996:17) set out the five dimensions of entrepreneurial orientation. The first three dimensions were initially developed by Miller in 1983 and the model was then extended by Covin and Slevin to a five-dimensional model in 1989. The five dimensions of entrepreneurial orientation are the independent variables influencing business. Success is the dependant variable. The five dimensions are known as innovativeness, risk-taking, pro-activeness, autonomy and competitive aggressiveness.

Empirical research findings proved that there is in fact a positive relationship between the dimensions of entrepreneurial orientation, business performance and business success. Mohlala (2016:33) also found that contractors with technical qualifications and experience generally perform better than those with no technical background. It was also found that where there is no technical background, the level of education also affects the level of project performance.

In real world business practice this statement suggests that if businesses are more entrepreneurial orientated, they will perform better (Madsen *et al.*, 2007:43). The effective application of the dimensions of entrepreneurial orientation along with the essential marketing-related issues is very important to ensure success in the business environment. The lack of knowledge or poor implementation of the essential elements can easily result in business failure and other undesired circumstances. According to Brink (2003:35), In his study of exploring problems experienced by small businesses in South Africa, the author found that the most prominent problem areas influencing small businesses in the Gauteng area of South Africa were, economic factors, competition, socio-economic problems and change. His findings further revealed that there is a significant relationship between demographic variables such as management qualifications and educational background of the respondents.

2.3 The Dimensions of Entrepreneurial Orientation

The following section describes the dimensions of entrepreneurial orientation as defined by the literature.

2.3.1 Autonomy

Depending on the business structure and the management style the principle autonomy is mostly applied by the decision maker. This will in most cases be the entrepreneur or the manager. According to Lumpkin and Dess (2001:13) autonomy can be described as the willingness and the ability to work independently when acting on an opportunity or when accepting an organisational challenge. The term autonomy further refers to an action of an individual or a team creating new ideas and visions and carrying it through to completion (Lumpkin & Dess, 2001; Venter, 2014). Lumpkin and Dess (2001:19) add that enterprise related factors with negative results such as a lack of access to resources, may change the course of ventures but autonomy will not be distinguished by these factors. Dawson, de Meza, Henley and Arabsheibani (2014:26) state that businesses operate more flexible with higher levels of productivity if owners give more autonomy to the managers of businesses and implement control and formalisation. Moreno and Casillas (2008:26) add that autonomy constitutes one of the bases for innovative and entrepreneurial behaviour. The findings emerged from their study about “entrepreneurial orientation and growth of SMEs” and showed that there is a relationship between entrepreneurial orientation, strategy, environment, resources and growth.

2.3.2 Ability to Innovate

Innovation focuses on the application and the development of creative solutions to common challenges arising in the business environment (Darling, Gabrielsson & Seristö, 2007:12). Having an entrepreneurial orientation means to be committed to innovation, among other dimensions in the strategic process (Kuratko & Audretsch, 2009:11). Lumpkin and Dess (1996:43) state that innovation reflects on the tendency for a business to engage in and support creative processes, new ideas, novelty and experimentation that may result in new products, services or technological processes.

The first mover business that developed a new product or service which is not yet in existence, immediately dominates the market in that scope, provided that there is a need in the market for that product or service. Other businesses may follow afterwards with similar products to compete but by that time, the first mover business may have already achieved its financial and prospective goals and a new product or service is yet again almost ready to be launched. Most of the explanations and definitions of innovation represent a starting point from practices or conditions already in existence (Schilling, 2005:32). Caruana, Ewing and Ramaseshan (2002:6) describe innovation as the central value of entrepreneurial behaviour and that it provides solutions to problems and needs. Creativity of employees very often lead to innovation and employees should be encouraged to utilize their creative minds. Some researchers imply that innovation is creativity; this concept is technically incorrect as innovation is described as an outcome of creativity.

2.3.3 Risk-taking

Risk-taking refers to instantaneous explicit actions taken in moments of uncertainty (Venter, 2014). According to Sharma and Dave (2011:15) risk-taking refers to a dimension of entrepreneurial orientation that has the highest impact on the success of a business compared to innovation and pro-activeness. Caruana *et al.* (2002:44) articulate that calculating and assessing the risks involved is a very appropriate approach and that rewards should always be kept in mind.

Taking risks concerns the business manager or the entrepreneur with regard to the decision on hand. Risk-taking may even involve altering the lives of employees negatively. However, if the perceived reward is large enough, and the entrepreneur/manager thinks it is worth it, he may still take a risk. Organisations can establish a framework to assess risks and to identify opportunities that can lead to great success of the business (Aven, 2016:12). Therefore, taking risk is an essential part of business as well as everyday life and the wrong decision always leads to disappointment (Venter, 2014:10). Most entrepreneurs find risk-taking unfavourable, some however, realise that it can present a good opportunity and great reward. Hopenhayn and Vereshchagina (2003:18) state that the relatively poor entrepreneurs tend to take more risk while at the same time investing less in their projects than the richer entrepreneurs. Risks should be measured and

controlled to ensure that the organisation benefits from the ultimate decision. This can be done by means of proper market research, statistical and mathematical methods and other entrepreneurial strategies.

2.4 Entrepreneurial Behavioural Skills

According to Nieuwenhuizen *et al.* (2008:31), entrepreneurial skills refer to the approach of an individual to the institution and development of a business. Whilst many emerging contractors pose the ideas and character of entrepreneurship, it is the entrepreneurial skills that fall short within themselves resulting in the mismanagement and neglect of the contractors. The skill set of an entrepreneur is broad, but can also be directed and be very impactful when religiously implemented. However, previous studies point out a lack of Entrepreneurial skills for emerging contractors in South Africa (Thwala & Phaladi, 2010). In their study Thwala and Phaladi mentioned “Small and Medium Size Contractors in South Africa cannot afford to hire qualified artisans and construction professionals due to the high demand of built environment professionals”. Nieuwenhuizen *et al.* (2008) state that entrepreneurial Skills should include, an awareness of the power of your own mind and the development of a positive attitude, ensuring a better future for yourself and your business, achievement in business and recognising the key success factor for business achievement, assertive and unassertive behaviours and knowing how to become assertive and fulfilled, time management, Networking, building networks and using them for business purpose, dealing with conflict and confrontation in the business, lateral thinking, creativity, decision-making and problem solving and developing your capacity for innovation.

2.4.1 Achievement Needs

Business achievement is not something that comes naturally or through chance or luck to any business person or entrepreneur. It is accomplished through effective planning, hard work and positive mind-set (Nieuwenhuizen *et al.*, 2008). Timmons and Spinelli (2007) cited from Goosen (2008:240) agree that entrepreneurs are self-starters who appear driven internally by a strong desire to compete against self-imposed standards and to pursue and attain challenging goals.

2.4.2 Internal Locus of Control

Nieuwenhuizen and Machado (2004) state that people with a strong internal locus of control believe that their own ability to control the product of their work is relatively decisive in defining their fate. They recognize, and are realistic about their own efforts and related results and generally, do not assign their success or failure to factors beyond their control. Nieman and Pretorius (2004) assert that Individuals like to be in charge of their own lives and one way of ensuring this is by being in control of one's own venture and business activities. Therefore, entrepreneurs are normally people who like to be in control and who have good delegating skills.

Brockhaus and Horwitz's (1986:73) found that entrepreneurs who possess an internal locus of control tend to strive for high achievement. Morris, Kannemeyer, and Pitt (2015:33) found that tolerance of ambiguity and an internal locus of control and risk taking are associated with adaptation of the business concept. These findings show that internal locus control plays a significant role in business success.

2.4.3 Networking Skills

According to Nieuwenhuizen *et al.* (2008:36), business operates within a network of people, the process of starting and growing a business involves interaction with others to get resources, advice, information and assistance. No business can grow successfully without help from others. Networking is the active process of setting up and maintaining mutually rewarding and co-operative relationships with other persons or businesses which can offer critical support for the growth of a business. There are two broad categories of social networking namely; personal and extended networks. Within these two categories Nieuwenhuizen *et al.* (2008:114) highlight three types of social networks which are communication which is the exchange of information between the stakeholders involved, the exchange of goods and services and, normative exchange based on social expectations.

Mamabolo, Kerrin and Kele (2017:32) suggest that apart from acquiring skills from human capital investments, entrepreneurs learn skills from people in their social networks and

self-taught skills which are used differently across different entrepreneurship phases. This means that networking is an important skill which would assist emerging contractors.

2.4.4 Assertive Behavioural skills

Assertive people confidently initiate conversations, compliment others, receive compliments gracefully, and, can cope with justified criticism and stressful situation. Assertive behaviour means standing up for your rights, expressing your eager, reaching out to others, expressing your affection and being honest and direct without humiliating others. Nieuwenhuizen *et al.* (2008:13) In their study about “entrepreneur’s negotiation behaviour”, Artinger, Vulkan and Shem-Tov (2015:54) found that entrepreneur’s assertive behaviour leads to fewer agreement but higher profits when they close a deal. Mamabolo, Kerrin and Kele (2017:67) findings showed that the participants needed to be assertive and to know which business to take and which to decline.

2.4.5 Leadership Skills

According to Nieman and Nieuwenhuizen (2003:43), leadership can be referred to the activities that make a connection between planning and achieving the objectives of an enterprise. In South Africa, today we talk about *ubuntu* leadership style. This approach, which originated in African communities, is based on the view that “a person is only a person through other people”. There are two basic leadership styles described by Nieuwenhuizen (2009:149), namely task-oriented and people-oriented. “Task-oriented” supervisors place emphasis mainly on the execution of tasks with a view to achieving the enterprise’s objectives”. “People-oriented” supervisors place a great deal of emphasis on their relationship with their subordinates, as well as on mutual trust and respect”. p.149. Liphadzi, Aigbavboa, and Thwala (2015:6), assert that leadership characteristics of a project are essential to establish success from a construction project. They add that effective leadership can develop construction output, where its effects comprise “effectiveness, satisfaction, and project success”. Their findings show that the dominant leadership characteristics held by construction and project managers in the South Africa construction industry are good communication skills, vision, passion, self-discipline, confidence, creativity, honesty and reliability, knowledgeable, integrity, inspiration and decisiveness. Mamabolo (2016:28) findings support those of Liphadzi *et al.* (2015) *that*

leadership skills begin with crafting the vision, inspiring employees in the business and sharing the vision with them. This indicates that having good leadership skills definitely enhances the success factor of the company.

2.4.6 Time Management as an Entrepreneurial Skill

Nieuwenhuizen *et al.* (2008:18) argue that time management actually refers to self-management. Successful entrepreneurs go to work systematically as they realise the value of accurate, timely and practical management information. This should also apply to contractors if they want to achieve good and improved entrepreneurial behaviour. According to Ladzani and Van Vuuren (2002) as cited in Odia and Odia (2013:294) “some common or major entrepreneurial skills of successful entrepreneurs are: time is money, time is life, entrepreneurship opportunity has time limit, time management is very important for business success and the key to using time effectively is through better management. Successful entrepreneurs must manage their time effectively since the way that you plan and manage your workplace can have a major impact on other people and aspects of your life beyond work.

2.4.7 Education

Nieman and Nieuwenhuizen (2003:19) mention that successful entrepreneurship has also been directly linked to education. This has been supported by Mohlala (2016:43) by indicating that Contractors who wish to enter into the industry should seek to acquire higher education or tertiary qualification.

According to Paul (2005) as cited in Odia and Odia (213:291), who indicates that, Entrepreneurship Education must be included to: -

- Offer functional education to youth to enable self-employment and self-reliance;
- Provide youth graduates with adequate information to allow them to be creative and innovative in identifying business opportunities and establishing careers in small and medium scale businesses;
- Reduce high rate of poverty and rural-urban migration;

- Create employment and serve as a catalyst for economic growth and development amongst others.

Mohlala (2016:38) findings showed that emerging contractors who only have matric qualifications generally showed poor project performance compared to contractors with higher educational backgrounds. The findings also suggest that, where technical qualifications are lacking, higher education is an advantage to project performance. This tells us that entrepreneurship can be developed by education and it can be learned.

2.4.8 Work Experience

Nieman and Nieuwenhuizen (2003:12) expound the type of work and skills gained in the workplace contribute to an individual's entrepreneurial orientation. Entrepreneurs often gain experience as employees and then apply the knowledge, skills and experience gained in employment in their own business. Windapo (2017:3) pointed out that innovation happens through organisational learning, knowledge accumulation and knowledge sharing. Egmond (2008) cited in Windapo (2017:3) states also that knowledge accumulation and learning, is a driver for innovation. Therefore, the occurrence of innovation would be expected to be highly likely where there is cultural readiness arising from exposure to new ideas and practices. Experience is accumulated from application of the skills and knowledge gained through the various forms of training. The qualifications, skills and experience would then develop competence and aid better project performance Mohlala (2016:43). His findings showed that contractors with no experience show poor performance when measured against the time factor. He also found that construction experience and technical qualifications experience lead to better project performance.

Mohlala's findings did not convey the variation of age between the contractors to examine whether there is a difference between old and young contractors to better business performance. In this study, the age factor was examined to see its impact of the participants' level of need.

2.4.9 Creativity and Innovation

Entrepreneurship is a practice of generating innovativeness with value by allocating the necessary time and effort (Mmbengwa, Groenewald & Van Schalkwyk, 2013:37).

Creativity can involve the adjustment or refinement of existing procedures or products, the identification of opportunities and identification of solutions to problems (Kruger, 2004:11). It often also involves new ideas. Glynn (1996) cited in Nieman and Nieuwenhuizen (2003:15) indicated that Creativity underlies innovation and leads to innovation which then brings about change in the enterprise. The author also identified Individual creativity as a precursor of the initiation of innovation in enterprises. An individual's ability to think creatively points to creativity and innovation and, is the utilisation of creative abilities when establishing something. Krugers (2004:52) findings showed that South African small business owners need to be creative and their businesses must be reasonably innovative. However, there was a negative connection between these two aspects and the implementation orientation. Kruger's findings also suggested that the high esteem of own creativity and innovation versus a lower execution orientation is sign of a need to improve practical training programmes focused on the application of creative activities. Mmbengwa *et al.* (2013:38) further revealed that 86.51% of the entrepreneurs were regarded as low in their creativity.

2.4.10 Risk Orientation

An organization has an Entrepreneurial Orientation when it is simultaneously risk taking, innovative and proactive (Schillo, 2011:49). Nieman and Nieuwenhuizen (2009:3) states that readiness to take risk includes a plan to utilise opportunities that are identified, even if there is a chance of financial loss. Successful entrepreneurs do not take chances, but they find it useful to take calculated risks, while unsuccessful entrepreneurs hesitate to take any business risk which mostly results in failure to create new business ventures. Successful entrepreneurs evaluate themselves in a positive manner regarding their capacity to solve problems, conflict and any obstacles which may arise. Entrepreneurs are then advised to conduct research and weigh risks before taking decisions; and also avoid opportunities which may have a high possibility of failure. Entrepreneurs, who manage their risk by monitoring and controlling the basic aspects of their businesses, gather useful information to monitor their enterprises. Thus, low risk taking implies that an organization follows routines instead of breaking away from routine. Using correlation analysis, Bleeker (2010:6) found that risk taking had a significant positive relationship with the innovation process step of learning.

2.4.11 Good Human Relations

Human relations can be considered as a procedure of training employees, addressing their needs, promoting a workplace culture and solving struggles between different employees or between employees and management (Petryni, 2016:193). Nieman and Nieuwenhuizen (2003:67) mentions that successful entrepreneurs are team builders and they make people feel their presence by providing them with responsibilities and awarding them for their achievements. These entrepreneurs know how to motivate other people and how to create a good relationship with other stakeholders whom they know will possibly add value in future. They create and retain good relationships with their clients. Employees are developed by changing their attitude to a highly motivated team that clearly understands the vision and objectives of the enterprise. A successful team is created by inspiring loyalty and belief in every team member. Formal programmes and trainings that reward team effort but also recognise the strengths of individuals are considered.

2.4.12 Positive Attitude

Entrepreneurs who believe in themselves and who have a positive attitude towards their business will ensure that people will feel positive towards them and this in turn will create a good business relationship. According to Shein, Crous and Schepers (2010:04 “Entrepreneurs with high appreciative ability are able to reframe a difficult situation into a positive perspective and formulate a plan of action towards achieving a successful solution”. In their study about exploring positive states in relation to entrepreneurship orientation, these authors found a significantly high correlation between entrepreneurship orientation and the positive states. This means that, entrepreneurs may gain more than what they stand to lose in business due to the effect they have on the people around them.

2.4.13 Perseverance

It is mentioned in Nieman and Nieuwenhuizen (2003:122) that perseverance is the capability and determination of entrepreneurs to work hard and, to be consistent in achieving goals and objectives, regardless of challenges. Perseverance is a determinant of the entrepreneur’s ability to dedicate precious time to try different forms of solutions to resolve problems or obstacles faced in order to obtain better results (Mmbengwa *et al.*,

2013 cited in Vuong & Vuong, 2016). It is possible that successful entrepreneurs persevere through every challenge while unsuccessful entrepreneurs are people who are easily defeated. Mmbengwa *et al.* (2013:61) findings showed an inverse relationship between education and perseverance.

2.4.14 Commitment

Commitment to business refers to the ability and ambitions of the entrepreneur to commit their personal resources to their business (Austin, Stevenson and Wei-Skillern, 2001 cited in Gundry & Welsch, 2006). It is the determination of the entrepreneur's capabilities to invest much time in the business (Morris, Schindehutte & Allen, 2005:29). However, some studies found that, the respondents who are less educated, start their businesses with a clear vision and commitment to see that their ideals are executed (Mmbengwa *et al.*, 2013:14). Their findings further indicate that there could be a high level of commitment to the entrepreneurial activities, irrespective of gender and educational levels. Aiyetan and Dillip (2016:55) agree that contractor's commitment is an initiative of the contractor to run successful projects. These authors add that lacking contractor commitment is perceived to be one of the major obstacles in operative execution of contracts and successful project delivery. Aiyetan and Dillip (2016:112) explored how contractor commitment challenges can be fixed to develop their performance in the project delivery using a Likert scale. The findings suggested that lack of experience, skill, inadequate supervision, and lack of control over subcontractors lead to contractor inefficiency. They also found that contractor efficiency and capacity building; professional management; construction methods; and involvement of the contractor and client in the design process, empowers contractors to meet their commitment and to improve their effectiveness in project delivery. These findings show that commitment plays a crucial role in developing project performance.

2.5 Emerging Contractor Development Context

Several civil engineering studies were conducted to identify the cause of failure for emerging contractors in the construction industry as a whole. Within these studies, several challenges were identified as the major factors for emerging contractors to be inconsistent and unsuccessful. Initiatives and programmes were put in place to curb the challenges

faced by emerging contractors. Contractor Development Programmes (CDPs) are an example of such initiatives. However, some of these programmes are still not touching deeper on the entrepreneurial skill set and they have not been properly implemented. This has resulted in emerging contractors being unsuccessful.

According to CIDB (2009) National Contractor Development Programme (NCDP) has been initiated as a sector-specific intervention and a framework of South Africa's accelerated growth of the construction industry. The programme is geared to enhancing capacity and promoting equity ownership across the different contracting categories and grades as well as improving skills and performance in the delivery of capital works and maintenance across the public sector.

There were several programmes and interventions initiated, particularly for KwaZulu-Natal emerging contractors to assist in successful operation of the business. It goes on to argue that the Contractor Development Programmes (CDPs) can clearly play a very important role in supporting the development of the construction industry and the development of emerging contractors. Currently there are more than 18 CDPs of variable forms in South Africa, with more than 1300 contracting enterprises currently participating in these programmes. Evidence suggests that CDPs are contributing significantly to the total number of contractor upgrades from Grade 2 to 4 in General Building (GB) and Civil Engineering (CE), but less so to upgrades in Grade 5 and 6. While there has been some very notable success in the growth of contracting enterprises, the overall success of CDPs is somewhat questionable. CDP also mentioned that "the quality (and relevance) of mentoring and training with CDPs and expected standard of performance of contractors is a key determinant to the success of any CDP, but is dependent on the level, relevance and quality of training provided, the quality of the mentors and the performance standards that contractors are expected to achieve at the time of exiting the programme. In many cases the only performance standards in place are criteria in terms of an increase in turnover or, in the CIDB grade achieved during the programme. This often compromises construction delivery standards. However, upgrading to a higher grade is a weak indicator of development, and does not necessarily imply an increase in sustainability or improvement in performance. Most CDPs do not include, as an objective, the awarding of NQF Level 4 National Certificates in Construction Management as an output criterion. This

Certificate is regarded as the minimum competence necessary to successfully manage a contracting enterprise. It is indicated in the CIDB report that it has been very difficult to obtain quantifiable information on the development of the contractors that have been, or are currently, participants on CDPs. This lack of accessible information limits a deeper understanding of contractor development (CIDB, 2009).

2.6 Overview of Relevant CDPs for Emerging Contractors of KwaZulu-Natal

Table 2.1 A summary of the target focus CIDB grades and target NQF qualification gained at exist of CDPs CIDB, (2009; 14).

PROGRAMME	Target Grades	Target NQF Qualification on Exit
NDPW CIP	3 to 7	nc
DPW KZN Masakhe ECDP	2 to 5	na
KZN eThekwini Vukupile	1 to 3	NQF2/4
KZN eThekwini Large Contractor Model	2 to 4	nc
Key: <ul style="list-style-type: none"> ● na: not available ● nc: not a criteria for the programme objective 		

Source: CIDB (2009:14).

2.6.1 NDPW Contractor Incubator Programme

“The National Department of Public Works Contractor Incubator Programme (NDPW CIP) focuses on the development of contractors in CIDB Grades 3 to 7. The purpose of the Programme is to create an enabling environment within which qualifying existing contracting can develop. However, the capacity of the CIP Management Team is currently severely constrained due to insufficient staff capacity and high vacancy rates. Inadequate management of resources have also resulted in inadequate management systems being put in place. The option of sourcing part-time staff is limited due to unclear policy on the use of external capacity”.

2.6.2 DPW KZN Masakhe Emerging Contractor Development Programme

According to CIDB (2009) the Masakhe ECDP aims to provide contractors with sufficient work opportunities within the programme, but access to projects within the programme has been highlighted as a major constraint by contractors. The Masakhe ECDP focuses on the development of emerging contractors and companies, they aim at creating conducive environments in which emerging contractors can thrive by facilitating access within markets (DPW KZN contracts), financial support, training and mentoring, skill transfer, creating an emerging contractor development mechanism, basic business management and technical training, Implementing targeted procurement interventions, ongoing technical support through a mentorship plan, linkage with financial institutions or funding agencies for appropriate financing products and ongoing monitoring and evaluation of participating contractors. Having said this, the Masakhe ECDP intervenes amongst a wide range of development programs that are aimed at emerging contractors. The core purpose of such focus derives from the need for emerging contractors to have an outlet or an avenue to assist them in achieving the success required for production, which in turn speaks to the longevity of their companies and entrepreneurship.

2.6.3 KZN eThekweni Vuk'upile Learnership Contractor Development Programme (EVLP).

This programme aims to assist in reducing unemployment rates in the KwaZulu-Natal province. According to CIDB (2009:18), "...EVLP is an Extended Public Works Programme (EPWP) initiative and the contracts awarded to participants are therefore labour intensive in nature. The eThekweni Metropolitan Municipality has partnered with other stakeholders such as the Construction Education and Training Authority (CETA), the provincial Department of Public Works (DPW), mentors and consultants. The programme aims to provide contractors with sufficient work opportunities within the programme, but the issue of sustainability of work within the EVLP has been highlighted as a major constraint by the contractors".

Hence, the access to theoretical and practical training when supported by mentoring becomes the core focus of the CDP. However, CIDB (2009), states that "...all CDPs offer some sort of training for contractors. However, the following applies: -

- Not all training is aligned to the development needs of the contractor;
- Not all training is aligned to the needs of the construction industry;
- Not all training is relevant to the technical and non-technical construction needs; and,
- Not all training is linked to a NQF or SAQA accredited certification..."

This nonalignment means contractors are offered training and skills that they are least likely to use both in the public and private sector construction industry. It is important that training should be meaningful and relevant to the target graduation level of development of the contractor, and, that this training is accredited (CIDB, 2009).

2.6.4 Vukuzakhe Emerging Contractors Development Programme (VECDP)

The Vukuzakhe Programme is an initiative of the KwaZulu-Natal Department of Transport. "The KwaZulu-Natal Dept. of Transport has allocated its budget to promote social equity and black economic empowerment. Vukuzakhe is an emerging contractor development programme which focuses on wealth and job creation in communities that have been most disadvantaged historically" (Anonymous, 2004:1).

"...the Emerging Contractor Programme is a four-staged advancement programme facilitating the growth and development of small businesses. Each stage of advancement is characterised by higher levels of risk to the contractor and the removal of support mechanisms by the Department". The staged advancement programme is designed to effectively remove barriers that prevent the full participation of emerging contractors in the road construction industry.

Support services offered within the Vukuzakhe Programme include: -

- A relaxation of sureties and performance bonds;
- On the job training, both in technical and business management skills;
- Organisational development inputs to form associations;
- Training of Vukuzakhe Associations to provide services and information to members and, to enable them to become an effective lobby and advocacy group in the construction sector;
- Providing skills to access Vukuzakhe contractors to acquire the necessary tools for the application of CETA learnerships (Anonymous, 2004:1).

According to Anonymous (2004:10) “key constraints to entry and performance of emerging contracts are the specialised skills required in the construction industry. The Department is providing contractors with tendering skills to assist them in the building up of their tender rates. This assists them in the understanding of what resources and construction methodologies are required to successfully perform their contractual obligations. On-site mentorship is continuously provided to assist contractors with ordering materials, negotiations with suppliers and production rates. This mentorship has been provided through contract management support and through joint ventures with established contractors. Business skills’ training has been provided to assist with compliance to all statutory requirements. This support programme has improved the credit rating of contractors.

The Department has assisted many contractors to understand and honour their obligations to the South African Revenue Services. The implementation of the Construction Contractor Learnerships has commenced in the four regions of the Province. These learnerships are provided through the Construction SETA to assist emerging contractors with acquiring recognised skills to manage their business. The Department and CETA work together to ensure that appropriate skills are developed within the emerging market.

2.6.5 Assessment of CDPs

An assessment of several CDPs investigated is given in this section, with the objective of highlighting both challenges and opportunities for CDPs.

A CDP should define objectives, goals, and targets that the programme must achieve which include at least the following elements: -

- The developmental objectives of the CDP such as: -
 - Creating an enabling environment within which selected contractors can develop;
 - Developing a contracting capability in line with institutional service delivery objectives where demonstrable shortages exist;
 - Developing contracting supervisory and artisan skills.
- The target group including contractor Grades and business maturity levels;
- Links to broader government objectives and the Construction Charter, but specifically supporting: -
 - Equity in ownership;
 - Equity in management;
 - Job creation;
 - Skills development; and,
 - Small and medium enterprise development.

From the CDPs assessment, the majority of CDPs are aligned with: -

- Providing access to work opportunities for mentorship, training and support;
- Empowerment objectives targeting specific groups such as black women and youth;
- Job creation (CIDB, 2009)

“Many of the CDPs assessed target contractors from Grade 1 or 2 upwards, which largely convolute the objectives of contractor development with objectives of job creation when combined in programmes with higher grade contractors. Contractor grades 1 to 3 are, in fact, the most competitive and unsustainable sectors. A focus on CDPs in these sectors also results in budget and project allocations that are often fragmented to create opportunities for contractors who do not necessarily have the potential to develop into higher grade contractors. Such programmes are often established to pursue specific socio-economic objectives as the main objective, artificially creating a construction

demand particularly in the lower grades. As a result, these CDPs become job creation initiatives with short term impact and do not lead to long-term sustainable contracting enterprises. This cannot, in fact, be called contractor development, but should rather form part of Extended Public Works Programme (EPWP) and could align with the models and goals of the EPWP. Because of the convolution of objectives by capturing these as CDPs, neither contractor development nor the EPWP goals are attained. In the context of the study, an assessment of whether the respondents in the study have been capacitated through various interventions initiated by government to counter challenges and inadequacies faced by upcoming civil engineering companies. The impact of the interventions was also brought under scrutiny with the intention of providing recommendations for improvement in planning and policy making in South Africa” (CIDB, 2009).

2.7 Challenges Faced by Emerging Contractors to run Effective Projects

There are a large number of small contractors entering at the low bid; this sector has become extremely competitive thereby making it difficult for new entrants to keep a sustainable workflow. This inability to sustain workflow, impacts on their ability to achieve sustainable employment and economic empowerment (CIDB, 2009). Small scale contractors are facing increased competition due to long-term real decline in demand, and many contractors have responded by means of shedding labour. Big scale contractors have responded by moving into the international market. Small local contractors, in particular, are furthermore subject to volatilities due to the geographic distribution of construction and the peak workloads that characterise construction projects. This has further reduced their ability to excel when building and initiating smaller government projects and furthermore been used as job creation opportunity (Thwala & Phaladi, 2009).

2.7.1 Skill and Proper Specific Training Shortage

The CIDB (2009) has realized that a vibrant and successful construction industry is only possible if those employed within it have the required skills and competency to function effectively in their roles. Thwala and Phaladi (2009) also agree that the poor project implementation culture amongst emerging construction firms stems from: poor project

management expertise and experience, lack of basic project management qualifications, poor financial resources to purchase quality building materials and, corruption in the post-tendering phase. In their study about exploring problems facing small contractors in the North-West province of South Africa, Thwala and Phaladi (2009) findings show that there is a lack of technical skills and insufficient business management skills. Moreover, Bonga Ntuli and Allopi (2013) findings indicate a skills' shortage in the construction section. These findings show that emerging contractors need to develop their skills.

2.7.2 Lack of Capital Support

Capital is critical for a company to grow given that at a certain point in time its fund requirements will exceed its fund generation. The financing of construction projects may be external and internal to an organisation. Internal sources include the contractor's retained earnings from previous projects or investments and depreciation income obtained through depreciating assets. External sources include bank loans and other financing mechanisms. Ntuli and Allopi (2013:22) point out a lack of knowledge in SMMEs financing and this is from both the commercial banks and the company proprietors. Banks bring upon an unfair evaluation of risk and profitability while owners have an aversion to interest. Furthermore, construction company owners do not possess the basic knowledge of banking services. The lack of appropriate knowledge has caused a problem in reaching mutual ground. Collateral, managerial competency, business plans, bank relationships and the location of the business are significant determinants of access to bank credit of SMMEs. However, if the relationship between the company owner and the bank is significant, a good relationship will promote an easier route to financial access (Govender, 2015:32). Govender also adds that "a significant number of governmental organisations have problems releasing funds due to a lack of availability or a lengthy approval procedure. Small contractors do not have the extra available funds and require the payment of the completed works in order to progress. Small and emerging contractors have limited financial reserves and therefore have the tendency to use profits from current projects to finance the next project. A financial loss in one project is a crucial setback as it has a ripple effect on the contractor's financial standing". In his study about "an assessment of the advancement of small to large civil engineering contractors", Govender (2015:33) found a

lack of various key aspects to ensure success for operation and overall development. These aspects include financial support systems, efficient payment systems and, influence on credit accessibility. In their study, Thwala and Phaladi (2009:49) also found that government does not pay on time. They also pointed out a lack of capital and difficulty in arranging guarantees, as well as onerous contract conditions faced by construction firms can also impose huge constraints on the industry. Many construction firms have suffered financial ruin and bankruptcy because of delays in payment, which are common with government contracts.

2.7.3 Poor Management

Studies argue that good management entails an awareness of all factors making up a successful business, namely: good strategy, marketing, pricing and financial control (Ntuli & Allopi, 2009:12). However, financial mismanagement and management ineffectiveness have been cited among the aspects that lead to the prominence of construction failure (Kalane, 2015 cited in Rogers, 2012:23). In his study about exploring the “reasons for failure of SMMEs in the Free State”, Kalane (2015) found that “Managerial and financial reasons, were found to be among the leading causes of SMMEs failures, where respondents indicated that there is a lack of business, financial management and marketing skills. Kalane (2015:36) also found that a lack of business and management skills was among the major causes of SMEs failure given that the participants showed that an insufficiency of these skills leads to failure of their businesses. In addition, her findings revealed that using the company’s resources for one’s personal benefit or financial mismanagement has contributed to failure because these companies have not been previously audited and it was therefore easier for them to use the funds recklessly.

Thwala and Phaladi (2009:13) also stated that “owners tend to manage their businesses themselves as a measure of reducing operational costs and that poor record keeping is also a cause for start-up business failure”. Most business people therefore end up losing track of their daily transactions and cannot account for their expenses and profit at the end of the month.

2.7.4 Relationship between Emerging Contractors and Suppliers

In order to function effectively, emerging contractors need to have good relationships with their suppliers (Camarinha-Matos, 2013:30). In a functioning relationship, the material supplier provides credit to the contractor (30-90-day term); contractor pays on time and cycle get repeated (Thwala & Mvubu, 2008:11). In an emerging supplier relationship, the supplier requires cash up front and will not deliver the material until payment is made in full. The reason for this is if the supplier provides credit to the emerging contractor, the contractor is often unable to pay on time due to financial constraints.

2.8 Conclusion

In this chapter, the researcher discussed the meaning of entrepreneur, the dimensions of entrepreneurial including various skills of entrepreneurial behavioural skills. The researcher also discussed some previous findings regarding the status of the skills for emerging contractors. Their findings showed that many contractors lack the required skills and, they suggested urgent training to empower the contractor in developing their knowledge.

However, previous studies did not involve exploring the numbers and categories regarding the level of the need for these skills. If this were known, it would help those in charge of providing assistance to know where they need to focus. This study explored the relationship between the needs suggested by contractors, as well as the impact of six demographic factors (refer to Table 4.1) which has also been partially addressed in previous studies.

The next chapter illustrates the research methodology that was to be implemented for this research. The focal points include but are not limited to the research study, the type of research, the preferred research strategies as well as the target population that was found to be suitable for this study.

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter presents the sequential order of procedures in a research. These being the type of research design, research strategies, the target population, research instrument, pilot study, administration of questionnaires, data analysis, validity and reliability of questionnaires, as well as the limitations of the study and ethical considerations required for such scholarly contribution. This chapter sought to prepare and clarify the basic logistics of the study by confronting and analysing the data which were presented at hand.

“The goal of the correlation research strategy is to examine and describe the association and relationship between variable” (Gravetter & Forzano. 2012:344). The purpose of a correlation study therefore, is to make certain that a relationship between variables exist and it is also establishing the nature of the relationship. Correlation studies focuses on the relationship between two variables at a given time. According to Gravetter and Forzano (2012), the descriptive design strategy intends to answer questions about the current state of individual variables for a specific group of individuals. Descriptive design does not necessarily look at the relationship between variables as this not a focus but rather is more interested with the descriptive of each individual variable. Exploratory design focus on the preliminary investigation into unknown areas, this is done to find research questions and hypothesis to be tested. Explanatory design strategies focus on casual explanations as an aim of experimental type of studies. Therefore, this study was carried out using descriptive research design strategies, as this was befitting of the research question at hand.

3.2 Research Philosophy

A research paradigm represents a particular system or guide that outlines the views and academic sentiments of the researcher (Grant and Giddings, 2002 cited in Krauss, 2005:34). A research philosophy defines the formulation of the research problem and how it is handled methodologically (Johnson, Onwuegbuzie & Turner, 2007:11). A research philosophy consists of finding out the answer to the three fundamental questions namely: what is the form and the nature of reality and, therefore, what can be known about it (ontology)” and then “what could be the nature of the relationship between the knower or the would-be knower and finally what can be known (epistemology)” without forgetting the “how the inquirer (would-be knower) goes about finding out whatever he or she believes can be known (methodology)” (Guba & Lincoln, 1994:15). There are four paradigms highlighted which includes positivism, critical realism, critical theory, and constructivism. This study follows a positivist paradigm, given that it is quantitative and uses quantifiable observations that lead to statistical analysis. This is evident in the questionnaires (surveys) carried out which are the main assumptions of positivist paradigm. The positivist paradigm is independent of the investigator hence, it is discovered through scientific and conventional methods (Sayyed & Abdullah, 2013:61).

3.3 Research Methodology

Research methodology is concerned with the enquiry, assumption and the method of collecting data for a research. These methods are often classified as quantitative and qualitative methods of data collection. Pajares (2007:86) argues that the methodology section is the most important section in the entire dissertation as it explains each step the researcher takes in order to conduct the research. According to Yalmaz (2013:315) “methods of data collection and analysis are different in the two approaches. On the one hand, quantitative research uses questionnaires, survey and systematic measurements involving numbers. In contrast, qualitative research uses participant observation, in-depth interviews, document analysis and focus groups”. Quantitative research often attributes to the collection of data which is then quantified using effect statistics to determine

relationships, differences and relative frequencies between groups. On the other hand, qualitative research is interested in observation and the interpretation of data. This means that researchers and participants often construct their own meaning of the realities that surround them through natural, not a predetermined sequence of events. “Qualitative study lends itself to thick narrative description of the group behaviours in the group’s natural environment. It attempts to be non-manipulative and takes into account the unperturbed views of the participants as the purpose is generally to aim for objectivity” (Gravetter and Forzano, 2012:34). This study is quantitative and it used a Likert scale to elicit data (McLeod, 2008) concerning the level of emerging contractors’ skills. The collected information was analysed using statistical packages such as SPSS.

3.3.1 Quantitative Research Methodology

This research conducted a quantitative research approach, in order to analyse the entrepreneurial skill sets of emerging contractors in civil engineering in KwaZulu-Natal. According to Creswell (2003;18) the quantitative approach is one in which the investigator primarily uses post positivist claims for developing knowledge (i.e., cause and effect thinking, reduction to specific variables, hypothesis and questions, use of measurement and observations, and the test of theories), employs strategies of inquiry such as experiments and surveys, and collects data on predetermined instruments that yield statistical data. This relates to the idea that information can be converted numerically through inferential and highly descriptive statistics. Punch (1998) also gave a simplistic form by defining quantitative research as “an empirical research where the data are in the form of numbers”. This was also emphasised by Gay and Airsian (2000) who stated that quantitative research is the collection of numerical data in order to explain predict and control phenomena of interest.

3.3.2 Research Strategies

A quantitative study utilising a questionnaire designed for the research was conducted. Saunders *et al.* (2009) point out that a survey is a popular and common strategy in business and management research, and is most frequently used to answer who, what, where, how much and how many questions. It is often obtained by using a questionnaire

administered to a sample data, this data is standardised and allows easy comparison. Survey strategy is perceived as authoritative by people in general and is both comparatively easy to explain and to understand. A project study is an exercise in which you can construct an argument drawing on your own ideas and on various data used to support these ideas. This data falls into two types namely; primary data which is being the material you gather yourself in the empirical stages of your project, and secondary data which is the material gathered by other people before you and made available in a variety of locations. (Jankowicz, 2000).

3.4 Target Population

According to Hair *et al.* (2007:173) “target population is the complete group of objects or elements relevant to the research project. They are relevant because they possess the information the research project is designed to collect”. The sample should be so carefully chosen that the researcher is able to see all the characteristics of the total population in the same relationship to the chosen sample (Leedy and Ormrod, 2005: 199). The study was conducted in a small rural area within KwaZulu-Natal due to the ongoing operation of building and constructing infrastructure which provides access to those in need. Population is all the organisms that both belong to the same group or species and live in the same geographical area (Saunders, 2009:210). According to the CIDB (2017), the population for emerging contractors in the KwaZulu-Natal region is 31733. The target population for this study included one hundred participants who met the required criteria. For emerging contractors, the sample consisted of working and registered contractors in the civil engineering field which amounted to forty-eight respondents. Bryman and Bell (2007:194) mentioned that sample size considerations are likely to be profoundly affected by matters of time and cost. The reason for the sample size is entirely due to the geographical area whereby the population is small.

3.5 Sampling Procedure

In order to answer any research objectives and related questions, there needs to be a valid collection of data. According to Greener (2008: 47), sampling is a practical way of

studying people and their activities, thoughts, attitudes, abilities, relationships etc. in relation to business.

Saunders *et al.* (2009: 212) argue that sampling provides a valid alternative to a census when:

- It would be impracticable to survey the entire population;
- Time constraints prevent the surveying of the entire population;
- Budget constraints prevent researchers from surveying the entire population; and,
- Once all data is collected, one would need a good result.

3.5.1 Sampling Strategy

Saunders and Lewis (2009) mention two types of sampling methods namely probability sampling also refer to as representative sampling, and non-probability known as judgemental sampling. With probability samples, the chance or probability of each case being selected from the population is known and is usually equal for all cases. This means that it is possible to answer research questions and to achieve objectives that require one to statistically estimate the characteristics of the population from the sample.

For non-probability samples, the probability of each case being selected from the total population is not known (Daniel and Sam, 2011:28).

The suitable sample size was 100 participants however only 48 respondents were obtained. According to Saunders *et al.* (2009:219) “researchers normally work to a 95 per cent level of certainty. This means that if the sample was selected 100 times at least 95 of these sample would be certain to represent characteristics of the population”. Swartz *et al.* (2011:27) argue that “the larger the sample, the greater the chance that it will be representative of the population from which it comes”. However, in this research it was not possible to canvas a larger sample due to the small number of contractors in the area.

3.5.2 The Delimitation of the Study

The study focused on the following physical, social and mental boundaries due to financial, time and capacity constraints.

- It was conducted primarily in urban Pietermaritzburg where the twenty research sites are situated.
- The participants were civil engineering contractors, engineers, projects managers, foremen and site agents.
- The study confined itself with investigating and evaluating the entrepreneurial skills of civil engineering contractors with particular reference to supervisory personnel of the sector.

3.5.3 Limitations of the Study

Conventional research studies are often affected by technical, professional, logistical and social constraints. Such constraints may negatively affect the validity and authenticity of the research findings of the study. These include the following: -

- Financial constraints hindered the researcher from studying a much bigger and more representative sample. Thus, the smaller the sample, the less generalizable were the findings. However, a case study approach which was small but effective was carried out in this particular study. The research was limited in that it was confined to Pietermaritzburg, KwaZulu-Natal.
- The self-made research instruments may not have been absolutely reliable thereby affecting the quality of research data collected and subsequent conclusions and recommendations thereof. The researcher also used triangulation of instruments to validate and authenticate the collected data.

The researcher however gave adequate background information to stakeholders and participants prior to the collection of data and assured them of their anonymity and confidentiality of the data they are providing which made co-operate.

3.6 Data Collection Instrument

The questionnaire used a five point Likert Scale designed to elicit data concerning each objective. A draft was prepared and then one was revised based on the literature that was consulted. The pilot study tested for questions which were vague, loaded, leading, memory recall, depended and, or double barrelled. According to Hair *et al.* (2007:85) the process of data collection begins by examining secondary data. The initial objective is to determine whether the research objectives can be achieved using secondary data and, if they can, there is no need to collect primary data. A questionnaire was applied to each research objective for which data needs to be collected. The investigative questions have been designed in the form of rating questions. A questionnaire survey consists of a standard set of questions with answers to the questions often limited to a few predetermined mutually exclusive and exhaustive outcomes. Data collection for this study was mostly primary data and it was collected through self-administered questionnaires, which were distributed in person to all selected participants.

A survey instrument was utilised for this research. Saunders *et al.* (2009;208) state that “a survey is a popular and common strategy in business and management research, and is most frequently used to answer who, what, where, how much and how many questions. It is often obtained by using a questionnaire administered to a sample data, this data is standardised and allow easy comparison. A survey strategy is commonly perceived as having an authoritative approach; however, it is both comparatively easy to explain and to understand”. Data collection generally falls into two categories or types namely: primary data, which is the material you gather yourself in the empirical stages of a research study and secondary data, which pertains to material gathered by other researchers before the current researcher (Jankowicz, 2000).

3.6.1 Type of Questions

According to Hair *et al.* (2007:256), the purpose of business research is to provide managers with accurate information, often from surveys. However, information from surveys is accurate only if the questionnaire is properly designed. The final outcome of a well-constructed questionnaire is reliable and valid data if the related phases of the

research have been well executed. Research questions can be either open-ended or close-ended questions. Hair *et al.* (2007:265) differentiated closed-ended questions where the respondent is given the option of choosing from a number of predetermined answers, while open-ended questions places no constraints on respondents who are free to answer in their own words. For this research, close-ended question was applied. The below aspects define and discuss the option in detail.

3.6.2 Design of Questionnaire

Hair *et al.* (2007:262) postulate that before developing a questionnaire the researcher must be clear as to exactly what is being studied and what is expected from the study. The author further stated that the research problem must be clearly defined, project objectives must be clarified and research questions agreed upon. Furthermore, all questionnaires for the evaluation of entrepreneurial skills sets for emerging contractors in KwaZulu-Natal were tested and were proved to be relevant to the objectives of the research study. The questionnaire was designed to address each research objective respectively and furthermore the literature review assisted in the formulation of each research question presented in this study. Sufficient time was given to all respondents to enable completion of the questions.

3.6.2.1 Closed-ended questions

According to Christina (2011:293) in close-ended questions, respondents are provided with a restricted set of options in terms of possible answers. In addition, the author mentioned that closed-ended questions elicit short responses and are often used to gather factual data. In this research study, all ten research questions were designed as closed questions (Appendix B). This was to save time for all participants and to enable clear, concise data coding. Respondents were asked to answer the questions honestly. The five point Likert-style rating scale, rated accordingly from very low (1), to low (2), to average (3), to high (4) and to very high (5).

3.6.2.2 Pre-testing the Questionnaire

All ten questions were pre-tested to ensure that they are relevant to the research study and to check for ambiguities. This was conducted by submitting ten designed sample questions to the specialist in different fields of study. According to Donald (1998:386) pre-testing the instruments permits refinement before the final test. Christina (2011:273) emphasised on the testing the validity of the research project by indicating that the pilot study is an aid to improving the rigour and the validity of the research. The researcher also indicated that this is a test of the data gathering instrument(s) designed for the research.

3.6.2.3 Population for the Pre-test

In this study, the research questionnaire was pre-tested by 10 professionals within different sectors in the civil engineering field. Two project managers were from Department of Transport, two consulting experts from private consulting firms and the last expert was a contracts manager from Group Five which is a well-established contractor firm. These officials were instructed to answer all questions and to comment on the format and relevance of the questionnaires with regards to the research study.

3.6.2.4 Pilot Test

According to Gravetter and Forzano (2012), the purpose of the pilot test is to refine the questionnaire so that respondents will have no difficulties in answering the questions, and there will be no problems in recording the data. In addition, it enables the validity and reliability of the data being collected in the questionnaire to be assessed. Pilot tests can be taken as a trial run of the entire actual study. It is a tool that can be used in order to get a good idea of how well all the research methods and other elements of the study work when put together. According to Blaxter, Hughes and Tight (1996:121), a pilot study can be defined as a try-out of research techniques and methods of the survey or questionnaire. Pilot studies also test for a number of different elements of a questionnaire such as double-barrelled questions, leading question, loaded questions, time recall questions and face validity. Double barrelled questions when defined pertain to “a question that often carries more than one idea, issue or subject” (Bryman & Bell, 2007: 274). The testing of face

validity regards the idea that the study is actually testing what it claims it is testing. For the most part, face validity is imperative to a survey instrument such as this one. Bryman and Bell (2007:165) state that face validity ensures that the measure reflects the proper content of the question.

It is important that the questions in this questionnaire are direct and easy to understand in order to ensure that participants answer the questions correctly. Leading questions may be seen as those questions which portray an underlying unconscious urge to persuade the participant into answering the way they would like the question to be answered. Gravetter and Forzano (2012:159) report that leading questions often suggest the desired answer or contain the information which the researcher is looking to confirm. Loaded questions are described by Loewenthal (1996:172) as questions that contain unjustified assumptions that are often controversial and derogatory. This questionnaire did not contain any time recall questions as they did not require a recollection of specific time periods in the past.

The face validity was confirmed by 48 participants as all the questions were direct and did not consist of any underlying meaning. The piloting process allowed for the researcher to eliminate double barreled questions which tend to contradict the response of participants. It was also carried out in the effort to rephrase any vague questions so that they were clearly understood by the participants. At this stage, all leading questions were reconstructed to better suit the purpose of the research question.

For this research, a questionnaire was submitted to field officials who have previously been involved with this particular kind of research. The participants were allowed a week to complete the questions. One hundred questionnaires were submitted and from those forty-eight were completed and returned within the allocated time period. The time period for the questionnaire to be completed was fifteen minutes as all of the questions were straightforward and contained no ambiguities. All questions were relevant to the research. The study tested the entrepreneurial skill set of emerging contractors by categorising the skills relative to the importance in the construction field. This included the classification and definition of all skills required whereby participants had to indicate their own level of skill by selecting the appropriate option in the questionnaire.

3.6.2.5 Administering the Questionnaires

After the process of pre-testing the questionnaires, validated questionnaires were distributed to the members of the population who had been selected for the research study. These questionnaires were accompanied by the cover letter which stated the nature and objectives of the research project. On-site visits were normally conducted for emerging contractors to complete the questionnaires. These questionnaires were distributed amongst engineers, project managers and technicians from different platforms in the civil engineering sector around KZN. The respondents from various organisations were asked to complete the research questionnaire within the stipulated period. They were reminded telephonically to return all completed questionnaires. Blumberg (2008:299) emphasised that the follow-ups or reminders are very successful in increasing response rates.

3.7 Reliability and Validity

Reliability is concerned with estimates of the degree to which a measurement is free of random or unstable error (Blumberg et al., 2008). Bryman (2011) also explains that this issue entails considering the degree to which two or more observers of the same behaviour agree in terms of their coding of the behaviour on the observation schedule. Quinlan et al. (2011) add that, in measuring at the most precise level possible will help to improve reliability. Using clear, precise and simple defined items will help improve reliability. According to Bryman (2011), Cronbach's alpha is a commonly used test of internal reliability; a computed alpha coefficient will vary between 1 (denoting perfect internal reliability) and 0 (denoting no internal reliability). A figure of 0.7 is typically employed as a rule of thumb to denote an acceptable level of internal reliability, though many often accept a slightly lower figure (Santos, 1999). In this study, the value of Cronbach's alpha which indicates the reliability was 0.856. A Cronbach Alpha of 0.7 or greater is acceptable for sound research (Roberts, Priest & Traynor, 2006).

Cronbach's Alpha	N of Items
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.856	23
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On the other hand, validity refers to the extent to which a measure accurately represents the concept it claims to measure (Kimberlin & Winterstein, 2008; Sechrest, 2005). Quinlan *et al.* (2011) indicate that the questionnaire or scale designed by the researcher must be a valid measure of the phenomenon under investigation. Every item in the questionnaire must be relevant. Every item in the questionnaire must be essential. The data gathering instrument must provide the data required for the research project. For this research, the questionnaires were tested by at least 10 professionals in different sectors of civil engineering field to check whether the questionnaires are relevant and essential to the study. Any mistakes encountered during the process were identified and rectified. Face validity is the extent to which a measure apparently reflects the content of the concept in question. Face validity can be ensured by obtaining subjective judgements by the experts of the concerned field (Bryman & Bell, 2003).

3.8 Data Analysis

The data for this research was analysed using Statistical Package for the Social Sciences (SPSS), version 15.0. A p value of <0.05 was considered statistically significant. Quinlan (2011:352) stated that SPSS is useful in the data analysis of quantitative data. This research identified the entrepreneurial skill set for emerging contractor to operate conveniently and to be sustainable to improve the quality of people and the economic growth more specifically in KwaZulu-Natal. This research used both descriptive and inferential statistics. The information in this research includes figures & Charts to easily understand and describe data. Chi square (χ^2) statistical test was used to test whether the frequencies of both normal scale variables are related. According to Hair *et al.* (2016:353), "Chi square statistic compares the observed frequencies of the responses with the expected frequencies. The T-test, Z-test can be used to test a hypothesis stating that the means for the variables associated with two independent samples or groups will be the same

3.8.1 Descriptive Statistics

According to Cooper (1998:140), the objective of a descriptive study is to learn the; who, what, when, where and how of a topic. Quinlan (2011:399) illustrated that descriptive statistics summarizing statistics, are examples of descriptive statistics. Quinlan (2011) also explained that each variable in the data gathered, gender, level of education, income, age, and so on can be described using descriptive statistics. Descriptive statistics can be divided into two types: univariate descriptive analysis and bivariate descriptive analysis. Bryman (2011:342) defined univariate analysis as the analysis of one variable at a time and bivariate analysis is concerned with the analysis of two variables at a time in order to uncover whether or not the two variables are related.

3.8.2 Inferential Statistics

Maree (2007:198) said that the purpose of most research is to use the findings from the sample data to generalise or draw conclusions about the population. Maree (2007) further indicated that it is by means of probability statements that inferences are made, for a simple reason that one can never report anything about a whole (population) with certainty if it is based only on a part (sample).

3.8.2. Pearson's r

Bryman (2011:347) defined Pearson's r as a method for examining relationships between interval/ratio variables. The author indicated chief features of this method as follows: -

- The coefficient will almost certainly lie between 0 (zero or no relationship between the two variables) and 1 (a perfect relationship), this indicates the strength of a relationship;
- The closer the coefficient is to 1, the stronger the relationship: the closer it is to 0, the weaker the relationship;
- The coefficient will be either positive or negative; this indicates the direction of a relationship.

Therefore, the coefficient was computed to determine the linear relationships between the quantitative variables in this study.

3.9 Generalizability

As the sample size is small and the 48 participants in the study come from KwaZulu-Natal, the results are not necessarily generalizable to the whole country but rather to a region of the KwaZulu-Natal province.

3.10 Ethical Considerations

According to Blumberg (2008:172) it is the duty of academy members to preserve and protect the privacy, dignity, well-being and freedom of research participants. This duty requires both careful research design and informed consent from all participants. Risks and possibility of harm to research participants must be minimised. In this study, personal details of participants were not revealed. All ethical considerations were considered during the research. Ethical considerations were indicated and practised during the data collection process – these have been outlined below

3.10.1 Ensuring participants have given formal consent

The right to formal consent was issued to all study participants. This was done using the method of verbal consent. “This will ensure that all parties are aware of the risk factors and repercussions if there are any. It further ensures that all participants were correctly informed and were in agreement to proceed with the research study” (Davis & Cosenza, 1985:432).

3.10.2 Ensuring no harm comes to participants

For this research, the researcher ensured that the safety of all participants was a priority to ensure no harm befalls participants during the data collection process. “The researcher has the responsibility to avoid any physical and mental harm on the study participants” (Davis & Cosenza, 1985:432).

3.10.3 Ensuring confidentiality and anonymity

Dina (2012:75) indicated that “considering the ethical concerns about anonymity and confidentiality, all information that can identify both the practitioners and the case organisations that they represent should be omitted. The data will be identified by a specific coding, e.g. Firm 1 (F1), to the information provided by Firm 1”. This situation dictates that an ethical responsibility is held by the vendor (researcher) to hold the nature of their relationship confidential (Davis & Cosenza, 1985:432). Participants did not have to disclose any of their personal information for this study.

3.10.4 Ensuring that permission is obtained.

Subjects should be informed of the study they are participating in and the consequences thereof. The individual human rights for free choice require that the decision to participate be made in the light of adequate and accurate information. It is important to note that in this study, participation was not compulsory, and permission had to be obtained from each participant in the form of oral agreement. All participants for this study gave a verbal or oral agreement to participate.

3.11 Conclusion

This chapter focused on the selection procedures, the target group population and the data collection methods drawn by the researcher for this study. The focus broadened to the questionnaire design and distribution, the pre-testing of research questions and a pilot study was carried out to achieve a high response rate so as to prevent any forms of ethical issues and maleficence. This chapter analysed the reliability and validity of the instrument and research data. The methods and principals portrayed in this chapter were identified and adhered to throughout each stage of the chapter at hand.

The following chapter identifies and interprets the findings of the questionnaire in a simple and meaningful procedure using the above-mentioned analytical and statistical tools.

CHAPTER FOUR: RESULTS, DISCUSSION AND INTERPRETATION OF FINDINGS

4.1 Introduction

This chapter presents the discussions of findings of the data and a detailed discussion of the findings arising from the analysis of the responses obtained from the data captured. The results are presented in accordance with descriptive and inferential statistics. For this chapter, the author presented the results in the form of frequencies and percentages for the initial statements in a summarised format. It has been necessary to test if the data comes from a Normal distribution or not, this is done using the Shapiro-Wilk test.

4.1.1 Response rate

Bryman (2011:236) indicated that response rates are important because, the lower a response rate, the more questions are likely to be raised about the representativeness of the achieved sample. The response rate of this study was lower than the target. The targeted rate of return was 100 completed questionnaires for this study. However, only 48 (48%) questionnaires were completed correctly and returned hence, this would mean that the results of this cannot be generalisable as the response rate was low. All participants were encouraged telephonically, a week after distribution, to complete their questionnaires. Those who completed the questionnaire within the prescribed time were acknowledged for their efforts, while those outstanding were cordially encouraged to complete the questionnaires to meet the deadline. Quinlan (2011:342) mentioned that the higher the response rates the better.

Demographic Information

The total number of respondents for this quantitative study was 48 out of the targeted 100 participants. Table 4.1. shows the number of the respondents classified according to their demographic factors. It is noted that the study involved 38 (79.2%) males and 10(20.8%)

females, 32 (66.7%) were aged \leq 34 years old, and 16 (33.3%) were aged \geq 35 years old, 18(37.5%) had construction experience between 0-5 years and 16 (33.3%) had between 6-10 years experience, and 14 (29.2%) had for 11 years experience and more, 32 (66.7%) had management experience between 0-5 years, 6 (12.5%) had between 6-10 years experience and 10 (20.8%) had 11 years experience and more.

Table 4.1 Participants according to demographic factors

Demographic characteristics		Frequency	Percent
Gender	Male	38	79,2
	Female	10	20,8
	Total	48	100,0
Age group	16-34	32	66,7
	\geq 35	16	33,3
	Total	48	100,0
Experience in construction	0-5	18	37,5
	6-10	16	33,3
	11+	14	29,2
	Total	48	100,0
Experience in management	0-5	32	66,7
	6-10	6	12,5
	11+	10	20,8
	Total	48	100,0
Designation	Contractor	3	6,3
	Technician	16	33,3

	Project Manager	12	25,0
	Engineer/Technologist	16	33,3
	Foreman/Site /Agent	1	2,1
	Total	48	100,0
Highest Qualification Level	Primary	2	4,2
	Tradesman	1	2,1
	Tertiary	43	89,6
	Other	2	4,2
	Total	48	100,0

4.1.2 Entrepreneurial Skills

Table 4.2 presents the various Entrepreneurial Skills explored in this study. This table classifies the levels of need by means and standard deviations more globally.

It should be noted Commitment, Self-reliance, Persistence and Financial Management Skill needs (mean = 4.23) are mentioned first, followed by the need for Tacit Knowledge or Know How (mean = 4.19).

The minimum and maximum here indicate the level of need that all the contractors endorsed for the skills. For instance, it appeared that none indicated a very low need for Entrepreneurial Self-efficacy regarding Business Opportunity recognition, and Entrepreneurial Self-efficacy with regard to Innovation and Creativity. However, some of them indicated a very low need for Entrepreneurial Self-efficacy with regard to Management and Entrepreneurial Self-efficacy, Financial Control.

Table 4.2 Details of the Skills

Entrepreneurial skills	N	Minimum	Maximum	Mean	Std. Deviation
Entrepreneurial Self-efficacy with regard to Business Opportunity recognition	48	2	5	4.04	0.874
Entrepreneurial Self-efficacy with regard to Innovation & Creativity	48	2	5	3.71	1.010
Entrepreneurial Self-efficacy with regard to Management	48	1	5	4.02	1.000
Entrepreneurial Self-efficacy with regard to Risk Taking	48	2	5	3.75	0.978
Entrepreneurial Self-efficacy with regard to Financial Control	48	1	5	4.13	1.214
Commitment, Self-reliance and Persistence	48	1	5	4.23	0.928
Problem-solving Abilities	48	2	5	4.15	0.875
Internal Locus of Control	48	1	5	3.83	0.930
Tacit Knowledge (know how)	48	2	5	4.19	0.734
Explicit Knowledge (know what)	48	2	5	4.10	0.778
Education	48	2	5	3.85	1.010
Marketing Management Skills	48	2	5	4.02	0.838
Financial Management Skills	48	1	5	4.23	1.016
Financial Management Skills	48	1	5	3.94	1.099
Leadership Skills	48	2	5	4.13	0.841
Time Management Skills	48	1	5	4.17	1.059
Networking Skills	48	2	5	4.15	0.825

Testing Normality

This test was used to verify whether data is from normal distribution. It is observed from Appendix II that at 5% level of significance, all variables have p-value and are less than 0.05. Hence for all variables in the table above, it concludes that the tested variables come from non-normal distribution. It is therefore required to use non-parametric statistics test for such variables.

4.2 Research Question: What is the status of Emerging Contractors' Entrepreneurial Skills?

In order to respond to the research question, we explored how contractors rate the need for Entrepreneurial skills namely Entrepreneurial Leadership Skills, Commitment, Self-reliance and Persistence, Problem solving Abilities, Internal Locus of Control, Entrepreneurial Knowledge, Education, Work Experience (Marketing Management Skills, Financial Management Skills, Entrepreneurial Legal Skills), Time Management and Networking Skill. This information assists to determine the current state of their skills. The details are outlined below: -

4.2.1 Need for Entrepreneurial Self-Efficacy Skills

Self-efficacy refers to strengths of a person's belief that he or she is capable of successfully performing various roles and tasks of an entrepreneur (Nieuwenhuizen, 2009). The findings for need Entrepreneurial Self-efficacy skills are reported from Table 4.3 to table 4.7 and from Figure 4.1 to Figure 4.5.

Table 4.3 and Figure 4.1 display the rate for need in terms of Entrepreneurial Self-efficacy with regard to Business Opportunity recognition skills. It can be noted that 81.3% (including 31.3% who mentioned a very high need and 50.0% who endorsed an even higher need), reported that they require a superior need for Entrepreneurial Self-efficacy with regard to Business Opportunity recognition. It is also noted that 10.4% and 8.3% of them, require average and lower needs in terms Entrepreneurial Self-efficacy with regard to Business Opportunity recognition.

Table 4.3 Entrepreneurial Self-efficacy with regard to Business Opportunity Recognition

Entrepreneurial Self-Efficacy with regard to Business Opportunity recognition	Level of need	Frequency	Percent
	very low	0	0,0
	Low	4	8,3
	Average	5	10,4
	High	24	50,0
	Very high	15	31,3

Figure 4. 1 Entrepreneurial Self-Efficacy with regard to Business Opportunity Recognition

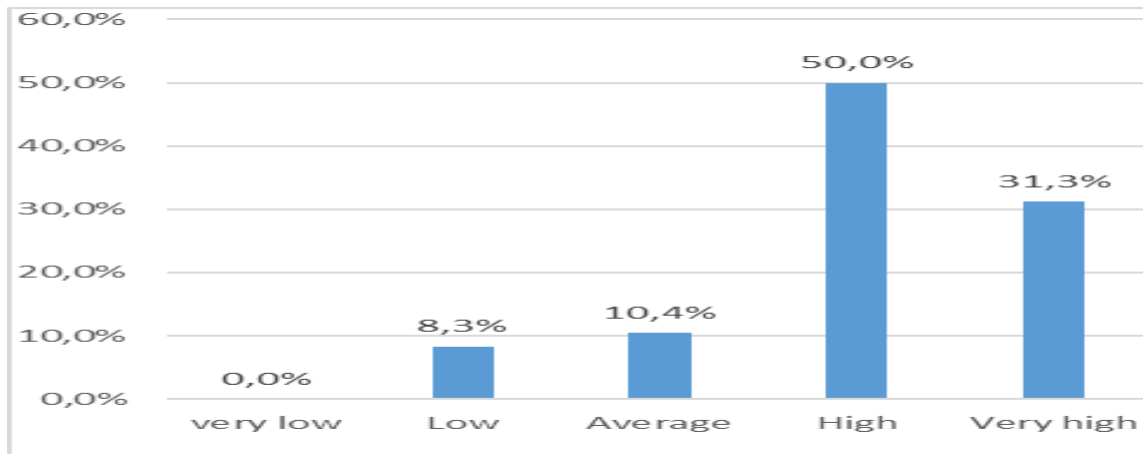


Table 4.4 and Figure 4.2 reported the findings related to the need for Entrepreneurial Self-efficacy with regard to Innovation and Creativity. The findings show that 74.6 % of respondents require higher skills of Self-efficacy with regard to Innovation & Creativity (41.7% who reported a high need and 22.9 % who reported very a very high need). Table 4.4 and Figure 4.2 show that 18.8% and 16.7% require an average and low need in terms of Entrepreneurial Self-efficacy with regard to Innovation and Creativity respectively. This

finding indicates that the contractors possess insufficient Entrepreneurial Self-efficacy with regard to Innovation & Creativity.

Table 4.4 Entrepreneurial Self-Efficacy with regard to Innovation and Creativity

Entrepreneurial Self-Efficacy with regard to Innovation & Creativity	Level of need	Frequency	Percent
	Very low	0	0,0
	Low	8	16,7
	Average	9	18,8
	High	20	41,7
	Very high	11	22,9

Figure 4. 2 Entrepreneurial Self-Efficacies with Regard to Innovation and Creativity

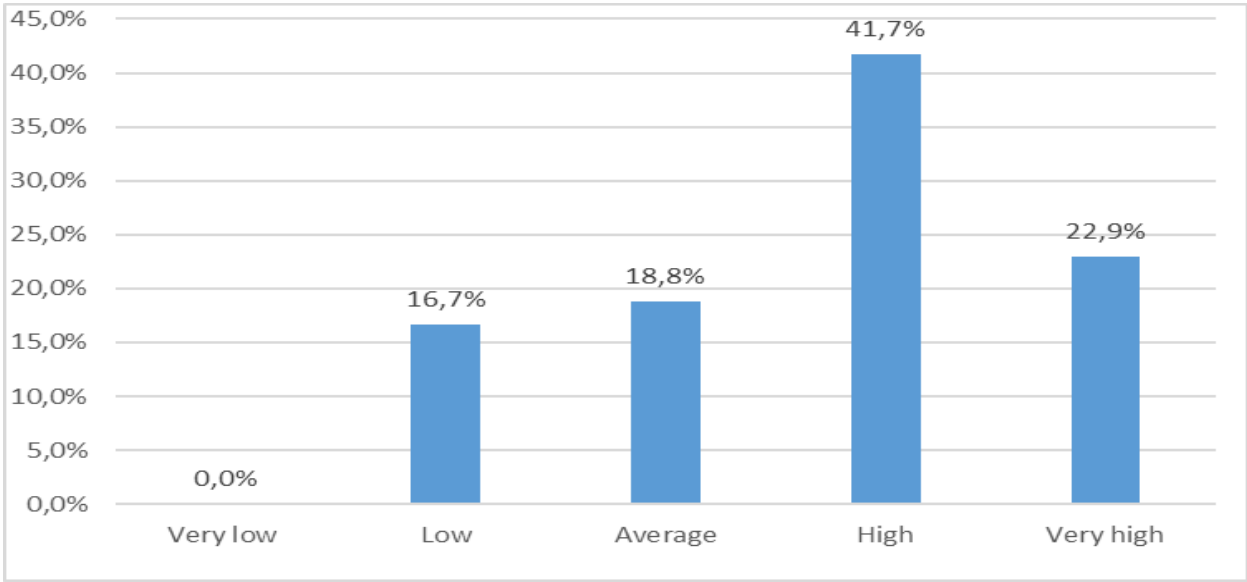


Table 4.5 and Figure 4.3 report the findings of the need in terms of contractors' Entrepreneurial Self-Efficacy regarding Management. The findings show that 75.0% of respondents (including 37.5% who require a high need and 37.5% require a very high need for Entrepreneurial Management Self-efficacy). It is also noted that 16, 7 %, 6.3%

and 2.1% require an average, low and very low need in terms of Entrepreneurial Self-efficacy with regard to Management respectively. This finding shows that the contractors possess inadequate Entrepreneurial Self-efficacy with regards to Management.

Table 4.5 Entrepreneurial Self-Efficacy regarding Management

Entrepreneurial Self-Efficacy regarding Management	Level of need	Frequency	Percent
	Very low	1	2,1
	Low	3	6,3
	Average	8	16,7
	High	18	37,5
	Very high	18	37,5

Figure 4.3 Entrepreneurial Self-Efficacy regarding Management

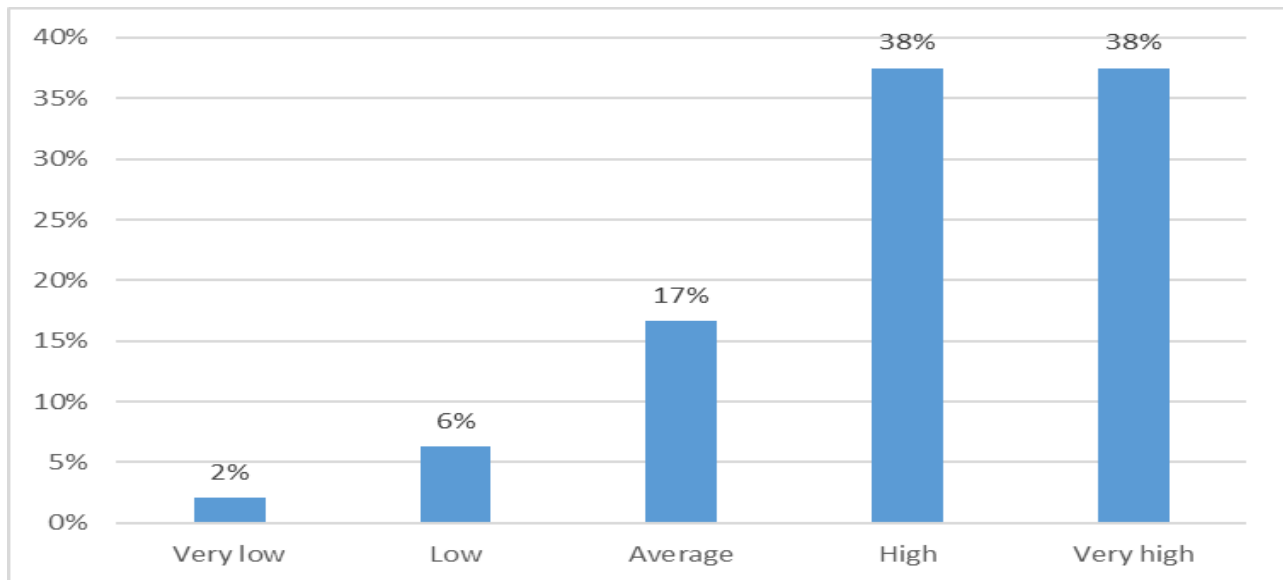


Table 4.6 and Figure 4.4 display the findings of the need in terms of Entrepreneurial Self-Efficacy with regard to risk taking. The findings show that 62.5% of respondents reported that they need Entrepreneurial Self-Efficacy with regard to risk taking skills (including 37.5% and 25% who reported a high and a very high need). Table 4.6 and Figure 4.4 also

show that 25.0% and 12.5% of respondents require an average and lower need in terms of Entrepreneurial Self-Efficacy with regard to risk taking respectively.

Table 4.6 Entrepreneurial Self-Efficacy and Risk Taking

Entrepreneurial Self-Efficacy with regard to Risk Taking	Level of need	Frequency	Percent
	Very low	0	0,0
	Low	6	12,5
	Average	12	25,0
	High	18	37,5
	Very high	12	25,0

Figure 4.4 Entrepreneurial Self-Efficacies and Risk-taking

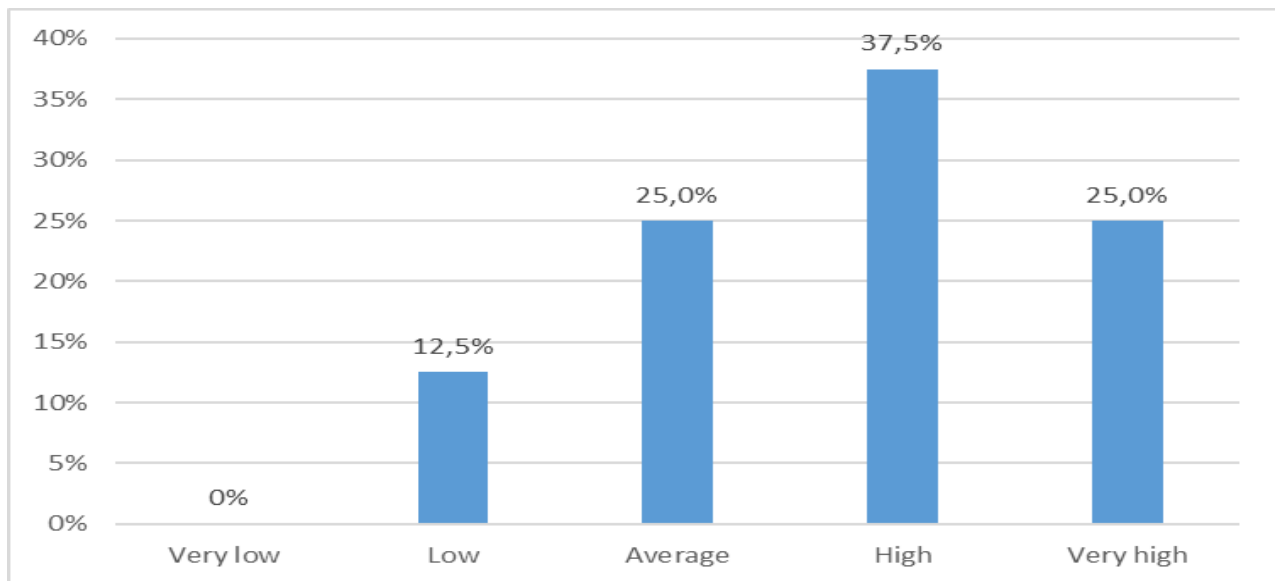


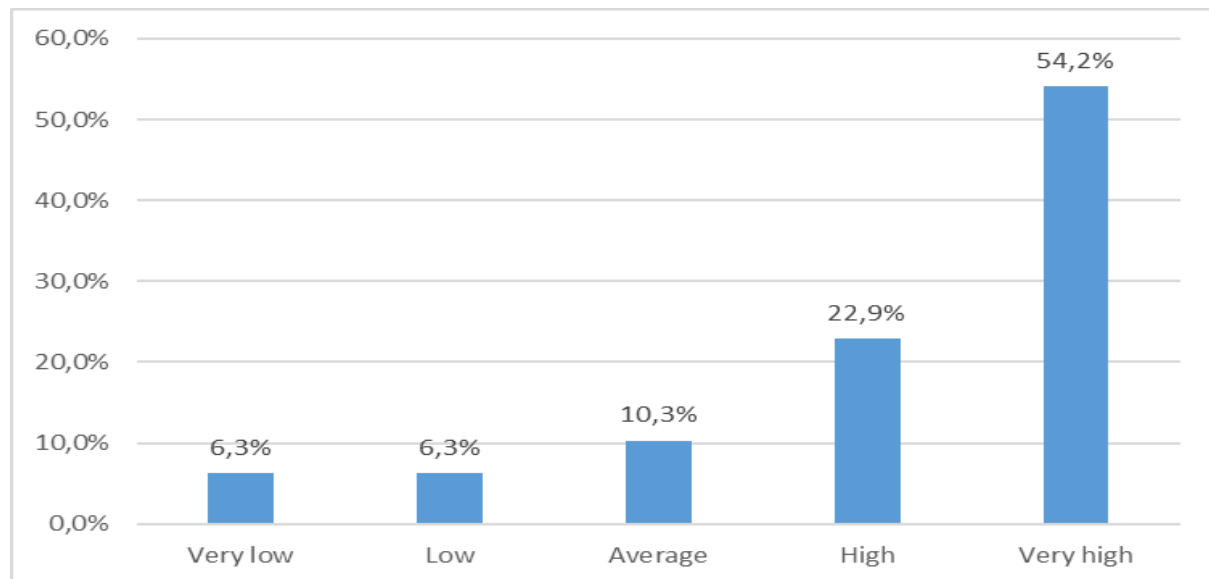
Table 4.7 and Figure 4.5 display the findings of the need in relation to Entrepreneurial Self-Efficacy with regard to financial control for emerging contractors. It appears that 77.1% of respondents need the skills (including 22, 9 % and 54, 2% who reported a high and very high need), for this skill. It is also noted that 10.3 %, 6.3% and 6.3% require an average, low and very low need to Entrepreneurial Self-efficacy with regard to Financial

Control respectively. This finding indicates that most participants expressed a higher need which indicates they are lacking in this skill.

Table 4.7 Entrepreneurial Self-Efficacy with regard to Financial Control

Entrepreneurial Self-Efficacy with regard to Financial Control	Level of need	Frequency	Percent
	Very low	3	6,3
	Low	3	6,3
	Average	5	10,3
	High	11	22,9
	Very high	26	54,2

Figure 4.5 Entrepreneurial Self-Efficacy with regard to Financial Control



4.2.2 Need for Commitment, Self-reliance and Persistence

This refers to passion, strengths and energy to refine an opportunity into a start-up venture. Table 4.8 and Figure 4.6 report the findings about the need in terms of

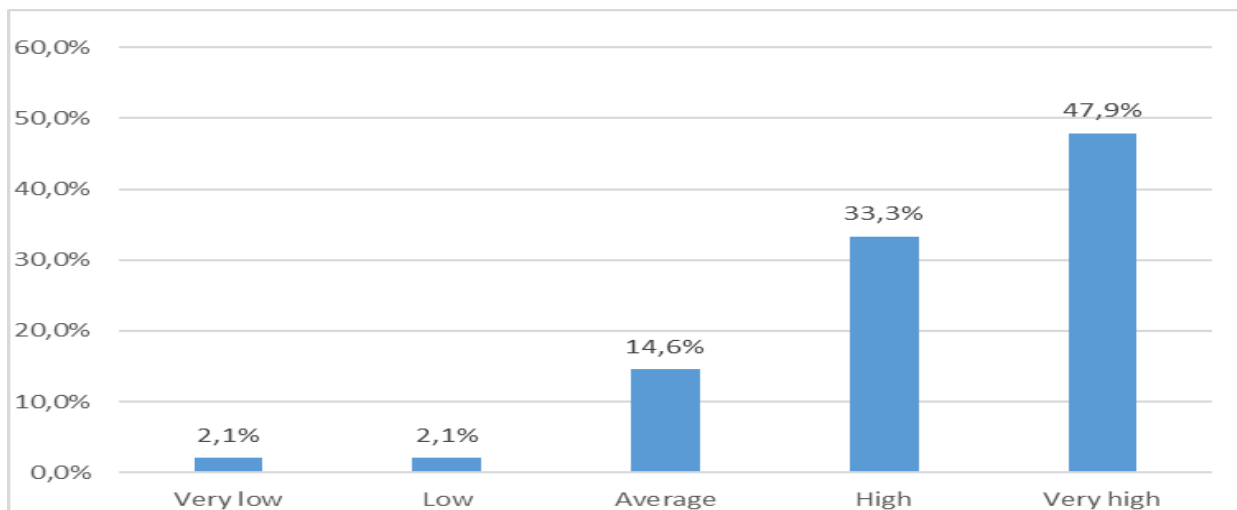
Commitment, Self-reliance and Persistence. The findings show that 80.2% of the contractors need the skill (including 33.3% and 47.9% who reported who reported high and very high need). The findings also show that 14.6%, 2.1% and 2.1% require an average, lower and very low need with regards to commitment, self-reliance and persistence respectively.

Austin *et al.* (2006) and Morris *et al.* (2005) found that without commitment, a project would not be successful. This study proves that most contractors require a very high need to obtain the skills required for Commitment, Self-reliance and Persistence.

Table 4.8 Need for Commitment, Self-reliance and Persistence

Commitment, Self-Reliance and Persistence	Level of need	Frequency	Percent
	Very low	1	2,1
	Low	1	2,1
	Average	7	14,6
	High	16	33,3
	Very high	23	47,9

Figure 4.6 Need for Commitment, Self-reliance and Persistence



4.2.3 Need for Problem-solving Abilities

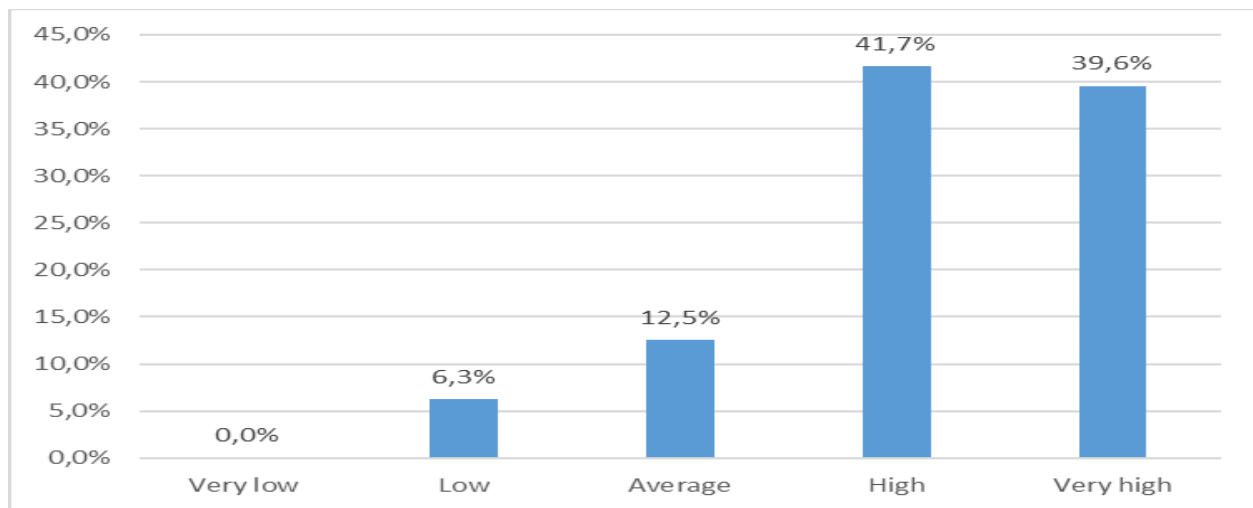
At every stage as an entrepreneur, the emerging contractors will be faced with opportunities and challenges. How they are tackled will determine success or failure.

Table 4.9 and Figure 4.7 display the findings of the need in terms of Problem-Solving Abilities. The findings show that 81.3% need the skill (including 41.7 % who reported a high need and, 39.6% who reported a very high need). It is also noted that 12.5% and 6.3 % require an average and low need with respect to Problem-solving skills. Fielding (2006) suggests that a spirit of success should ensure that companies move beyond Problem-solving to Innovation or to getting things done. Thus, contractors should be supported to get knowledge about problem-solving as it leads to the project success.

Table 4.9 Need for Problem-solving Abilities

Problem Solving Abilities.	Level of need	Frequency	Percent
	Very low	0	0
	Low	3	6,3
	Average	6	12,5
	High	20	41,7
Very high	19	39,6	

Figure 4.7 Need for Problem-solving Abilities



4.2.4 Need for Internal Locus of Control

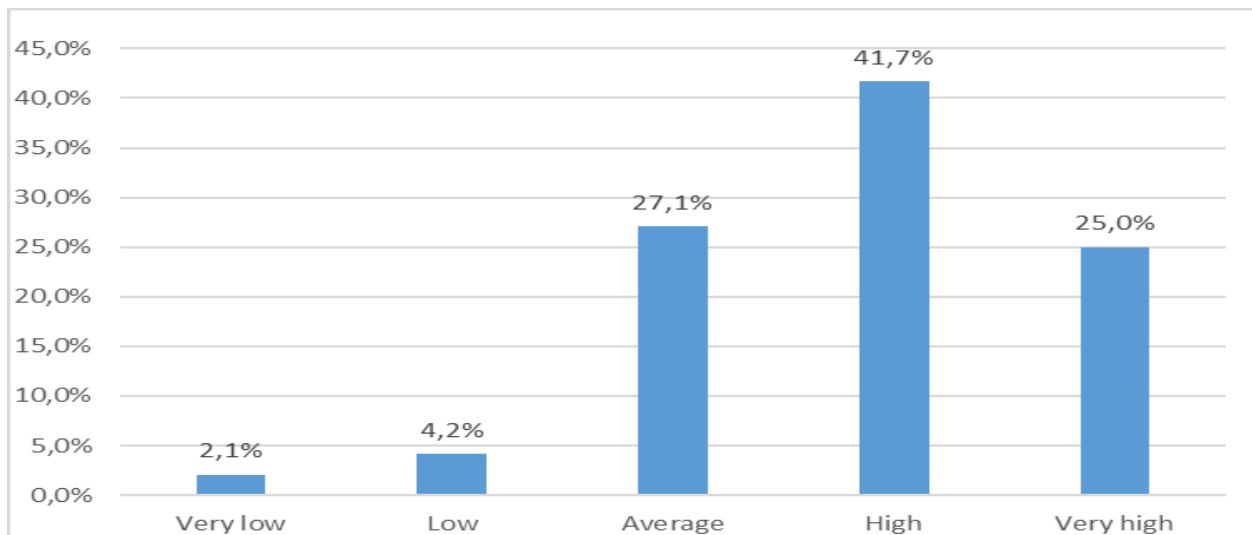
This refers to individuals who feel that they are very much in charge of their own destiny. Locus of control refers to a generalised belief about the amount of control people have over their lives. Table 4.10 and Figure 4.8 indicate that 66.7 % of respondents (including

41.7 % and 25.0% who reported a high and very high need), require the Internal Locus of Control skill. Table 4.8 and Figure 4.8 further show that 27.1%, 4.2% and 2.1% require an average, low and very low need in terms of Internal Locus of Control respectively. Brockhaus and Horwitz's (1986) found that internal locus of control is one entrepreneurial component which leads to high achievement. Therefore, the findings show that they need the skill in order to perform effectively.

Table 4.10 Need for Internal Locus of Control

Internal Locus of Control	Level of need	Frequency	Percent
	Very low	1	2,1
	Low	2	4,2
	Average	13	27,1
	High	20	41,7
	Very high	12	25,0

Figure 4.8 Need for Internal Locus of Control



4.2.5 Need for Entrepreneurial Knowledge

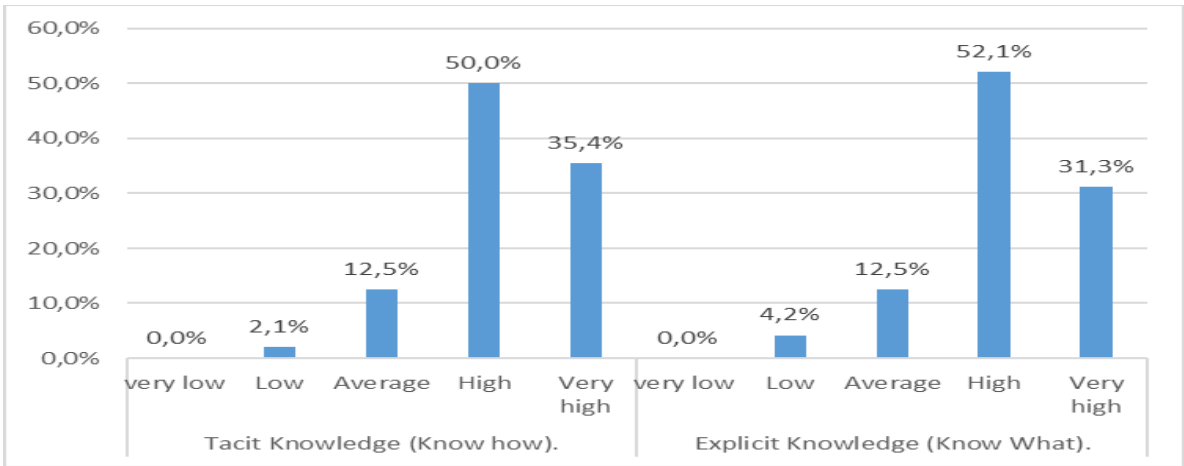
Entrepreneurial Knowledge is likely to come from sources such as previous work experience and education, from imitating and copying and may also include advice from experts. Table 4.11 and Figure 4.9 report the findings of this need in terms of Entrepreneurial Knowledge. The findings indicate that 85.4 % respondents require tacit knowledge (know-how) and 83.4% need explicit knowledge (know what). The findings also

indicate that 12.5% and 2.1% of the participants require an average or low need in terms of tacit knowledge (know how) and 12.5% and 4.2% require explicit knowledge (know what) respectively. These findings show that more than three quarters of the respondents need this skill which will enable them to cope with the work and become experts in their field.

Table 4.11 Need for Entrepreneurial Knowledge

Need for Entrepreneurial Knowledge	Level of need	Frequency	Percent
Tacit Knowledge (Know how).	Low	1	2,1
	Average	6	12,5
	High	24	50,0
	Very high	17	35,4
Explicit Knowledge (Know What).	Low	2	4,2
	Average	6	12,5
	High	25	52,1
	Very high	15	31,3

Figure 4.9 Need for Entrepreneurial Knowledge



4.2.6 Need for Education

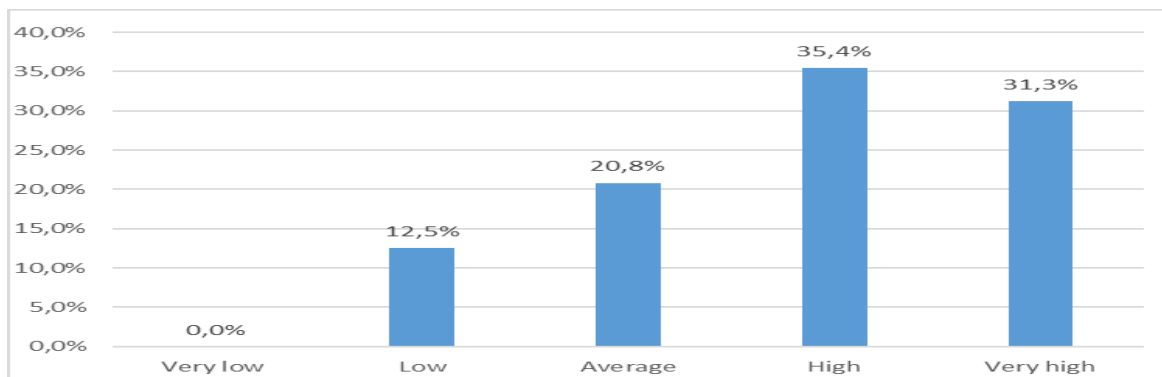
Formal Education is one component of human capital that may assist in the accumulation of explicit knowledge and which may provide skills which are useful to emerging

contractors. Table 4.12 and Figure 4.10 report the findings regarding on how the contractors rated the need for education. The findings show that 66.7% of respondents require a very high need for education. The findings further indicate that 20.8% and 12,5% require an average and low need for education respectively. Mohlala (2016) suggests that contractors who want work in the industry should have tertiary or, they should seek to acquire higher education.

Table 4.12 Need for Education

Education	Level of need	Frequency	Percent
	Very low	0	0,0
	Low	6	12,5
	Average	10	20,8
	High	17	35,4
	Very high	15	31,3

Figure 4.10 Need for Education



4.2.7 Need for Work Experience

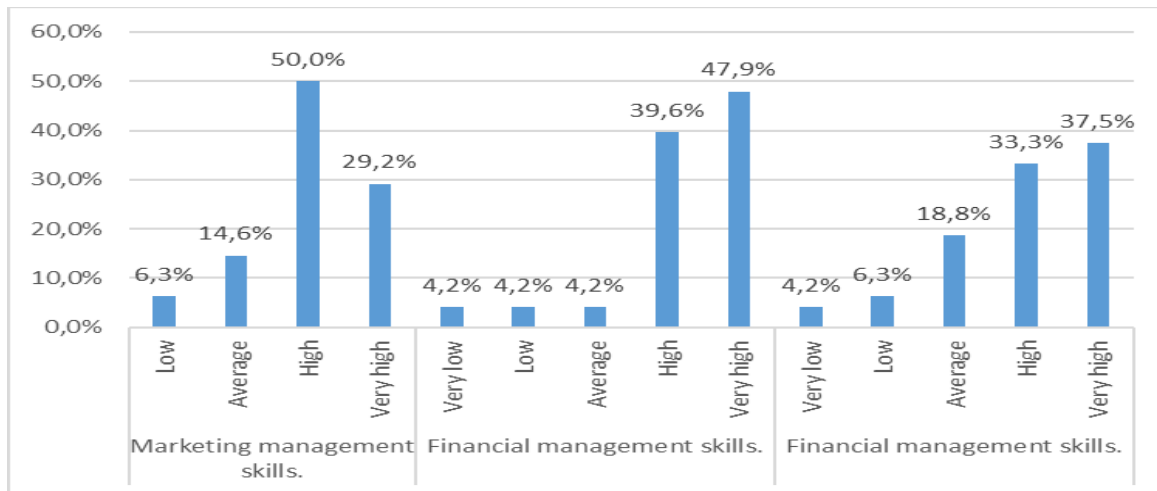
Work experience includes business knowledge and construction work experience. It can be noted from Table 4.13 and Figure 4.11 that 79.2%, 87.5% and 70.8% of respondents require a very high need for marketing management, financial management and entrepreneurial legal skills. The percentages of those who require an average, low and very low need, are also reported in Table 4.13 and Figure 4.11

Mohlala (2016) describes experience as, the factor which improves the success of the project. In this study, the findings show that contractors need experience in marketing management, financial management and entrepreneurial skills.

Table 4.13 Need for Work Experience

Need for Work Experience	Level of need	Frequency	Percent
Marketing Management Skills	Very low	0	0,0
	Low	3	6,3
	Average	7	14,6
	High	24	50,0
	Very high	14	29,2
Financial Management Skills	Very low	2	4,2
	Low	2	4,2
	Average	2	4,2
	High	19	39,6
	Very high	23	47,9
Entrepreneurial Legal Skill	Very low	2	4,2
	Low	3	6,3
	Average	9	18,8
	High	16	33,3
	Very high	18	37,5

Figure 4.11 Need for Work Experience



4.2.8 Need for Entrepreneurial Leadership Skills

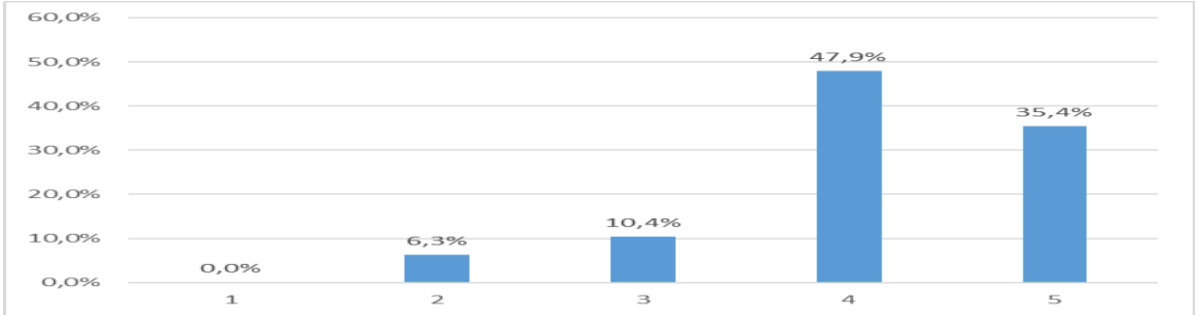
Leadership refers to the activities that create a bridge between planning and achieving the objectives of the enterprise. Table 4.14 and Figure 4.12 report the findings which show

the level of need for entrepreneurial leadership skills. It can be noted that 83.3 % of respondents (including 47.9% and 35.4% who reported a high and very high need). The findings also show that 10.4% and 6.3% require an average and low need with respect to Entrepreneurial Leadership Skills respectively. Liphadzi et al. (2015) and Mamabolo (2016) articulate that leadership is a skill which leads to project success. However, the findings indicate that more than half of the participants reported the need for entrepreneurial leadership skills. This suggests that contractors must be supported to improve leadership skill.

Table 4.14 Need for Entrepreneurial Leadership Skills

Need for Entrepreneurial Leadership Skills	Level of need	Frequency	Percent
	Very low	0	0,0
	Low	3	6,3
	Average	5	10,4
	High	23	47,9
	Very high	17	35,4

Figure 4.12 Need for Entrepreneurial Leadership Skills



4.2.9 Need for Time Management Skill

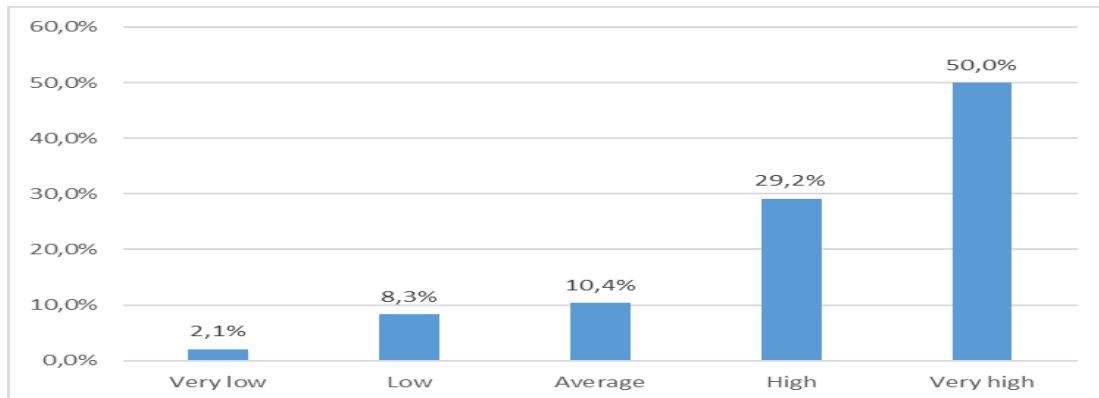
Time management actually refers to self-management. It can be noted from Table 4.15 and Figure 4.13 that 79.2% of respondents (including 29.2% and 50.0% who require a high and very high need) have a high need for time management skills. It is further noted that 10.4%, 8.3% and 2.1% require an average, low and very low need for time management skills respectively. The main reason why people struggle with prioritisation

is that they start procrastinate and lack time management skills. This study shows that the respondents need time management skills which will enable them to work effectively.

Table 4.15 Need for Time Management

Time Management Skills.	Level of needs	Frequency	Percent
	Very low	1	2,1
	Low	4	8,3
	Average	5	10,4
	High	14	29,2
	Very high	24	50,0

Figure 4.13 Need for Time Management



4.2.10 Need for Networking Skills

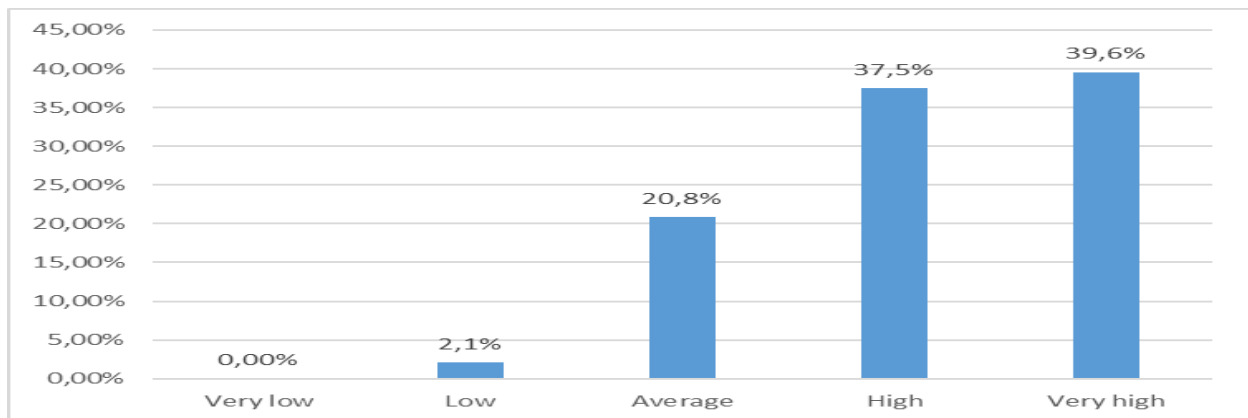
Business operates within a network of people. It is the process of starting and growing a business and involves interaction with others to enable resources, advice, information and assistance. It is noted from Table 4.16 and Figure 4.14 that 77.1% of respondents (including 37.5 % and 39.6% who reported a high and very high need), that contractors need to obtain knowledge on networking skills. The findings further show that 20.8% and 2.1% require an average and lower need for networking skill.

Mamabolo et al. (2017b) findings suggest that through networking, entrepreneurs gain new skills. Thus, contractors showed that they need the networking skill in order to grow and learn new skills.

Table 4.16 Need for the Networking Skill

Networking Skills	Level of needs	Frequency	Percent
	Very low	0	0,0
	Low	1	2,1
	Average	10	20,8
	High	18	37,5
	Very high	19	39,6

Figure 4.14 Need for the Networking Skill



As the findings show, more than half of the contractors require a very high need to develop skills. The findings also indicate a serious lack of various skills to enable contractors to run their projects effectively.

4.3 Research Question:

Is there any relationship between the perceived need Skills for Contractors?

In order to explore the connection between different required needs, chi-square test of independence at significance level $\alpha = 0.05$, was used. All the skills were cross tabulated; however, the findings revealed that there appears to be a significant relationship between the needs reported in Table 4.17 and the skills reported in Table 4.26.

4.3.1 Relationship between need for Entrepreneurial Self-efficacy and need for Work Experience.

Table 4.17 shows that there is a statistical significant relationship between need for Entrepreneurial Self-Efficacy with regard to Management and need for Entrepreneurial Legal Skills ($X^2(1) = 6.588$, $p\text{-value} = 0.016$) and Financial Management Skills ($X^2(1) = 6.349$, $p\text{-value} = 0.028$). It is noted from Table 4 that a higher percentage of those who necessitate a higher need for Entrepreneurial Self-Efficacy with regard to Management also require a higher need Entrepreneurial Legal Skills (29 or 80.6% of contractors) and Financial Management Skills (34 or 94.4% of contractors).

Similarly, it is noted from Table 4.17 that there appears to be a statistical relationship between Entrepreneurial Self-efficacy with regard to Innovation & Creativity and Financial Management Skills ($X^2(1) = 6.883$, $p\text{-value} = 0.017$) and Entrepreneurial Legal Skills ($X^2(1) = 4.449$, $p\text{-value} = 0.045$). It is noted from the table that a high percentage of those who require a high need with respect to Self-efficacy with regard to Innovation & Creativity also necessitate a high need for Financial Management Skills (30 or 96.8%). And also, a high percentage of those who require a high need for Entrepreneurial Self-efficacy with regard to Financial Control also need to obtain higher Entrepreneurial Legal Skills (29 or 78.4%). The findings of Mohlala (2016) revealed that Contractors with no experience show poor performance. Thus, this study shows that where there is a need of Entrepreneurial Self-efficacy with regard to Management and Entrepreneurial Self-efficacy with regard to Innovation & Creativity, so too is there a need for Entrepreneurial Legal Skills and Financial Management.

Table 4.17 Relationship between the need for Entrepreneurial Self-Efficacy and the Need for Work Experience

		Entrepreneurial legal skills		Chi-square ($X^2(df)$)	P-value	
		Low	High			
Entrepreneurial Self-Efficacy with regard to Management	Low	7(58,3)	5(41,7)	6.588(1)	0,016	
	High	7(19,4)	29(80,6)			
			Financial management skills			0,028
		Low		High		

	Low	4(33,3)	8(66,7)	6.34 9(1)	
	High	2(5,6)	34(94,4)		
		Entrepreneurial legal skills		11.2 06 (1)	0,001
		Low	High		
Entrepreneurial Self-Efficacy with regard to Innovation & Creativity	Low	10(58,8)	7(41,2)	6.88 3(1)	0,017
	High	4(12,9)	27(87,1)		
		Financial management skills.		6.88 3(1)	0,017
		Low	High		
	Low	5(29,4)	12(70,6)	4.44 9(1)	0,045
	High	1(3,2)	30(96,8)		
		Entrepreneurial legal skills		4.44 9(1)	0,045
		Low	High		
Entrepreneurial Self-Efficacy with regard to Financial Control	Low	6(54,5)	5(45,5)	4.44 9(1)	0,045
	High	8(21,6)	29(78,4)		

4.3.2 Relationship between need for Entrepreneurial Self-Efficacy and need for Work Experience

Table 4.18 shows that there is a statistical significance relationship between Entrepreneurial Self-efficacy with regard to Financial Control and Time Management Skills ($\chi^2(1) = 5.245$, $p\text{-value}=0.036$) as well as relationship between Entrepreneurial Self-efficacy with regard to Business Opportunity recognition Time Management Skills ($\chi^2(1) = 8.097$, $p\text{-value}=0.012$). It is noted from the table that a high percentage contractors of who require a high need for Entrepreneurial Self-efficacy with regard to Financial Control and Entrepreneurial Self-efficacy with regard to Business Opportunity recognition also entail a higher need Time Management Skills (32 or 86.5% and 34 or 87.2% respectively).

Table 4.18 Relationship between need for Entrepreneurial Self-Efficacy and the need for Time Management Skills.

		Time Management Skills		Chi-square (X^2 (df))	P-value
		Low	High		
Entrepreneurial Self-Efficacy with regard to Financial Control	Low	5(45,5)	6(54,5)	5.245 (1)	0,036
	High	5(13,5)	32(86,5)		
Entrepreneurial Self-Efficacy with regard to Business Opportunity recognition	Low	5(55,6)	4(44,4)	8.097(1)	0,012
	High	5(12,8)	34(87,2)		

4.3.3 Relationship between need for Entrepreneurial Self-Efficacy and need for Entrepreneurial Leadership Skills

Table 4.19 indicates that it appeared also a relationship between need for Entrepreneurial Self-efficacy with regard to Innovation & Creativity and need for Leadership Skills ($\chi^2(1) = 6.576$, p-value=0.017) and relationship between need for Entrepreneurial Self-efficacy with regard to Business Opportunity recognition and need for Leadership Skills ($\chi^2(1) = 6.154$, p-value=0.031). Table 4.19 also shows that a higher percentage of those who require a higher need for Entrepreneurial Self-efficacy also require a higher need for Leadership Skills (29 or 93.5% and 35 or 89.7%).

Table 4.19 Relationship between need for Entrepreneurial Self-efficacy and the need for Leadership Skills

		Leadership Skills		Chi-square (χ^2 (df))	P-value
		Low	High		
Entrepreneurial Self-Efficacy with regard to Innovation & Creativity	Low	6(35,3)	11(64,7)	6.576(1)	0,017
	High	2(6,5)	29(93,5)		
Entrepreneurial Self-Efficacy with regard to Business Opportunity recognition	Low	4(44,4)	5(55,6)	6.154 (1)	0,031
	High	4(10,3)	35(89,7)		

4.3.4 Relationship between need for Entrepreneurial Self-Efficacy and need for Commitment, Self-reliance and Persistence

Table 4.20 indicates that there is a statistical relationship between Entrepreneurial Self-efficacy with regard to Business Opportunity recognition and need for Commitment, Self-reliance and Persistence ($\chi^2(1) = 25.334$, p-value=0.000) as well as relationship between need for Entrepreneurial Self-efficacy with regard to Management and need for

Commitment, Self-reliance and Persistence ($\chi^2(1) = 5.516$, p-value=0.032). It is noted from the table that a high percentage of those who require a high need Entrepreneurial Self-efficacy with regard to Business Opportunity recognition and Entrepreneurial Self-efficacy with regard to Management, also require a higher need for Commitment, Self-reliance and Persistence Skills (37 or 94.9% and 32 or 88.9% respectively).

Table 4.20 Relationship between need for Entrepreneurial Self-Efficacy, for Commitment, Self-reliance and Persistence

		Commitment, Self-reliance and persistence.		Chi-square (X^2 (df))	P-value
		Low	High		
Entrepreneurial Self-Efficacy with regard to Business Opportunity recognition.	Low	7(77,8)	2(22,2)	25.334 (1)	0,000
	High	2(5,1)	37(94,9)		
Entrepreneurial Self-Efficacy with regard to Management	Low	5(41,7)	7(58,3)	5.516 (1)	0,032
	High	4(11,1)	32(88,9)		

4.3.5 Relationship between need for Entrepreneurial Self-Efficacy Problem Solving Abilities

The findings also show that there is a statistically significant relationship between the need for Entrepreneurial Self-efficacy and Problem-solving Abilities ($\chi^2 (1) = 9.850$, p-value=0.007). It can be noted from table 4.21 that a higher percentage of those who require a higher need for Entrepreneurial Self-efficacy with regard to Business Opportunity recognition also require a higher need for Problem-solving Abilities (35 or 89.7%).

Table 4.21 Relationship between need for Entrepreneurial Self-Efficacy and Problem-solving Abilities

		Problem-Solving Abilities.		Chi-square (X^2 (df))	P-value
		Low	High		
Entrepreneurial Self-Efficacy with regard to Business Opportunity recognition.	Low	5(55,6)	4(44,4)	9.850 (1)	0,007
	High	4(10,3)	35(89,7)		

4.3.6 Relationship between need for Entrepreneurial Knowledge and Work Experience

Table 4.22 also shows that there appears to be a statistical significance relationship between the need for Entrepreneurial Knowledge in terms of Tacit Knowledge (know how) and need for Marketing Management Skills ($\chi^2(1) = 6.551$, p-value=0.027) and, Financial Management Skills ($\chi^2(1) = 6.905$, p-value=0.033). Table 4.22 also indicates that there is a significant relationship between Explicit Knowledge (know what) and Entrepreneurial Legal Skills ($\chi^2(1) = 5.163$, p-value=0.037). It is noted from Table 4.22 that a higher percentage of those who require a higher need with respect to Entrepreneurial Knowledge also require a higher need for Work Experience (35 or 85.4% and 38 or 92.7% respectively). This finding suggests that where there is a need for Entrepreneurial Knowledge, there is also a need for Marketing Management, Financial Management and Entrepreneurial Legal Skills. This also suggests that developing Entrepreneurial Knowledge, leads to improving Work Experience Skill.

Table 4.22 Relationship between need for Entrepreneurial Knowledge and Work Experience

		Marketing management skills		Chi-square (χ^2 (df))	P-value	
		Low	High			
Tacit Knowledge (know how)	Low	4(57,1)	3(42,9)	6.551(1)	0,027	
	High	6(14,6)	35(85,4)			
			Financial management skills		6.905(1)	0,033
			Low	High		
	Low	3(42,9)	4(54,1)			
	High	3(7,3)	38(92,7)			
		Entrepreneurial legal skills		5.163(1)	0,037	
		Low	High			
Explicit Knowledge (know what)	Low	5(62,5)	3(37,5)			
	High	9(22,5)	31(77,5)			

4.3.7 Relationship between need for Entrepreneurial Knowledge, Work Experience and Education

Furthermore, Table 4.23 shows that is statistical significance relationship between need for Entrepreneurial Knowledge and need for Work Experience in terms of need for Entrepreneurial Leadership Skills ($X^2 (1) = 9.667$, $p\text{-value}=0.010$), Time Management skills ($X^2 (1) = 6.551$, $p\text{-value}=0.027$) and Networking Skills ($X^2 (1) = 10.918$, $p\text{-value}=0.004$). It is noted from Table 4.23 that a high rate for those who require a high need for Entrepreneurial Knowledge, also require a high need for Work Experience (37 or 90.2%, 35 or 85.4% and 35 or 85.5%).

This finding suggests that where there is a need for Entrepreneurial Knowledge, there is also a need for Time Management and Networking Skills. This further suggests that empowering Entrepreneurial Knowledge would improve Time Management and Networking Skill.

Table 4.23 Relationship between needs for Entrepreneurial Knowledge, Time Management and Networking Skills

Entrepreneurial Knowledge		Time Management Skills		Chi-square ($X^2(df)$)	P-value
		Low	High		
	Low	4(57,1)	3(42,9)	6.551 (1)	0.027
	High	6(14,6)	35(85,4)		
		Networking Skills		10.918(1)	0,004
		Low	High		
	Low	5(71,4)	2(28,6)		
	High	6(14,6)	35(85,4)		

In addition, Table 4.24 shows that there is a relationship between the needs for Education and Entrepreneurial Self-Efficacy with regards to Business Opportunity recognition ($X^2(1)=4.554$, $p\text{-value}=0.036$). This suggests that where there is a need for Education, there is also a need for Entrepreneurial Self-efficacy with regards to Business Opportunity recognition. And therefore, improving Education Skills leads to developing Entrepreneurial Self-efficacy with regards to Business Opportunity recognition.

Table 4.24 Relationship between the need for Education and Entrepreneurial Self-Efficacy with regards to Business Opportunity Recognition

Education	Entrepreneurial self-efficacy with regards to business opportunity recognition		Chi-square ($X^2(df)$)	P-value
	Low	High		
	9(52.9)	7(22.6)	4.554(1)	0.036
High	8(47.1)	24(77.4)		

These findings inform us that there a relationship between different needs for emerging contractors with respect to their skills which enable or hinder them to run effective projects. This means that where there is a need of Entrepreneurial Knowledge, there is also the need for Entrepreneurial Leadership, Time Management and Networking Skills.

4.4 Is there any relationship between Demographic Factors and needs suggested by the Contractors?

This was tested using non-parametric t-test at significance level $\alpha = 0.05$. The findings are presented below showing a significant statistical relationship (with $p\text{-value} < 0.05$).

1. Age

The findings presented in Table 4.25, show the output of Mann-Whitney U. It is noted from Table 4.25 that there is a statistical significant relationship between the respondents' age and the needs for the skills presented in Table 4.25. It appears that contractors aged below 35 years old were more likely to request a high need for Entrepreneurial Self-efficacy with regard to Management, Self-efficacy, Financial control, Problem-solving Abilities and Internal Locus of Control as opposed to those contractors who are 35 years old and more.

Table 4.25 Relationship between Age and Entrepreneurial Skills

Skills	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Entrepreneurial Self-efficacy with regard to Management	150.000	678.000	-2.457	0.014
Entrepreneurial Self-efficacy with regard to Financial Control	162.000	690.000	-2.260	0.024
Commitment, Self-reliance and Persistence	161.000	689.000	-2.253	0.024
Problem solving Abilities	193.000	721.000	-1.482	0.138
Internal Locus of Control	161.000	689.000	-2.199	0.028

Mann-Whitney U

Grouping variable: Age

2. Total experience in Construction Industry

The findings presented in Table 4.25, show the output of the Kruskal Wallis Test. It is noted from Table 4.26 that statistically, that there is a significant relationship between respondents' experience in construction and the need for the skills presented in Table 4.26.

It appeared that most contractors who requested a higher need for Entrepreneurial Self-efficacy with regard to Management, Financial Control, Commitment, Self-reliance, Persistence, Internal Locus of Control and Time Management Skills, have between 0-5 years' experience in construction.

Table 4.26 Relationship between Experience in Construction and the need for Skills

Skills	Chi-Square	df	Asymp. Sig.
Entrepreneurial Self-efficacy with regard to Management	6.628	2	0.036
Entrepreneurial Self-efficacy with regard to Financial Control	8.858	2	0.012
Commitment, Self-reliance and Persistence	9.171	2	0.010
Internal Locus of Control	8.796	2	0.012
Time Management Skills	8.147	2	0.017

Kruskal Wallis Test

Grouping variable: Total experience in construction Industry

4. Experience in Management, Designation (post) and Level of Education

Using Kruskal Wallis and Mann-Whitney U Test, the findings further showed that, statistically, there is no significant relationship between experience in Management, designation and level of education (all p-values >0.05). Furthermore, the findings showed that, (1) non-experienced contractors, (2) males contractors, (3) technicians and technologists and (4) those who studied at tertiary level, requested a high need for Entrepreneurial Skills.

4.5 Conclusion

This chapter presented the findings of the data collected arising from the analysis of responses obtained from the data collection instrument. Therefore, all results were presented in descriptive and inferential statistics. The chapter articulated on the different tests that were used to respond to the research question by using frequencies and percentages for sound interpretation.

The next chapter presents the conclusions and tentative recommendations arising from the empirical analysis of the data. The suggestions for future research are presented as well as the final concluding remarks.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter is concerned with the tentative recommendations arising from the empirical analysis of the data presented in the second and third chapter respectfully. The entrepreneurial skills required by emerging contractors in the civil engineering field are further articulated based on the importance they serve from the interpreted findings. This chapter presents the authors suggestions for future researchers in the field as well as the final concluding remarks in closing.

5.2 Objective One

To evaluate the skill set of emerging contractors.

5.2.1 Findings from the study

5.2.1.1 Need for Entrepreneurial Self-Efficacy Skills

Findings display the rate for need in terms of Entrepreneurial Self-efficacy with regard to Business Opportunity recognition skills. It can be noted that 81.3% (including 31.3% who mentioned a very high need and 50.0% who endorsed a high need), reported that they require a superior need for Entrepreneurial Self-efficacy with regard to Business Opportunity recognition. It is also noted that 10.4% and 8.3% of them, require an average and a very low need in terms Entrepreneurial Self-efficacy with regard to Business Opportunity recognition respectively.

5.2.1.2 Need for Commitment, Self-Reliance and Persistence

The findings show that 80.2% of the contractors need the skill (including 33.3% and 47.9% representing a high and very high need with regards to Commitment, Self-reliance and Persistence respectively). Austin *et al.* (2006) and Morris *et al.* (2005) found that without Commitment a project would not be successful.

5.2.1.3 Need for Problem Solving Abilities

The findings show that 81.3% need the skill (including 41.7 % and 39.6% who reported a high and very high need). It is also noted that 12.5% and 6.3 % necessitate an average and low need with respect to Problem solving respectively.

5.2.1.4 Need for Internal Locus of Control

The findings indicate that 66.7 % (including 41.7 % and 25.0% who reported a high and very high need), have a great need for the Internal Locus of Control skill. Brockhaus and Horwitz's (1986) found that internal locus of control is one of the entrepreneurial components which leads to high achievement.

5.2.1.5 Need for Entrepreneurial Knowledge

The findings indicate that 85.4 % and 83.4% have an extreme need for Tacit Knowledge (know how) and Explicit Knowledge (know what) respectively. Mohlala (2016) suggests that contractors who want work in the industry should have tertiary education or must seek to acquire higher education.

5.2.1.6 Need for Education

The findings show that 66.7% of respondents require a very high need of Education.

5.2.1.7 Need for Work Experience

Findings indicated that 79.2%, 87.5% and 70.8% require a very high need for Marketing Management, Financial Management, and Entrepreneurial Legal Skill, respectively.

5.2.1.8 Need for Entrepreneurial Leadership Skills

The findings indicated 83.3 % (including 47.9% and 35.4% who reported a high and a very high need) for Entrepreneurial Leadership Skills. Liphadzi et al. (2015) and Mamabolo (2016) articulate that leadership is a skill which leads to a project success.

5.2.1.9 Need for Time Management Skill

Findings indicated that 79.2% (including 29.2% and 50.0% who require a high and a very high need, respectively) need the Time Management Skill.

5.2.1.10 Need for Networking Skill

Findings indicated that 77.1% (including 37.5 % and 39.6% who reported a high and a very high need, respectively), need a high level of training for the Networking Skill. Mamabolo *et al.* (2017) suggested that through Networking, entrepreneurs gain new skills.

5.2.2 Findings from Literature

Previous research studies interested in emerging contractor's skills were concerned about the skill set of emerging contractors in the civil engineering field. These skills include Technical skills, on-site training skills, tendering and pricing skills etc. Such skills have not yet reflected the significant Entrepreneurial Skills of emerging contractors which enable the monitoring and maintaining the businesses to grow successfully and become sustainable. According to Nieuwenhuizen *et al.* (2008:31), Entrepreneurial Skills refer to the approach of an individual to the institution and development of a business. Whilst many emerging contractors pose the ideas and character of entrepreneurship (Martin 2009:70), it is the entrepreneurial skills that fall short within themselves resulting in the mismanagement and neglect of the contractors. Nieuwenhuizen *et al.* (2008) also states that "Entrepreneurial skills are related to the personal and interpersonal competencies of people and are expressed in their behaviour". Therefore, a combination of training to develop entrepreneurial skills and business training skills is likely to be more effective in preparing and developing successful entrepreneurs. Hence, it is highly essential to obtain both entrepreneurial and business skills for the emergence of successful entrepreneurship.

5.2.3 Recommendations

Emerging contractors will require entrepreneurial skill training before embarking on the business. Proper construction business entry requirements such as, obtaining certificates in terms of both entrepreneurial and technical skills from recognised institutions who are registered with compliant bodies must be in place. Contractors need to be monitored and supported by competent experts within the construction industry throughout the processes of training and operation.

5.2.4 Conclusion

Through the quantitative research findings, it is concluded that contractors possess very little skills as more than half suggested a high need for skills to improve their work. The findings show that three quarters of the contractors require very high or high need in terms of developing their skills. This suggests that urgent and proper training is required to empower the contractors to ensure they perform effectively

5.3 Objective Two

Examine challenges faced by emerging contractors to run effective projects.

5.3.1 Findings from the study

The findings showed that the Entrepreneurial Skills such as Commitment, Self-reliance, Persistence, Financial Management Skills, Tacit Knowledge or Know How, Entrepreneurial Self-efficacy with regard to Financial Control, Leadership, Time Management, Networking Skills, Problem-solving Abilities and Entrepreneurial Self-efficacy with regard to Business Opportunity recognition are all important for the emerging contractors to perform effectively and to sustain their construction business.

The findings also revealed that there is a relationship between need for Entrepreneurial Self-efficacy and need for Work Experience ($p\text{-value} < 0.05$). This means that where there is a need for a need for Work Experience, there is also a need for Entrepreneurial Self-efficacy. This also suggests that developing Work Experience leads to the improvement for Entrepreneurial Self-Efficacy

It was further found that there is a relationship between need for Entrepreneurial Self-Efficacy and need for Time Management skills, need for Leadership skills, Commitment, Self-reliance and Persistence and Problem-Solving Abilities ($p\text{-value} < 0.05$). This means that where there is a need Entrepreneurial Self-Efficacy there is also a need for Time Management skills, for Leadership skills, Commitment, Self-reliance and Persistence and Problem-Solving Abilities.

These findings further suggest that developing Entrepreneurial Self-efficacy, implies improving Time Management skills, need for Leadership Skills, Commitment, Self-reliance and Persistence and Problem-Solving Abilities. The findings further showed that the factor age has a significant impact on the need for Entrepreneurial Self-efficacy with regard to Management, Entrepreneurial Self-efficacy with regard to Financial Control, Commitment, Self-reliance and Persistence, Problem Solving Abilities and Internal Locus of Control. In addition, it was found that the factor experience in construction has a significant impact on the need for Entrepreneurial Self-efficacy with regard to Management, Entrepreneurial Self-efficacy with regard to Financial Control, Commitment, Self-reliance and Persistence, Internal Locus of Control and Time Management skills. However, there appears to be no significant effect between gender, experience in management, level of qualification and posts occupied and the required needs. The study suggests urgent and proper training for improving the capacity for emerging contractors in order they perform their work effectively.

5.3.2 Findings from Literature

The CIDB (2009) has realized that a vibrant and successful construction industry is only possible if those employed within it have the required skills and competency to function effectively in their roles. Thwala and Phaladi (2009) also agree that the poor project implementation culture amongst emerging construction firms stems from: poor project management expertise and experience; lack of basic project management qualifications; poor financial resources; basis to purchase quality building materials and, corruption in the post-tendering phase.

Ntuli and Allopi (2013:22) point out a lack of knowledge of SMMEs financing from commercial banks and company proprietors also pose challenges which are difficult to overcome. This is because banks bring upon an unfair evaluation of risk and profitability while owners have an aversion to interest.

5.3.3 Recommendations

This means a continuing forum for contractors and other stakeholders to discuss common problems affecting the performance of contractors as well as enabling contractors to

interact with each other and share experiences. The South African government and all stakeholders need to provide a platform to address education, mentoring and empowering contractors. Emerging and poorly educated contractors should have accessible tools to enable them to improve themselves. Mentors and on-the-job training play a very important role when it comes to addressing lack of technical and management skills of emerging contractors. When selected, a mentor must meet certain criteria to motivate and empower the contractor who looks to the mentor for guidance and help. The emerging contractor must be “teachable” to fine-tune the process.

5.3.4 Conclusion

This study was about evaluating the level of need for entrepreneurial skills amongst emerging contractors within the province of KwaZulu-Natal. It examined the relationship between the suggested needs and the required needs and whether demographic factors have an impact on either of these factors. The findings revealed that contractors possess very little skills as more than half suggested a high need for skills to improve their work. The findings also show that three quarters of the contractors require a high or very high need for personal skills development. This suggests the urgency for proper training to empower the contractors and enable them to perform their projects effectively.

5.4 Suggestions for Further Research

The study suggests some points which need to be addressed in future. These include: (1) Extending the study to two or more provinces to examine the status of the skills held by other emerging contractors. (2) Increasing the sample size and, (3) Use of a mixed approach (quantitative and qualitative) regarding development. The researcher hopes that the inclusion of these arguments will improve future research and act as a foundation to the topic at hand for future colleagues with an interest in this particular field of study.

5.5 Conclusion Remarks

Not only these above mentioned entrepreneurial skills have been directed at the emerging entrepreneur but it also applies to the emerging contractors as evaluated in Chapter Four and Five. With so much of the success of a company relying on such skills, it is now feasible to realise the gap between becoming an emerging contractor and being a learned entrepreneur in the construction industry. Innovation and creativity are fundamental in sustaining businesses such as construction companies. "...It is assumed that most emerging small business owners/managers start their business/enterprise without prior entrepreneurial training" (Ladzani and Van Vuuren, 2002:153-160).

The various types of development programmes were identified and it has been suspected that these programmes are not accommodating the entrepreneurial skills that were mentioned above. Moreover, the challenges that are currently faced by the emerging contractors were also identified. It has been discovered that the challenges are resulted in the poor training

Chapter Four and Five has evaluated the entrepreneurial skills set required for the emerging contractors to be successful and sustainable. The findings from the research discovered that emerging contractors are in high need of different entrepreneurial skills to sustain and grow their businesses.

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