The role of tertiary education in promoting self employment: A study of project management students at a South African University of Technology

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The role of tertiary education in promoting self employment: A study of project management students at a South African University of Technology

by

GAETAN NGABONZIZA

Thesis submitted in partial fulfilment of the requirements for the degree

Master of Technology Business Administration in Project Management

in the Faculty of Business

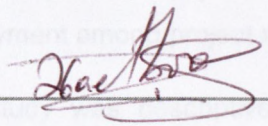
at the Cape Peninsula University of Technology

Supervisor: Mr Stanley Fore

Cape Town
September 2011

DECLARATION

I, **Gaetan NGABONZIZA**, declare that the contents of this thesis represent my own unaided work, and that the thesis has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own conclusions and not necessarily those of the Cape Peninsula University of Technology.



Signed

23rd April 2012

Date

ABSTRACT

Human capital is both a key driver of economic growth and a means to promote overall development. In order to enhance human capital in South Africa, tertiary institutions have seen a tremendous increase in students' enrolment over the past few decades. But, in spite of the need for skilled labour, tertiary education graduates are increasingly faced with unemployment, which poses a serious obstacle to the economic growth of the country. This study investigated the role of tertiary education in enhancing self-employment among project management graduates.

This study was descriptive in nature and intended to find answers to research questions, which comprised the extent to which tertiary education seeks to motivate students to self employment. In addition, the study sought to find challenges related to self-employment facing project management students after they have completed their studies, as well as reasons why some people choose self-employment over salaried employment. Data were collected with the use of a self-administered structured questionnaire. Collected data were analysed using of the statistical software for social science (IBM SPSS Statistics version 19) for descriptive statistics in the form of tables and charts. Furthermore, statistical tests, using chi-square values at the 0.05 level of significance, were performed to determine factors influencing individuals to choose a self-employment career.

The study found that education may either enhance individual entrepreneurial ability, thereby increasing the likelihood of choosing self-employment or increase opportunities for paid employment, both of which reduce unemployment. In addition, tertiary education provides human capital that enables graduates to achieve increased level of productivity, which leads to earning more income than lower educated people in both paid employment and self-employment career. Unfortunately, graduates face financial related challenges, which constrain them from undertaking self-employment endeavours.

The results of this study suggest that graduate unemployment can only be eliminated if students are provided with the right skills and knowledge to match the requirement of the employment market. Furthermore, the study suggests that graduates should be assisted financially at the initial stage of their self-employment activities.

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DEDICATION

This thesis is dedicated to my parents, Aloys Munyangaju, and Drocelle Mukangenzi, for their love, support and encouragement.

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GLOSSARY

Abbreviations	Explanation
BTech	Bachelor of Technology
CPUT	Cape Peninsula University of Technology
DPRU	Development Policy Research Unit
EMS	Economic and Management Sciences
MTech	Master's of Technology
PMBOK	Project Management Book of Knowledge
SAQA	South African Qualification Assessment
SMEs	Small and Medium Enterprises
SO	Specific Outcomes
UNECA	United Nations Economic Commission for Africa
WEF	World Economic Forum

CHAPTER ONE: INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction

Human capital is both a key driver of economic growth and a means to promote overall development (United Nations Economic Commission for Africa, 2006:4). According to Kangasharju and Pekkala (2002:216), education is traditionally viewed as an investment for the future. Angrist and Krueger (1999:88) argue that the acquisition of education improves the future earnings and overall success of individuals. However, research shows that successful entrepreneurs are typically not academic achievers (Burke, 2006:54). Surprisingly, absence of formal education for entrepreneurs could indicate that education is not an entrepreneurial requirement but a hindrance where too much education might suppress the entrepreneurial talent of an individual (Burke, 2006:54). In contrast, education may either enhance individual entrepreneurial ability, thereby increasing the probability of choosing self-employment, or may increase opportunities for subordinate employment, thereby reducing the likelihood of becoming an entrepreneur (Rosti & Chelli, 2009:534).

Higher education of self-employed people, in general should improve the growth opportunity of their firms (Kangasharju & Pekkala, 2002:216). This is because higher education improves the ability to comprehend market opportunities, resulting in better exploitation of the market demand. According to Burke (2006:54), if entrepreneurs want to enter a technology-driven business, they will definitely benefit from a technical education in order to make sound business decisions.

Project management is rapidly becoming a way of doing business (Gray & Larson, 2010:10). Accordingly, most organisations are currently doing their business through project management in order to provide faster and timely responses to the evolving market demand. This study investigates the acquisition of project management skills as a way of enhancing the prospects of self-employment amongst project management graduates.

1.2 Problem statement

Students from tertiary education are increasingly faced with unemployment after their graduation.

1.3 Background to the research problem

The South African economy has been experiencing rising unemployment rates during the past four decades [Development Policy Research Unit (DPRU), 2006:2]. In spite of soaring unemployment rates, there has been a structural move in the observed labour demand trends towards increased demand for high-skilled workforce (DPRU, 2006:2). This has led to the remark that the unemployment problem is structural in the sense that unskilled labour, who represents the greater part of labour supply in the country, cannot find jobs owing to insufficient demand for workers with low skills (DPRU, 2006:2).

In order to deal with the shortage of skilled labour, young South Africans have acquired better education over the last decade (Mlatsheni, 2005). This is in fairly response to the difficult labour market conditions for low-skilled workers and also the increased financial earnings by higher educated individuals. The Development Policy Research Unit (DPRU) (2006:2) pointed out that rising enrolment rates at tertiary educational institutions have also contributed to the increase of highly skilled labour. However, while the graduate labour force is increasing, many graduates with tertiary qualification are still struggling to find employment in spite of the observed structural shifts in labour demand (DPRU, 2006:2). Of all the educational groups in South Africa, graduate unemployment has been the one rising very fast since 1995. Research indicates that the increase in graduate unemployment is as a result of the mismatch between educational outputs and the type of employment opportunities available at the labour market (Kraak, 2005, Mlatsheni, 2005, Oosthuizen, 2005).Therefore, institutions of higher learning should review their curriculum to equip their graduates with knowledge and skills required by the economy. While the nature and extent of graduate unemployment in South Africa is well documented, there seems to be little empirical research with regard to graduate self-employment. This study investigated the extent to which project management qualification motivates graduates to shift from being job seekers to being job creators.

1.4 Research questions

The study sought to find answers to the following questions:

- To what extent does tertiary education motivate students to self employment?
- What obstacles are project management graduates likely to face with regard to self-employment after they have completed their studies?
- What motivates people to choose self employment over paid employment?

1.5 Objectives of the research

The increasing numbers of graduates, which do not correspond to the availability of job opportunities, pose a serious obstacle to the economic growth of the country. The aim of this study was to determine prospects of self employment among project management students. There needs to be a shift from being a job seeker to being a job creator. A main objective of this study was, thus, to determine whether project management graduates are inspired and motivated to undertake self employment endeavours. Sub-objectives of this study were:

- To investigate the impact of tertiary education on graduates self-employment
- To find perceived obstacles to self-employment that graduates face
- To find reasons why people choose self employment over being employed or vice-versa.

1.6 Research assumptions

The research was undertaken under the assumptions that:

- Project management graduates are academically well equipped to run their own businesses successfully
- Project management students are more optimistic about good employment prospects
- Project management graduates will seek employment from companies only to gain experience and networking, which will be of great importance for their own future business

1.7 Research design and methodology

This study adopted a mixed approach, which comprises of qualitative and quantitative approaches. Qualitative research examined existing literature on the graduate unemployment in South Africa, challenges facing graduates at the employment market and factors influencing graduates in choosing their career path, be it self-employment or employed. Quantitative research adopted a survey-based research methodology in which a questionnaire survey was self-administered to investigate career intentions of project management graduates and the impact of education in influencing graduates to undertake self-employment endeavours

The study reviewed a various number of documents, including academic journals, books and report on graduates unemployment, as well as reports on graduates' entrepreneurial activities.

1.7.1 Research population, sample and sampling methods

A stratified random sampling technique was adopted to draw a sample size of 152 units from a population size of 174 units to obtain data from respondents. The study population comprised of project management students at a selected university in Cape Town.

1.7.2 Unit of analysis

The unit of analysis of this study included both bachelor of technology and master of technology, full time as well as part-time project management students. The rest of the university students were not investigated.

1.7.3 Data collection

A quantitative survey-based study using self-administered structured questionnaire was adopted during this survey. The questionnaire was presented in English, which is the official medium of communication at the tertiary education institutions. Data were collected over a period of three weeks from the 15th of May to the 8th of June. Questionnaires were distributed before the beginning of lectures and were collected by the researcher after the lectures. With regard to masters' students who have completed their course work and are, therefore, not attending classes, questionnaires were sent to them and returned through email.

1.7.4 Ethical considerations

Prior to undertaking primary data collection, an ethical clearance certificate was sought and obtained from the Faculty of Business ethical clearance committee in the university in which the survey took place. Respondents were informed of the objectives of the research and their consent over participating in this research before completing questionnaires. In addition, anonymity and confidentiality were guaranteed to the respondents

1.8 Data analysis

The data gathered were presented and discussed in conjunction with available literature. All primary data were analyzed using the statistical software for social science (IBM SPSS Statistics version 19), which helped to analyse data, compile appropriate tables, and examine relationships among variables and perform test of statistical significance based on research questions (Babbie, Mouton, Vorster & Prozesky, 2001:583). In addition, open ended data were analysed using Microsoft word document, in which data were summarised into tables. After capturing all necessary data, the results were presented, discussed and recommendations were drawn up.

1.9 Delineation of the study

The survey was limited to the BTech and MTech students doing project management in the Faculty of Business at a selected university.

1.10 Significance of the study

Understanding the challenges facing graduates at the employment market is of paramount importance to future graduates, who will use the findings to prepare themselves before they enter the employment market. The study will also be significant to tertiary institutions in using research findings to design course outline that motivates graduate self employment. Moreover, the study will be significant to government in finding ways to support graduates entrepreneurial activities.

1.11 Expected outcomes, results and contribution of the research

Upon completion of this study, a report addressing the extent to which tertiary education fosters self employment was compiled. In addition, challenges, as well as factors influencing employment paths were documented. The report will serve as guidance to institutions of higher learning in devising curriculum that best build the confidence of self employment. The research will finally publish a paper in a business management accredited Journal.

1.12 Clarification of basic terms and concepts

Tertiary education: Tertiary education also referred to as third-stage or third level education is the educational level following the completion of a school providing a secondary education such as a high school, secondary school, or gymnasium (WorldIQ.com, 2010). Tertiary education is commonly higher education which prepares students for a quaternary education, but it can also be vocational education and training. Colleges and universities are examples of institutions that provide tertiary education. Tertiary education generally culminates in the receipt of a degree: vocational certification, Associate's degrees, or Bachelor's degrees (B.A. or B.S.).

Self-employment: The definition of self-employment most suitable for our purposes in this paper is that people in self-employment are employers of themselves and sometimes of others (Rosti & Chelli, 2009:538). This definition suggests that the individual is faced with two alternatives when selecting a career; either as self-employed or employed in an organization

The feature shared by self- and other-employers is their economic status as non-dependent workers. In our data, individuals are classified as self- or salary-employed on the basis of a direct question related to their current job.

Project: A project is a complex, non routine, one-time effort limited by time, budget, resources and performance specification designed to meet customer needs (Gray & Larson, 2010:5). The Project management Book of Knowledge (PMBOK) defines a project as a temporary endeavour undertaken to create a unique product or service (Burke, 2007:17). Projects range in size, scope, cost and time from mega projects costing millions of dollars over several years to small projects with a low budget and with a very short lifespan, which can be few hours to complete.

Project management: Project management is defined by PMBOK as the application of knowledge, skills, tools and techniques to project activities in order to meet stakeholder's needs and specifications from a project (Burke, 2007:18). Gary and Larson (2010:3) argue that project management is not just a set of tools, but a results-oriented management style that places a premium on collaborative relationships among diverse characters.

Graduate: A graduate is defined as a person who has a university degree (Advanced Learner's dictionary, 2000:515).

Entrepreneurship: entrepreneurship is defined as an act of discovering and evaluating opportunities (Shane & Venkataraman, 2000:218) as well as creating new opportunities and possibilities (Sarasvathy, 2001:244). Wilken (2005:15) argued that the essence of entrepreneurship is to make changes, which are usually initiated by an entrepreneur.

1.13 Summary

The economic growth of any country depends very much on the human capital it possesses. A skilled work force increases productivity, as well as profitability of firms in which they are employed. In addition, the higher education of self employed people should improve the growth of their firm, owing to their ability to comprehend and exploit business opportunities quickly.

The aim of this study was to investigate the prospects of self employment among the current students undertaking project management program at a selected university in Cape Town. The main objective of this study was to determine whether project management students are inspired and motivated to undertake self employment endeavours after they have graduated.

The study adopted a mixed method approach, which comprises of qualitative and quantitative methods. Qualitative research examined existing literature on the graduate unemployment in South Africa, the challenges facing graduates at the employment market and factors influencing graduates in choosing their career path, be it self-employment or employed. Quantitative research adopted a survey-based methodology in which a questionnaire survey was self-administered to investigate employment prospects envisaged by project management graduates. The random sampling technique was used to obtain a sample of respondents.

After relevant data have been collected, results were presented, discussed and possible recommendations were drawn up.

1.14 Structure of thesis

This thesis comprises five chapters, which are structured as follows:

The first chapter provides the background of the study, problem statement, research questions, as well as objectives of the research. In addition, the chapter defines key terms and concepts, which is necessary to have a clear understanding of the contents of this report. Moreover, it provides a brief discussion of research methodology adopted in this study. Finally, it outlines the significance of the study, delineation of the study, as well as expected outcomes and contributions of the research.

Chapter two provides the literature review on issues pertaining to the current study. It includes the rationale for education, the importance of entrepreneurship education, and the state of graduate unemployment in South Africa. It also provides reasons for self-employment, challenges for self-employment, the need for project management skills in enhancing self-employment and the theoretical framework, which explains the human capital theory.

Chapter three discusses in detail, the research methodology adopted in this study. It discusses the theoretical aspect of research methodology, research design, study population and sampling technique, methods of data collections and means by which data were analysed.

Chapter four presents and discusses the findings of the empirical study.

Finally, chapter five provides the summary of the findings, the conclusions of the study and suggests recommendations for implementation. Finally, it provides recommendations for further research.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter provides a good understanding of the role of education in general and entrepreneurship education in particular, in enhancing entrepreneurial activities, which are paramount to the economic development of any nation. The chapter starts by describing the rationale for education and its role in society. The importance of entrepreneurship education is then discussed. This chapter also reviews the state of entrepreneurship education from primary school level to tertiary level in South Africa. In addition, this chapter provides the state of graduate unemployment in South Africa. It also provides the reasons that motivate people to self-employment, as well as challenges facing self-employment activities. The chapter concludes by providing the theoretical framework which tries to explain the importance of human capital in enhancing both employment and self-employment, which are the cornerstone for the national economic development.

2.2 Rationale for education

Education is described as the most important factor in increasing human capabilities and attaining the desired goal of economic development of any nation where skilled labour translates into productive labour (Malik, Faridi, Hussain & Shaukat, 2010: 135). In addition, education is used as a proxy for the skills level of workforce participants (DPRU, 2006:8). A study by Faridi, Malik and Ahmad (2010:58) indicated that education plays a critical role in absorbing modern technology in less developed countries and in capacity building for self-sustaining growth and development. According to UNECA (2005:5), education is an investment, which leads to higher wages, and reflecting the increased levels of productivity resulting from human capital accumulation. According to Sen (2000), the acquisition of knowledge and skills has direct benefits for the well-being and freedom of individuals. Education is viewed as a measure of a nation's human capital investment, which has a significant impact on self-employment as education provides the skills needed for establishing and learning a business (Smith, 2004:83). Furthermore, there is a positive correlation between education and business establishment, as approved by Robinson and Sexton (1994); Charney and Libecap (2000); Luthje and Frank (2002), who indicated that education can enhance entrepreneurial skills, competencies, as well as attitudes towards self-

employment activities. In their study, Van Praag and Van Stel (2010:5), state that individual with high level of education can earn a premium income as entrepreneurs while those with lower level of education are better off as employees.

According to Carr (1999:27), tertiary education increases the probability that a person will choose self-employment over salaried employment. In addition, Carr (1996:27) asserts that individuals with more than four years of tertiary education are almost three times as likely to be self-employed in comparison with high school graduates. Furthermore, higher education is a fundamental tool to improve the knowledge of society as a whole and a necessity in the current environment, where knowledge-based employment is increasing (Bowers-Brown & Harvey, 2004:13). According to Barber (1998:20), success of any economy will depend on the level of education of its workforce and on the capacity of people to exercise their skills individually and collectively. Van Praag and Van Stel (2010:5) stressed the contribution of education in business ownership by arguing that human capital acquired through education is one of the most important individual drivers of the performance of business owners and the ensuing business size.

2.3 The importance of entrepreneurship education

Entrepreneurship education is the decisive involvement by an educator in the life of the learner to succeed in the business world (Isaac, Friedrick & Brijlal, 2007). In the closing decades of the 20th century, entrepreneurship gained increased recognition among economists as a significant driver of improvements in societal welfare (Martinez, Levie, Kelly, Saemundsson & Schott, 2010:9). Moreover, formal entrepreneurship education has been intensified in institutions of higher learning over the past few decades (Luthje & Prugl, 2006:211; Akpomi, 2008:52). Luthje and Prugl (2006:211) argue that the success of new ventures may be linked to prior entrepreneurship education and training in which the knowledge and skills required by entrepreneurs are taught. Furthermore, the establishment of entrepreneurial programs and institutions in the university context has been triggered by the expectation that conducive academic environment can help to develop new generations of business founders (Luthj & Prugl, 2006:211). According to empirical research, the universities and their didactic activities influence the students' decision-making process with respect to new venture creation (Gorman, Hanlon & King, 1997: 57; Bechard & Toulouse, 1998: 318; Hostager & Decker, 1999:2). However, in their annual Global Entrepreneurship Monitor (GEM)

report, Driver, Wood, Segal and Herrington (2001) revealed an overall lack of entrepreneurship elements in the education system in South Africa.

Many business faculties provide majors in entrepreneurship alongside with majors in more traditional areas such as Finance, Accounting, Marketing, Management, Business Education and Project Management. The essence of entrepreneurship is to make changes (Wilken, 2005:3), categorized into five types of changes, namely: initial expansion, subsequent expansion, factor innovation, production innovations and market innovation. Entrepreneurship education plays an important role in developing and stimulating entrepreneurial process by providing all tools necessary for starting up new ventures (Postigo & Tomorini, 2002). It is generally believed that entrepreneurship education is a vital contributor to improving the entrepreneurship orientation of people, leading to the acquisition of skills, creativity, confidence, drive and courage, in order to create employment for self and for others (Ekpoh & Edet, 2011:172).

Entrepreneurship education represents all kinds of knowledge delivery that look for empowering individuals to create genuine wealth in the economic sector, thereby advancing the cause of development of the nation as a whole (Ekpoh & Edet, 2011:172). Bassey and Archibong (2005) argue that the goal of entrepreneurship education is to empower graduates irrespective of their areas of specialization with skills that will enable them to engage in income generating endeavours, if they are unable to secure paid employment. The motivation for the inclusion of entrepreneurship curricula in Universities, according to Cotton, O'Gorman and Stampfi (2000), is to enable graduates acquire increased understanding of entrepreneurship, equip them with entrepreneurial approach to the employment market and prepare them to act as entrepreneurs and managers of new businesses. Hence, the objectives of entrepreneurship education as presented by the European Union (2002) include:

- Raising students' awareness of self-employment as a career option (the message being that you can become not only an employee but also an employer)
- Promoting the development of personal qualities that are relevant to entrepreneurship such as creativity, risk taking and responsibility, and
- Providing the technical and business skills that are needed in order to start a new venture

Consequently, entrepreneurial education can be an important factor in fighting unemployment among graduates. Previous studies have indicated that there is a considerable relationship between entrepreneurship education and career intention (Ekpoh & Edet, 2011:173). For instance, Noel (2001) confirmed that graduates from entrepreneurship course attained higher scores in entrepreneurial intention and entrepreneurial self-efficacy than students who graduate from other disciplines. Equally, Varela and Jimenez (2001) study showed that there is a relationship between a tertiary institution investment in the promotion of entrepreneurship and the percentage of students becoming entrepreneurs.

Aina (2006) points out that the aim of different governments to combat poverty through creation of poverty reduction programmes have failed because graduates lack practical skills, which can be acquired through entrepreneurship education programmes. Smith, Collins and Hannon (2006) argue that entrepreneurship education is of great importance to all learners, including those who are taking courses other than business and management. Martinez et al. (2010:8) revealed that individuals who perceive they have the skills and knowledge to start a business are more likely to do so. The acquisition of the right entrepreneurial skills, attitudes and knowledge will enable graduates to be self employed and job creators (Akpomi, 2008). Entrepreneurial positive attributes such as creativity and spirit of initiative can be valuable to everybody in their operational responsibilities and in their daily life.

Graduate entrepreneurship is said to provide benefits both to individual and to society (Green & Saridakis, 2008:653). For instance, according to Blanchflower and Oswald (1998), entrepreneurship increases innovation, job creation, competition in the market place and the likelihood of individual self dependence and wellbeing. However, Green and Saridakis (2008:653) question the extent to which higher education acts as successful transmission mechanism or platform for the promotion of entrepreneurship after graduation.

Providing students with entrepreneurship skills is important as career transitions have become more open ended and dynamic (White, 1999). Owusu-Ansah (2004) and Cotton et al. (2002) revealed that entrepreneurship education enables graduates to acquire profound understanding of entrepreneurship and equip them with appropriate skills for job creation. Higher education may play an important role in the creation of relevant skills. According to Minniti and Baygrave (2007:7), knowledge is cumulative,

which means what is learned in one period builds upon what has been learned in the previous period. In addition, Cope (2005) argues that aspiring entrepreneurs need to consider the stock of their accumulated knowledge. The report of the World Economic Forum (2009:7-8) argue that entrepreneurial skills, attitudes and behaviours can be learned. Furthermore, exposure to entrepreneurship education throughout an individual's lifelong learning path, starting from youth and through adulthood into higher education, as well as reaching out to those economically or socially excluded, is important (WEF, 2009:7-8). Moreover, higher education may play an important role in enhancing self-employment outcomes through the provision of support (Green & Saridakis, 2008:656).

In essence, the vocational test for higher education is to see how well it is able to deliver a range of skills and support that aids future employment outcomes, either in terms of self-employment or in terms of employment (Green & Saridakis, 2008:654). Usoro (2010:21) argues that the major challenge facing the institutions is how to equip the graduates with appropriate skills and competencies for self-employment.

Wilson, Kickul and Marlino (2007) found that entrepreneurship education could boost students' interests in entrepreneurship as a career. Moreover, Bassey and Olu (2008) agree that there was a considerable relationship between students' perceptions of higher learning institutions administration's provision for tertiary entrepreneurship education. Other perceptions include curriculum objectives for tertiary entrepreneurship education, instructional methods for tertiary entrepreneurship education, quality and quantity of tertiary entrepreneurship education instructors and student's entrepreneurial qualities and graduate self-employment potential. Accordingly, whilst individuals may have access to informal networks centred on their family and friends, who may be invaluable to the graduate (Atlantic Canada, 2001) higher education offers access to other informal sources of support such as academics, and career advisory services.

Research by Green and Saridakis (2008:256) shows that the factor leadership and managerial skills is positive and significant, which indicates that the acquisition of the underlying teamwork, entrepreneurship, management and leadership skills is important in determining initial self-employment. The economic transformation is currently most desirable in a developing world in general and South Africa in particular, where unemployment rate is enormous. Akpomi (2008:53) argues that if students acquire adequate entrepreneurial skills, attitude and knowledge, they will not only be self-

employed after graduation, but will also be job creators for other people. However, studies have indicated that the probability of being self-employed is lower amongst highly educated people (Blanchflower, 2004, Rosti & Chelli, 2009:536). For instance, it has been suggested that salaried work is a more attractive choice than self-employment, particularly for highly educated people (Kangasharju & Pekkala, 2002:217). First, highly educated people have the potential to earn more as employees than they would earn as self-employed (Uusitalo, 2001). Secondly, the stream of income is less secure as a self-employed than as an employee owing to the high risks associated with running small firms compared to large firms (Storey, 1994). Thus, considering risks associated with self-employment, Kangasharju and Pekkala (2002:218) suggest that income for self-employment activities should exceed those from salaried work if self-employment is to be more attractive than salary work. In contrast, Rosti and Chelli (2009:536) found that examining transitions among the self-employment, paid employment, unemployment, and out of the labour force conditions reveals that education increases the probability of entering self-employment for individuals from whatever origin, and for both male and female graduates.

An important human capital assumption is that after completing formal tertiary education, graduates should be able to make a successful transition from institutions of higher learning to become self-reliant entrepreneurs, good citizens, selfless leaders and live healthy lives (Usoro, 2010:13-14). Kangasharju and Pekkala (2002:218) have opposed such an assumption by stressing that if the general employment in the economy is improving, higher educated people may even cease to operate as self-employed and go to work for other companies as employees. However, if the economy's employment level is poor, then self-employment becomes a more attractive alternative for people with any level of education. (Kangasharju & Pekkala, 2002:218).

Surveys in most countries suggest that entrepreneurship education and training, both in school and outside of school, is inadequate (Martinez et al. 2010:9). The inadequacy of entrepreneurship education and training has, therefore, a negative impact on the job creation among graduates, which may affect the national economic development considerably.

2.3.1 Areas of entrepreneurship education

Entrepreneurship education is defined as the acquisition of knowledge and skills "about" or "for the purpose of" entrepreneurship generally, as part of recognized

education programs at primary, secondary or tertiary-level educational institutions (Martinez et al, 2010:11).

Laukkannen (2000) distinguishes two areas of entrepreneurship education: "

- **Education about entrepreneurship**. This involves developing, constructing and studying the theories referred to the entrepreneurs, the firm creation, the contribution to economic development, the entrepreneurial process and the small and middle sized firms. It takes into account undergraduate, master's and doctorate students as well as policy makers and researchers. It views entrepreneurship as a social phenomenon.

- **Education for entrepreneurship**. This addresses present and potential entrepreneurs with the objective of developing and stimulating the entrepreneurial process, providing all the tools necessary for the start-up of a new venture both within and outside an existing organisation."

Postigo and Tomborini (2002) point out that education about entrepreneurship is mainly based on the construct and conveyance of knowledge about the field, while the emphasis of education for entrepreneurship is on learning experience and development of competencies, skills, aptitudes and values. Consequently, the teaching methods used in each of these areas differ. Methods that are most commonly used in teaching entrepreneurship include: reading, guest speakers, lectures, case studies, on-site visits, research papers, thesis/dissertations, and workshops (Klandt, 1993). Furthermore, for education about entrepreneurship, Klandt (1993) states methods that are most commonly used, are consulting services by students and researches while education for entrepreneurship involves using techniques such as: videos, writing business plan, practical work, working with entrepreneurs, computer simulations, role playing games, and joining a students' entrepreneurial club.

2.3.2 Entrepreneurship education in South Africa

The current state of economy in South Africa is an area of concern for graduates who are facing many problems such as crime, corruption, mismanagement and unemployment (North, 2002: 24). According to Davies (2001:32), the South African labour market's capacity to absorb new recruits into the formal sector has decreased from 62 per cent to less than 4 per cent in the last three decades, which is a frightening situation for tertiary education graduates. Although entrepreneurship education is not a

panacea to unemployment, North (2002:24), as well as Co and Mitchell (2008:348) point out that there is a need for young South Africans to be educated and trained in entrepreneurship in order to encourage them to be job creators instead of job seekers once they have left the education system. Regrettably, the vast majority of South African people have grown up with little home experience of business innovation or entrepreneurship and consequently do not regard themselves to be potential entrepreneurs (Co & Mitchell, 2006:349). In order to be self-employed, children should learn, from an early age, to be knowledgeable consumers, develop the right attitude towards work, and develop the skills needed to identify viable business opportunities and eventually start their own business undertakings (North, 2002:25).

In South Africa, many people blame the education system for their lack of entrepreneurial excellence (Mare & Crous, 1995). However, education and curriculum experts have been involved since 1990 in various projects and programmes for introducing entrepreneurship into the school curriculum (North, 2002:25). In the study of Kroon and Meyer's (2001) on university students undertaking an entrepreneurship course, they found out that even though tertiary institutions have emphasized on entrepreneurship education since the early 1990s, exposure to one or two modules in entrepreneurship does not guarantee entrepreneurial orientation. Neither does it guarantee more positive expectations about entrepreneurial abilities and careers. They, therefore, recommend that entrepreneurship education must be introduced earlier in the educational system. To foster entrepreneurship education in South African schools, the Department of Education has developed a document for use, referred to as Entrepreneurship in the Curriculum 2005 Programme (North, 2002:26). The Curriculum 2005 Programme of the Department of Education identifies 12 critical outcomes. These critical outcomes are the broad, generic cross-curricular outcomes which underpin the Constitution, and which have been adopted by the South African Qualifications Authority (SAQA). These outcomes will ensure that learners gain the skills, knowledge and values that will allow them to contribute to their own success as well as the success of their families, and the nation as a whole. SAQA proposes an outcome with the specific intention of enabling individuals to identify and engage in entrepreneurial opportunities (The National Qualifications Framework, 2000:23).

Entrepreneurship is listed as one of six phase organisers identified to facilitate the planning, organisation and assessment of the curriculum development process (North, 2002:26). This should ensure that children are given opportunities to develop as active

citizens, capable of contributing to the building of a democratic society (Policy Document of the Department of Education, 1997:20). Entrepreneurship as a field of study falls under the Learning Area: Economic and Management Sciences (EMS). In the foundation phase (Grades 1 to 3) the Life Skills programme makes provision for entrepreneurship. The following four modules are prescribed for the teaching of entrepreneurship in the foundation phase:

- Needs in society;
- Characteristics of an entrepreneur;
- Starting one's own business; and
- Productivity

Listed below are those Specific Outcomes (SO), Assessment Criteria and Range Statements for EMS in the Foundation Phase as contained in the Policy Document of the Department of Education (EMS, 1997: 5-19). They were included in the original working document (syllabus) for Economic Education (Department of Education and Culture: House of Assembly, 1994:1-6) which was submitted to the Department of National Education in 1994.

SO1: Engage in entrepreneurial activities: Needs in society, characteristics of entrepreneurs, starting a business, business plan and productivity

SO2: Demonstrate personal role in economic environment: Rights of the consumer

SO3: Demonstrate the principles of supply and demand and the practices of production: Factors of production, exchange of goods and services

SO4: Demonstrate managerial expertise and administration proficiency: Planning and organising

SO6: Evaluate different economic systems: Types of ownership, profit motive.

At tertiary level of education, there has been little research in South Africa that investigates the state of entrepreneurship education in South Africa. Research studies that have been done on entrepreneurship education in South Africa have mainly focused on the secondary school level (North, 2002; Gouws, 2002). Nevertheless, Co and Mitchell (2006:349) study revealed that entrepreneurship education in South Africa is at its infancy although some of the tertiary institutions have been involved since the early 1990s. According to Brijlal (2008:25), the South African Economic structure is

well served by tertiary institutions, which generally offer a human resource pool for large businesses. For that reason, Brijlal (2008:25) argues that a student mindset has always been directed in favour of employment in big business rather than engage in self-employment endeavours. Knight and York (2003:5) have identified entrepreneurship modules in tertiary education as one of the ways to enhance employability of graduates. The study of Co and Mitchell (2006:358) indicated that tertiary institutions and academics recognize the importance of entrepreneurship education and that strong entrepreneurship programmes are necessary for an institution to be renowned and respected. Their results revealed that the courses presented by tertiary institutions, teaching methodologies, as well as assessment methods still follow the more teacher-centred way of teaching. However, some institutions were trying to develop new entrepreneurship courses and use more non-traditional modes of teaching, which call for more interaction and participation from students (Co & Mitchell, 2006:358). Unfortunately, there is no recent research on entrepreneurship education in South Africa, which should be reviewed to serve as the basis for this study.

Entrepreneurship can play an important role in finding solutions to South Africa's economic development (Maas & Harrington, 2006). According to Olufunso (2010:87), South Africa is under threat of economic stagnation if new businesses are not created. Herrington, Kew and Kew (2009:76) note that owing to the failure of the formal and public sector to absorb the rising number of job seekers in South Africa, more attention has now been focused on entrepreneurship, new firm creation and their contributions to economic growth and job creation. For instance, the National Youth Development Agency (NYDA) was launched in 2008 with the primary objective of improving entrepreneurship and reducing youth and graduate unemployment in South Africa (Olufunso, 2010:88). According to Olufunso (2010:88) one way to combat graduate unemployment is the engagement into graduate entrepreneurship. Graduate entrepreneurship is defined as a process taken by graduates to start a business in terms of an individual career orientation (Rwigema & Venter, 2004:12). It has been noted that wealth and a high majority of jobs are created by small businesses started by entrepreneurially-minded individuals, many of whom go on to create big businesses (Consortium for Entrepreneurship Education, 2005).

2.4 State of Graduate unemployment in South Africa

Unemployment is one of the developmental problems that face every developing economy in the 21st century (Akintoye, 2008). The situation for Africa's youth in the labour market is unsatisfactory with many graduates failing to gain employment or ending up working in poor conditions in the informal economy (UNECA, 2005:4). Unemployment is not a new phenomenon in South Africa, although its incidence peaked early in the last decade (McGrath & Akoojee, 207:422). The South African economy has a small informal sector and widespread open unemployment. Accordingly, the ratio of non-agricultural informal sector employment to urban unemployment is very small compared to that in most developing countries (Kingdon & Knight, 2004: 391-392). South Africa has been experiencing one of the highest reported unemployment rates in the world (Klasen & Woolard, 2008:2). Using a 'narrow' definition of unemployment (including only those who are willing to work and actively searching), South Africa had an unemployment rate of 28% in 2004; using a 'broad' definition (which includes those who are willing to work but are not searching), unemployment rate stood at about 41% (Table 2.1). Unemployment is especially evident amongst the country's youth, who more often than not lack the experience, skills and education necessary to access employment in the formal sectors (Herrington, Kew & Kew, 2009:12). More specifically, unemployment is rampant amongst African language speakers (Burns, Godlonton & Keswell, 2010: 338). Over half of all individuals who speak an indigenous African language are unemployed. Moreover, this unemployment is largely concentrated amongst the younger cohorts in these groups where over 80% of all individuals, between the ages of 15 and 24 who speak Xhosa, Zulu or Sepedi , are unemployed, while almost 60% of individuals in the 25–34 year age cohort in these language groups find themselves unemployed (Burns, Godlonton & Keswell, 2010:338-339).

In spite of the absolute small figures relative to the broadly unemployed statistics in South Africa, graduate unemployment has been the fastest rising group of unemployed since 1995 (DPRU, 2006:1). Ironically, the rise of graduate unemployment occurs in an economy faced with extreme skills shortage, which is worrying owing to the economy's inability to create sufficient job opportunities for individuals that have the highest probability of finding jobs. Ideally, with a growing economy in a need for skilled workforce, unemployment is supposed to fall (Olufunso, 2010:87). However, Olufunso (2010:87) points out that unemployment have risen among young and better-educated

people. Dhliwayo (2008) points out that there are too many graduates for limited graduate jobs. One argument that is regularly advanced to explain the reasons for high rate of graduate unemployment is the notion of a disparity that exists between the types of skills required by employers and those offered by graduates (DPRU, 2006). This may relate to either the field of study followed by graduates or the quality of the institution at which the qualification was obtained.

Table 2.1 presents the breakdown of tertiary unemployment by field of study from 2000 to 2005.

Table 2.1: Breakdown of Tertiary Unemployment by Field of Study, 2000-2005 (DPRU, 2006:2)

Field of Study	Period (share in percentages)					
	2000	2001	2002	2003	2004	2005
Business, Commerce and Management studies	30.5	26.9	28.2	27.6	28.2	28.1
Education, Training and Development	25.6	26.5	23.2	19.0	21.1	14.1
Physical, Mathematical, Computer & Life Sciences	11.3	15.1	10.5	14.4	9.8	16.5
Manufacturing, Engineering and Technology	8.6	9.2	12.4	13.7	10.8	11.6
Health Sciences and Social Services	5.8	3.4	5.7	5.5	8.3	9.7
Human and Social Studies	2.7	3.8	6.8	4.4	4.9	4.9
Other/Unspecified	15.5	15.1	13.1	15.4	16.9	15.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

Table 2.1 presents the breakdown of tertiary unemployment by field of study from 2000 to 2005. Graduates from the field of business, commerce and management studies accounted for between 26 per cent and 31 per cent of total tertiary graduate unemployment over the six years. Nevertheless, the above figures must be observed in the right context. Business students in general represent a very large proportion of tertiary institutions, which is even the case in point for technical institutions, where enrolments have been increasing (Koen, 2003:5-13). It is, therefore, not surprising to observe that they also represent a large share of the unemployed. As far as tertiary education graduates are concerned, Moleke (2006:1) remarks that almost two-thirds of economic and management studies (EMS) students found work immediately after

completing their studies, which compares favourably to the average of 60 per cent across all study areas. She further found that EMS University graduates accounted for only 10 per cent of unemployed graduates.

The recent statistics are more or less indicative of the state of unemployment amongst graduates in South Africa (Figure 2.1, Figure 2.2, Table 2.1. Table 2.2 and Table 2.3)

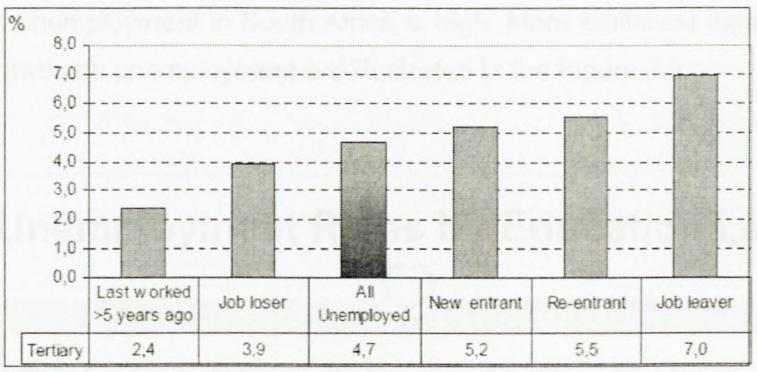


Figure 2.1: Percentage of unemployed in each category that have completed Tertiary education (Source: Statistics South Africa, 2008:22)

Figure 2.1 show that 4.7% of unemployed persons had attained a tertiary education. In addition, it shows that the percentage of unemployed persons in this education category is highest among job-leavers (7.0%) and lowest among those who last worked more than five years prior to the interview (2.4%). More statistical data indicating the trends of South Africa's unemployment state are provided in Table 2.2.

Table 2.2: State of unemployment by education level (Source: Statistics South Africa, 2008:22)

	No Schooling	Less than matric	Matric	Tertiary	Other	Total
Job loser	31.9	30.9	24.0	24.1	31.6	28.5
Job leaver	11.1	9.5	9.4	14.3	10.0	9.8
New entrant	21.7	37.3	53.9	47.4	37.0	42.4
Re-entrant	5.2	6.4	5.6	7.2	6.0	6.2
Last worked >5 years ago	30.0	15.8	7.2	6.9	15.4	13.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

Among the unemployed who have no schooling, the majority (31.9%) were job-losers, followed by those who last worked more than five years prior to the interview (30.0%). And among those that have completed matric, the majority (53.9%) were unemployed new entrants, followed by those that were job-losers (24.0%). A similar pattern is reflected among those that have tertiary education where the bulk (47.4%) were new entrants, followed by job-losers (24.1%) (Table 2.2 referred). These statistics indicate that the unemployment in South Africa is high. More statistical data with regard to the rise of graduate unemployment are illustrated in the Figure 2.2.

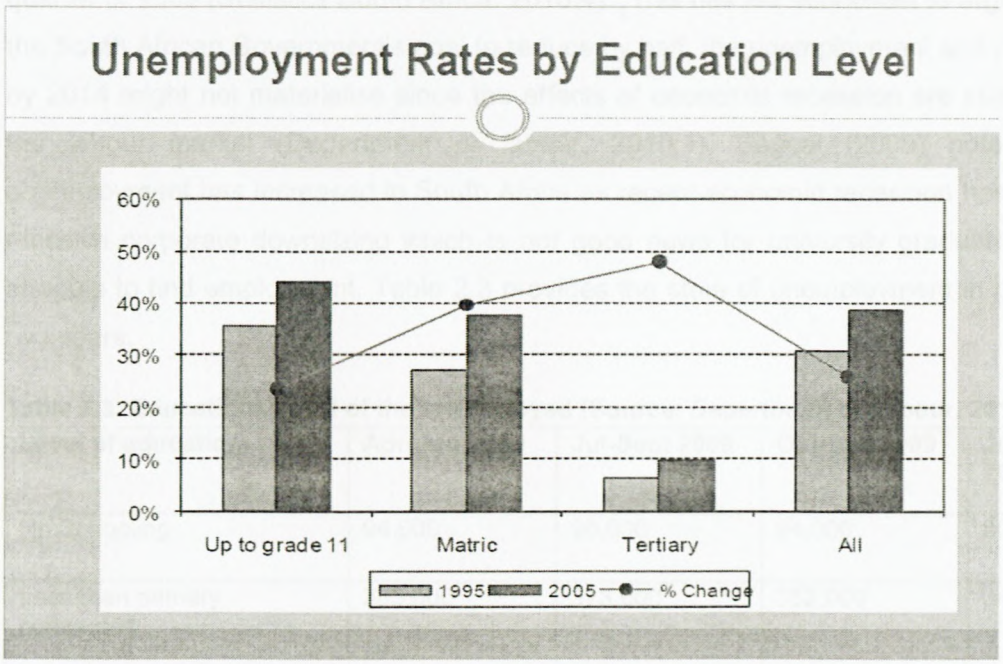


Figure 2.2: Unemployment rate by educational level from 1995 to 2005 (Source: Bhorat, 2008)

Figure 2.2 indicates that unemployment rate has been worryingly rising in all educational groups from 1995 to 2005. It is even surprising to see that unemployment has increased among tertiary education considering that the South African economy was short of adequate skills. The increase in graduate unemployment contrasts considerably with the findings of Oosthuizen (2005:40) who suggested that at the labour market, the higher the individual educational level, the higher his or her probability of finding a suitable employment. Perhaps, the move towards high demand for skilled labour has either not been enough to take in new graduate recruits, or that graduates do not have adequate skills required for vacant jobs (DPRU, 2006:20).

The recent statistics about labour market in South Africa indicated that the unemployment rate is still high owing to the global recession in 2009 (Department of Labour, 2010:1). The South African economy has not fully recovered but emerged from the recession in the third quarter of 2009 when the Growth Domestic Product (GDP) published by Statistics South African showed a growth of 0.9 % points quarter-on-quarter after three consecutive quarters of negative growth since the fourth quarter of 2008 (Department of labour, 2010:1). The positive growth rate trend has continued through the first quarter of 2010 although it has not translated into job creation, where the unemployment rate were 25.2% in the first quarter of 2010 from 24.3% in the last quarter of 2009 (Statistics South Africa, 2010:4). This has led economist to argue that the South African Government's goal to reduce by half, the unemployment and poverty by 2014 might not materialise since the effects of economic recession are still felt at the labour market (Department of labour, 2010:1). Segoai (2009) notes that unemployment has increased in South Africa as recent economic recession has led to massive corporate downsizing which is not good news for university graduates who struggle to find employment. Table 2.3 provides the state of unemployment in the last two years.

Table 2.3: Educational level of the unemployed (Source: Department of Labour, 2010:6)

Level of education	Apr-Jun 2009	Jul-Sept 2009	Oct-Dec 2009	Jan-Mar 2010
No Schooling	94,000	90,000	94,000	80,000
Less than primary completed	383,000	373,000	352,000	347,000
Primary completed	203,000	225,000	193,000	219,000
Secondary not completed	1,863,000	1,918,000	1,905,000	1,970,000
Secondary completed	1,342,000	1,322,000	1,364,000	1,402,000
Tertiary	213,000	239,000	224,000	255,000
Other	27,000	29,000	34,000	39,000
Total	4,125,000	4,192,000	4,165,000	4,310,000

Data in table 2.3 above shows that the unemployment is higher among lower qualified people in comparison with people who have tertiary qualification. According to the Department of Labour (2010:6), there has been a trend that people with high level of education are more likely to find sustainable employment than people with no or little education. However, the data in table 2.3 shows that tertiary education did not prevent individuals to be reported as unemployed. The table shows an increase of 31 000 unemployed tertiary education graduates from the last quarter of 2009 to the first quarter of 2010, which supports the notion that graduates contributed to the increase of the unemployed.

The comparison of Table 2.1, Table 2.2, Table 2.3 and Figure 2.1 indicates that the unemployment rate in South Africa has always been fluctuating with a non-linear trend, where figures have been unstable from year to year. There is a strong relationship between poverty, inequality and unemployment in South Africa (McGrath & Akoojee, 207:422). Everatt (2003:78) pointed out that measured by household income, 83% of households in the bottom fifth have no people in employment while 38% of African households in 1999 contained no employed people up from 32% in 1996. As Roberts (2004:488) notes, it means that 3.1 million households were workerless.

Unemployment could be a serious threat facing South Africa and its governance owing to its effects on economic welfare, production, social exclusion, erosion of human capital, social instability and crime (Kingdon & Knight, 2004: 392). The economy should, therefore, put much emphasis on creating more jobs in an effort to eradicate such scenarios that tend to hinder the national economic development.

2.5 Reasons for self employment

2.5.1 Utility and disutility

Only recently scholars have turned their attention toward an economic perspective on why people choose self-employment (Levesque, Shepherd & Douglass, 2002:192). Douglas and Shepherd (2000:232) represent an individual's choice to be self-employed by a utility-maximizing model where people intend to be self-employed when the combination of income, risk, work effort required, and independence provides greater utility than does the corresponding combination for the best employment option. People differ in what gives them utility, and this explains why some people intend to be self-employed while others intend to be employed.

Douglas and Shepherd (2000:233) argued that in the context of career choice, an individual expects to gain utility from income, disutility from work effort and risk, and either utility or disutility from independence and other working conditions. Levesque et al. (2002) define utility as the product of a person's positive attitude towards an attribute whereas disutility is the product of a person's negative attitude towards an attribute and the absolute value of that attribute. The overall utility of a career option is the combination of the utilities and/or disutility for each of the attributes in the Douglas and Shepherd's (2000) career maximization model. For example, at any age, a person's attitude toward risk (high-risk aversion) can be thought of as a disutility weight and is multiplied by the absolute risk of the career alternative in order to ascertain that person's disutility from risk (Douglas & Shepherd, 2000:233). This disutility from risk must be combined with the disutility from work, utility from independence, and utility from income in order to ascertain the overall utility of a career alternative. The overall utility for this career option is compared to other available options, and the one with the highest utility is chosen.

2.5.2 Human emotions

Positive emotional outcomes have been vastly linked to self-employment (Patzelt & Shepherd, 2011:227). For instance, studies have found that self-employed people often experience high levels of passion and positive feelings (Baum & Locke, 2004:588; Cardon, Wincent, Singh and Donovsek, 2009:512). In addition, self-employment can provide a high level of excitement and happiness (Komisar, 2000; Rai, 2008). Furthermore, Blanchflower, Oswald & Stutzer (2001:680) found that self-employment generates greater job, as well as life satisfaction than being employed. However, self-employed people may also experience a certain level of negative emotions (Patzel & Shepherd, 2011:227). According to Douglas and Shepherd (2000), self-employment is often associated with a high degree of risk-taking, income and job uncertainty, increased work effort, decision autonomy and more responsibilities, which may result in the experience of negative emotions. A study by Boyd and Gumpet (1983: In Patzelt & Shepherd, 2011:227) found that risks and uncertainties about the future of the business can cause fear and anxiety about the owner's own personal future, as well as that of his/her employees. This may cause high level of stress and mental strain. Furthermore, long working hours of self-employed can generate a feeling of social isolation (Hannafey, 2003:100).

Patzel and Shepherd (2011:227) questioned the reasons why people would have self-employment career if the negative emotions expected from self-employment are high. Studies have responded to such a question by suggesting that entrepreneur's motivation to overcome such obstacles includes fulfilling their high need for achievement (Shane, Locke, Collins, 2003:258; Collins, Hanges & Locke, 2004:95), the desire for independence (Douglas & Sherd, 2000), experience passion, as well as gaining high financial returns from self-employment (Cardon et al., 2009:512). And these can generate positive emotions that may greatly offset negative emotions born out of self-employment (Patzel & Shepherd, 2011:227). Further, the autonomy of self-employment can help individuals to counter-balance role requirements and therefore, diminish negative emotions from work (Patzel & Shepherd, 2011:229). According to European Industrial Relations Review (2007:5), self-employment provides autonomy to the work with a freedom to organize the work and suitable time. Patzel and Shepherd (2011:229), argue that autonomy is probably the most role characteristic distinguishing self-employment from employment. Accordingly, self-employed people enjoy the freedom to work on tasks they like more while delegating the work they like less, which generates fewer negative emotions (Patzel & Shepherd, 2011:229). In contrast, employed people lack autonomy and freedom to align their daily work schedule with their personal preferences, which may increase their negative emotions from work.

2.5.3 Business exposure

Although entrepreneurial skills and knowledge can be acquired through formal education, studies have found that the earlier people are exposed to entrepreneurship, the more likely they will become entrepreneurs in some form during their careers (World Economic Forum, 2009). Evidence of this has been seen in the higher prevalence of entrepreneurial activity among individuals whose parents have been self-employed or running their own businesses (Henley, 2007). According to Martinez et al. (2010:11), children of entrepreneurs develop particular perceptions and skills from observing their parents and participating in family business activities. They suggested that some education and training programmes can be a substitute for the absence of early entrepreneurial experience.

It is important to note that not only financial capital can be passed on from parents to children but also informal human capital. For instance as the child of a self-employed parent receives constant exposure to the family business, he/she picks up a working

knowledge of how to run a business, while that of non-self-employed parent only acquires formal human capital from colleges and Universities (Colombier & Masclet, 2006:3). According to Dunn and Holtz-Eakin (2000), the transmission of financial capital from parents to children brings about only a small positive effect of becoming self-employed while the effect of transmission of human capital is large. Moreover, Lentz and Laband (1999) argue that most competencies required for self-employment are not necessarily obtained through formal education system but through transmission of informal human capital. Colombier and Masclet (2006:3) provide a distinction of two types of informal human capital that can be transmitted from parents to children. These are:

- The transmission of career-specific skills such as practical know how for a practical self-employed career in self-employment, and
- The transmission of general managerial skills such as a way of thinking (ability, diligence, autonomy, willingness to take risks) that are not specifically related to a particular occupation.

2.6 Challenges for self-employment

Young people face considerable barriers and challenges when establishing a successful business. Many entrepreneurial activities in the so-called informal sector of developing countries are highly stratified, requiring skills, experience and contacts, with identifiable barriers to entry (Kingdon & Knight, 2004: 393). In their studies on the barriers to self-employment, Chandra, Nganou and Noel (2002) stated a list of barriers that hinder on self-employment activities. They named crime, lack of access to credit, lack of access to infrastructure and services, and need for training as the top four constraints on their businesses. In addition, it has been argued that the lack of experience and lack of business management skills coupled with difficulties in raising finance to start a business are enormous challenges facing young entrepreneurs (Owusu-Ansah, 2004; UNECA, 2005:29). Moreover, graduates are confronted with the burden of lack of credit history that would facilitate them to obtain credit from the banking system (Owusu-Ansah, 2004). Kingdon and Knight (2001) have provided a list of barriers to self-employment in South Africa, which include restrictive bye-laws, poor entrepreneurial skills, and poor social/trading networks, owing to the legacy of the Apartheid regime.

Other potential hindrances to self-employment encompass capital and credit constraints. These include lack of infrastructure in black townships, the prevalence of violence and insecurity in the informal economy, and, for those employing non-family members, industry based wage and working condition mandates (Cichello, 2005:3). Gore and Fal (2010:16) reported that between 2008 and 2009, there has been a 40% decrease in the amount of entrepreneurial activity in South Africa, which is partly attributable to the effects of the global economic downturn and the fact that there was less investment capital available. In their study, Maas and Herrington (2006) indicate that lack of financial support is the second major contributor to the low total entrepreneurship activity (TEA) rate in South Africa. Elsenhardt and Martin (2004) assert that self-employed people need resources such as fixed assets and working capital, enable them to achieve a competitive advantage. Tamvada (2010:5) asserts that family wealth cannot only make financing self-employment easy but also can make it easier to obtaining credit. According to Cichello (2005:29), other barriers to self-employment appear to be of lesser importance than capital barriers. For instance, it has been suggested that unemployed people choose to remain so until they find a better salary-employment rather than to pursue entrepreneurial activities because earnings from self-employment are extremely low (Kingdon & Knight, 2004: 407).

Although the capital may be the critical catalyst of self-employment success, the lower level of entrepreneurial activities can be attributable to other factors (Gore & Fal, 2010:16). It is the ability of the entrepreneur to identify these factors and take appropriate courses of action that ultimately leads to the success of the business. Another barrier to self-employment that has been advanced is the fear of failure, which prevents people from exploring business ideas and go into self-employment ventures (Olufunso, 2010:90). However, Robinson (2008:2) argues that new entrepreneurs must gain knowledge on their risk tolerance in order to be successful.

Other challenges of entrepreneurial activities have been reported by Gore and Fal 2010:6-12). These are:

- **Lack of adequate transport infrastructure for a huge number of South African people**. According to Gore and Fal (2010:12), an estimated 10 million South Africans still do not have access to transportation and are thus confined in their physical movements, which is a major barrier to entrepreneurship. Entrepreneurship activities should increase as people travel from one region to

another where they obtain exposure to new ideas and discoveries. This drives one's sense of experimentation and innovation.

- **Poor financial environment**: The country's financial and operating environment is not supportive of entrepreneurs, particularly in terms of regulations, policies and access to capital. The banking system remains the main source of capital to start and grow businesses, whereas in other emerging countries, different financial structures play this support role. Financial services groups like First Rand that have an entrepreneurial tradition and have spurred successful entrepreneurial ventures like Discovery and Outsurance, are trying to make a difference in this regard, but these efforts in isolation might not be sufficient to make a meaningful difference (Gore & Fal 2010:6-12).

- **Lack of entrepreneurial skills**: Both formal (primary to tertiary education) and informal (home and social networks) educational structures do not impart entrepreneurial skills in South Africa (Gore & Fal 2010:6-12).

2.7 The need for project management skills in enhancing self-employment

The process of establishing a new business has all the characteristics of a small project, which requires effective project management skills to plan and control the entrepreneurial process (Burke, 2006a:35). Project management is a powerful business tool for businesses of any size since it remains the science of getting the job done (LaBrosse, 2010). Entrepreneurs use project management skills to co-ordinate and manage the input of all stakeholders, namely clients, investors, suppliers, manufacturers and distributors (Burke, 2006a:35). In addition, entrepreneurs are faced with multiple challenges when implementing new businesses. Therefore, it is very important to ensure that innovative ideas and opportunities are not handicapped by ineffective project management (Burke, 2006a:35).

Project managers utilize project management techniques to plan and control the progress of their projects (Burke, 2006b:20). Burke (2006b:20-21) has outlined a number of project management techniques that form an important part of the entrepreneur's portfolio of management skills namely:

- Work Breakdown Structure (WBS) to quantify the scope of work and subdivide the scope into manageable work packages.

- Critical path Method (CPM) to graphically illustrate the logical relationship between activities while determining the duration of the project.
- Gantt Charts, which present graphically the scheduled information and assign activities to the person, department or company responsible for each and every activity
- Procurement schedule, which graphically links the materials and equipment requirements to the schedule, and to highlight any long lead items that could cause a delay to the schedule.
- Resource histograms, which graphically link the resource requirement to the schedule, and to highlight any overloads and underload that may require resource smoothing.
- Earned Value (EV) to graphically present the integration of the planned man-hours, the earned man-hours and the actual man-hours against the schedule.
- Quality Control Plan (QCP) to link the specification and level of inspection to the sequence of work.
- Organisation Breakdown Structure (OBS) to graphically overlay the temporary project team structure on the functional organization structure, which is usually presented as a matrix structure.
- Configuration management to manage scope changes, which includes: logging the proposed changes, approving the changes and implementing the changes.
- Document Control to plan and control the flow of documents, which includes: establishing a list of documents to be controlled, collating the documents, storing the documents, issuing the documents with a transmittal note, and withdrawing old documents.

Co-ordinating new ventures may require a certain amount of leadership and project management ability. More importantly, if the entrepreneur needs to involve other people, who may be suppliers and contractors; and if the new venture needs to raise capital (Burke, 2006b:105).

Walker (2006) note that managing projects is a significant function of an entrepreneur as this is extremely essential for his or her business success. From the very first day an entrepreneur decides to start a new business, he has projects from day one be it

writing a business plan, setting up his or her office, marketing the business and delivering the product to the client. In his model, Ajam (2010) has proposed a link between project management and entrepreneurship (Figure 2.3), stressing that entrepreneurs needs project management skills in opening a new venture from idea generation to initial operation of the venture.

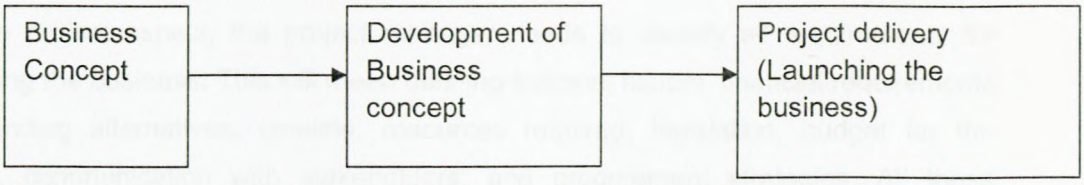


Figure 2.3: Link between project management and entrepreneurship (Source: Ajam, 2010)

In each of the phases (Figure 2.3), project management skills and knowledge are needed for an entrepreneur to succeed in his endeavours. For instance, in the business concept, an entrepreneur must not only perform a feasibility study of his or her idea, but also draft a business plan, which focus on financials, competition, market demand and other factors (Ajam, 2011:2). In addition, the entrepreneurs understand proper project management planning, which includes understanding all stakeholders role, their expectations and requirements, setting realistic time, cost and quality delivery, and project risk analysis (Ajam, 2011:2-3). Walker (2006) remarks that if your projects are not planned, tracked and managed then you cannot build your business.

Rodriguez (2010) argues that project management is one of those skills that successful entrepreneurs seem to be born with while the rest of people have to learn. Project management skills make business start up and business development a lot easier. Entrepreneurs face three common elements present in any project, which are scarce resources, time constraints and budget limitations. Therefore, self-employed people will need to learn how to manage those constrained elements in order to make start up business successful.

After the feasibility study and business planning have been completed, the project manager who is also entrepreneur needs to think about the project from idea to initial operations, as well as post project completion activities, thus ensuring and sustaining business operations (Figure 2.4).

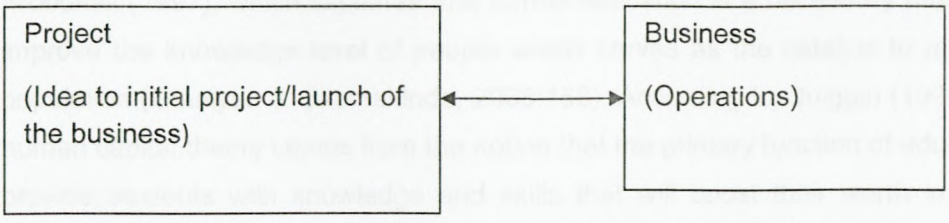


Figure 2.4: A schematic diagram depicting business launch to business operations (Source: Ajam, 2010)

For the project aspect, the project manager needs to identify all requirements for launching the business. This will mean defining success factors, financial requirements and funding alternatives, timeline, resources required, legislation, budget for the launch, communication with stakeholders, and procurement strategies. All these activities are undertaken throughout the project management process from idea generation to project completion in order to provide information that will help decide whether to continue with the venture or not (Ajam, 2011:3). For the business aspects, the project manager needs to plan for operation readiness by identifying all things needed once the business is in operations. These are financial control, human resources, policies, operational processes, as well as marketing and business development, among others. It is in the final project delivery (Business launch) phase, where all activities necessary to produce required deliverables are performed. According to Ajam (2011:4), such deliverables are crucial for the successful launch of the new venture and to start initial operations

Gray and Larson (2008:10) assert that project management is no longer a special need management as it has become a standard way of doing business. Thus, entrepreneurs who are well equipped with project management skills stand more chance of successful businesses as projects constitute average of one third of the turnover of the small and medium enterprises (Turner, Ledwith & Kelly, 2009). According to Turner, Ledwith and Kelly (2010:745), projects in SMEs occur both in operations, providing tailored products to customers and in managing innovation and growth.

2.8 Theoretical framework: Human capital theory

Human capital is viewed as the investment individuals make to acquire knowledge and skills, which enhance their economic productivity and greater social welfare (Olaniyan & Okemakinde, 2008:158). The human capital theory took its roots from the work of Schultz (1971), extended by Sakamota and Powers (1995), Psacharopoulos and

Woodhall (1997), which assumes that formal education is a necessary mechanism to improve the knowledge level of people which serves as the catalyst to a productive population (Olaniyan & Okemakinde, 2008:158). According to Quiggin (1999:131), the human capital theory comes from the notion that the primary function of education is to provide students with knowledge and skills that will boost their worth in their later careers.

Human capital theory tends to link workers' knowledge levels with their levels of formal schooling. It relies on quantitative indices of years of formal education in estimating individual economic returns to learning and to suppose that more formal education would lead to higher productivity and national economic growth (Livingstone, 1997:9). In other words, human capital theory suggests that an educated population implies a productive population (Olaniyan & Okemakinde, 2008:158). Colombier & Masclet (2006:11) asserts that having technical education increase significantly the probability of being self-employed. Babalola (2003) argues that the motivation behind investment in human capital is based on three arguments:

- that the new generation must be provided with the suitable pieces of the knowledge and skills, which has already been built up by previous generations;
- that new generation should be taught how existing knowledge should be used to develop new products, to introduce new processes and production methods and social services; and
- that people must be encouraged to develop entirely new ideas, products, processes and methods through creative approaches.

The high level of knowledge and skills obtained from education enables graduates to be more productive whether they are employed or self-employed. According to Kangasharju and Sari Pekkala (2001:2), highly educated self-employed people ought to improve the economic performance of their companies because higher education improves their capability to grasp market opportunities, resulting in better exploitation of the demand of the market. With the worth of an individual set to increase as he or she acquires higher education, one would wonder which career direction such individual would pursue. According to Branson, Leibbrandt and Zuze (2009:10), while matric qualification increases the likelihood of formal employment compared to having less than matric qualification, it does not increase the probability of self employment relative to unemployment. Conversely, tertiary study has the luxury to increase the

probability of both wage employment and self employment relative to unemployment significantly, in most years (Branson et al. 2009:10-16). However, there is no consensus on the impact of human capital on the probability of being self-employed (Colombier & Masclet, 2006:3). Indeed, on the contrary, Tamvada (2010:4) asserts that while education increases an individual's knowledge base and expands exposure to new opportunities, it also increases the opportunity cost of being self-employed owing to high earnings associated with wage employment. According to van der Sluis, van Praag and Vijverberg (2005:226), higher educated individuals would choose salaried employment over self-employment.

As education plays a role in reducing unemployment through employment and self-employment, it is critical to point out that within any economy, the importance of human capital should be given consideration in order to pave the way for national economic growth.

The following figure depicts a schematic diagram for the human capital theoretical framework.

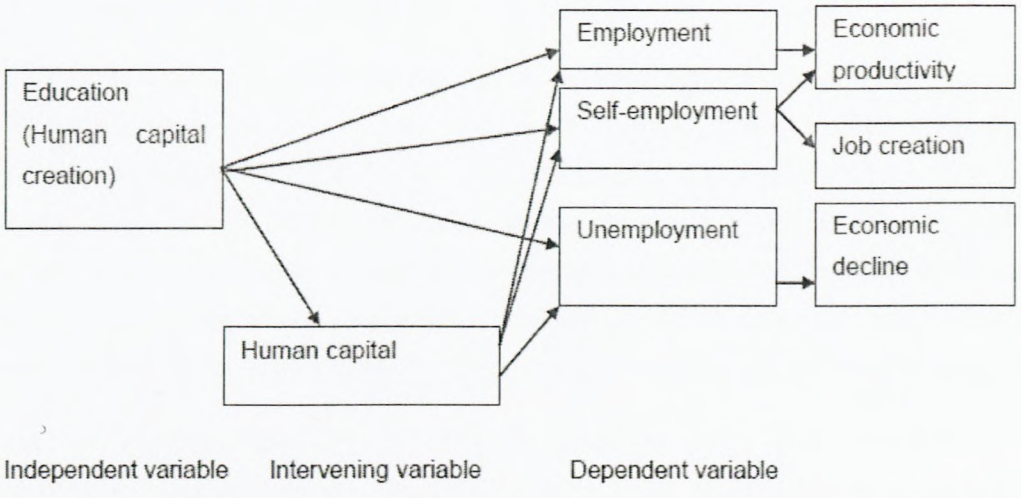


Figure 2.5: Schematic diagram depicting the human capital theoretical framework (Source: Own summary based on information provided by Schultz, 1971; Sakamota and Powers 1995; Livingstone, 1997; Psacharopoulos and Woodhall, 1997; & Olaniyan & Okemakinde, 2008)

2.9 Summary

To sum up, education in general and entrepreneurship education specifically, play an important role in national economic development. Although education has been

emphasized over the last few decades, which have resulted in overall increase in school enrolment and an increased number of graduates, graduate unemployment rate remains high in South Africa. The high unemployment rate implies that self-employment activities remain very limited in South Africa. The challenges facing graduates in their quest for self-employment include among others lack of capital, poor financial environment, lack of entrepreneurial skills and experience. Project management skills may enable one, not only to easily start a business but also run effectively daily operations of a business.

The following chapter presents the study's research methodology and explains means by which the research was conducted.

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This study was undertaken to investigate the role of tertiary education in promoting self-employment among project management students of a selected university of technology. Using a descriptive method, the study intended to find answers to research questions, which comprises the extent to which tertiary education motivates students to self employment, challenges related to self-employment facing project management students after they have completed their studies and reasons why some people choose self-employment over salaried and waged employment.

This chapter provides a theoretical aspect of research methodology, which briefly explains the importance of knowing how to conduct an independent research study. It also provides and explains the research design, which is the plan for conducting a study through translating one's research methodology into specific research methods in collecting data for analysis. In addition, this chapter highlights the study population, sampling technique and methods by which data were collected.

3.2 Theoretical aspect of research methodology

Research is defined as a systematic and methodical process of gathering information and investigation with a view to increasing knowledge and finding solutions to particular problems (Maylor & Blackmon, 2005:5; Collis & Hussey, 2009:3). It is one of several ways of collecting and understanding information and finding answers to questions posed (Kumar, 2005:14). According to Kumar (2005:14), in a research process, one works within a framework of a set of philosophies, uses methods that have been tested for validity and reliability, and attempts to be objective and unbiased.

Research involves identifying a problem, identifying what kind of information is appropriate to addressing that problem, collecting the information and analyzing, as well as interpreting that information and its context (Maylor & Blackmon, 2005:5). It is, therefore, important to acquire knowledge of how research is conducted if one wants to obtain answers to certain problems. Kothari (2005:10) has outlined the importance of knowing and understanding the research methodology or ways by which research is conducted. These are:

1. For an individual interested in a career within research, the importance of understanding research methodology and techniques is evident, since research methodology and research techniques are the tools of his or her business. The knowledge of research methodology provides sound training to the new researcher and enables him or her to do better research. Thus, for those who aspire to make it in a research career, they should acquire knowledge and skills of using research techniques and should understand the logic behind them.
2. The knowledge of ways in which research is conducted will indoctrinate an ability to evaluate and use research results with confidence.
3. The knowledge of research methodology enables the use of making smart decisions regarding problems that one faces in practical life at particular points in time. Thus, when one knows the process of conducting research, then one may have the satisfaction of learning a new intellectual tool, which enables him or her to look at the world and judge daily experience objectively

3.3 Research design

Research is the science and art of planning procedures for conducting studies in order to obtain the most valid results (Vogt, 1993:196). According to Maylor and Blackmon (2005:155), research design is the plan for conducting a study through translating one's research methodology into specific research methods, which are the techniques you use to collect and analyse data. Research design comprises issues relating to decision regarding the purpose of the study, the type of investigation, the study setting, the extent of researcher interference and the level at which the data will be analysed (Sekaran, 2003:117-118). The following section describes the components of research design and how they were approached within this study.

3.3.1 Purpose of the study

This study was descriptive. Sekaran (2003:121) asserts that a descriptive study is conducted when the characteristics or the phenomena to be tapped in a situation are known to exist, and one wants to describe them better by offering a profile of the factors. According to Collis and Hussey (2009:5), a descriptive study is used to identify and obtain information on the characteristics of a particular problem or issue. In addition, a descriptive study is undertaken to ascertain and describe the characteristics of the pertinent issues (Collis & Hussey, 2009:5) and to provide an accurate

representation of phenomena at one point in time or at various times (Collis & Hussey, 2009:77). Ketshabile (2010:219) asserts that a descriptive study intends to find comprehensive answers to the research questions based on the problem under study. The descriptive research approach also provides the researcher with the opportunity to evaluate variables regardless of the research circumstance or environment (Mitchell & Jolley, 1992: 413). In addition, while adopting a descriptive research method, the researcher is able to identify the relationship between various research variables (Ketshabile, 2010:219). A descriptive research approach is appropriate for this study because it evaluates relationships between identified variables in relation to the role of tertiary education at the world of employment. Exploratory studies have been conducted on the role of education on providing human capital, which is important at the world of work, be it salaried employment or self-employment (Schultz, 1971; Sakamota and Powers, 1995; Psacharopoulos and Woodhall, 1997); Quiggin, 1999:131; Kangasharju & Sari Pekkala, 2001:2; Colombier & Masclet, 2006:11; van der Sluis, van Praag & Vijverberg, 2005:226; Olaniyan & Okemakinde, 2008:158; Branson et al. 2009:10-16; Tamvada, 2010:4). While school enrolments from primary to tertiary level have seen tremendous improvement in South Africa, graduate unemployment never ceased to soar. A descriptive study of this nature is, therefore, deemed important in order to ascertain the role of tertiary education in promoting self-employment among graduates in the project management field.

3.3.2 The type of investigation

Sekaran (2003:126) reports that a correlational study is needed when the researcher is interested in delineating the important variables associated with the problem. Thus, a correlational study was adopted in order to identify the important factors that associate education to the career intentions of graduates.

3.3.3 The extent of researcher interference with the study

A correlational study is undertaken in the natural environment of the organization with minimum interference by the researcher with the normal flow of work (Sekaran, 2003:127). Therefore, in this study, the researcher conducted the study with very minimum interference, which was only limited to handing the research instruments (Questionnaires) to the respondents.

3.3.4 Research setting

Research setting is defined as the location where the study will be conducted (Sekaran, 2003:117; Maylor & Blackmon, 2005:63). The field study was conducted within the faculty of business at the Cape Peninsula University of Technology (CPUT) with the aim of finding the role of tertiary education in promoting self-employment amongst project management students.

3.3.5 Research strategy

A researcher must devise a strategy in order to address a research question or a series of research questions (Brannen, 2005:4). The research strategy may involve the use of qualitative methods or quantitative methods or a mix of qualitative and quantitative methods in one study (Johnson & Onwuegbuzie, 2004:14-15). In addition, a research strategy is devised in a way that is best suited to a particular purpose of the study (Brannen, 2005:11). Therefore, the kind of research questions posed in this study has led to the adoption of a quantitative survey-based study using a self-administered structured questionnaire (Appendix A) and guided by the researcher. According to Gay and Airasan (1999:48), a quantitative survey attempts to answer questions associated with the current status of the topic or subject of study and involves practices, as well as preferences of some group of people. Furthermore, a survey can be a better way of discovering people's opinions, desires and attitudes (Hofstee, 2006:122). Thus, a quantitative survey-based study was deemed best appropriate to investigate the role of tertiary education in promoting self-employment among project management students at CPUT.

3.3.6 Unit of analysis

A unity of analysis is defined as the element about which data is collected (De Vaus, 2001:18) which may include people or organizations (Quinton & Smallbone, 2006:107). Collis and Hussey (2009:115) defined the unit of analysis as the phenomenon under study, about which data are collected and analysed, and it is closely linked to the research problem and research questions. The unit of analysis of this study included both Bachelor of Technology and Master of Technology, full time as well as part-time project management students. The rest of CPUT students were not investigated.

3.4 Study population and sampling technique

This section describes the research population, the research sample as well as the sampling method used for the purpose of the study.

3.4.1 Study population

The population of this study comprised project management students at a selected university both Bachelor of Technology (BTech) and Master of Technology (MTech) doing the program on full time as well as on part time basis. A population refers to a precisely defined body of people or objects, which are under consideration in a study for statistical purposes (Collis & Hussey, 2009:62). Sekaran (2003:265) defines a population as a group of people, events or things of interest that the researcher wishes to investigate. According to Goddard and Melville (2007:34), it is often not practical or possible to study the whole population. Therefore, the findings of a research are always made based on a study of a subset of the population referred to as samples. The details of the population of this study are summarized in the population frame or sometimes referred to as sampling frame , which is defined as the listing of all elements of the population from which a sample can be drawn (Sekaran, 2003:265; Collis & Hussey, 2009:209).

Table 3.1: Population frame of the study (Source: Department of Management and Project management, 2011)

Level of study	Group	Figure
BTech	Full time	30
BTech	Part-time: First semester	83
BTech	Part-time: Third semester	42
MTech	Part-time	19
Total		174

3.4.2 Research sample

A sample is defined as a subset of the population (Sekaran, 2003:266; Collis & Hussey, 2009:209). In this study, a sample of 152 units was drawn from a total population of 174 units. The sample size was determined using the table of sample

size for a given population size (Appendix E), which was developed by Sekaran (2003:294).

3.4.3 Sampling method

A stratified random sampling method was used to draw a sample size of 152 units from a population size of 174 units. Sekaran (2003:282) argues that a stratified random sampling is the most efficient and is a good choice when differentiated information is needed regarding various strata within the population. In this study, strata were based on the level of study and group in which project management students are found. The stratified random sampling is, therefore, suitable in this study because the students may have different opinions depending on their level of studies and work experience. For instance, many of part time students are usually on full time employment whereas full time students are either part time employed or unemployed. Thus, both students may provide different information on the subject of study.

3.4.4 Sampling bias

A sampling bias is the sample, which is not representative of the study population and hence does not allow generalization of the sample results to the entire study population (Bryman & Bell, 2003:91). In order to avoid sampling bias, the researcher adopted a probability sampling technique in which samples were randomly selected for purpose of the survey. Collis and Hussey (2009:209) argue that a random sample is one where every member of the population has a chance of being selected. The following table indicates a sample size of 152 elements, which was selected with reference to the table of sample size for a given population size (Appendix E)

Table 3.2: Stratified sample size

Level of study	Group	Population size	Sample size
BTech	Full time	30	28
BTech	Part-time: First semester	83	69
BTech	Part-time: Third semester	42	37
MTech	Part-time	19	18
Total		**174**	**152**

3.5 Methods of data collection

3.5.1 Research instruments

A research instrument is defined by Hofstee (2006:115) as anything that can be used to collect data for analysis. In this survey, data were collected using structured questionnaires, comprising closed-ended questions and a few open-ended questions. A questionnaire is said to be the most common data collection instrument in business research (Cooper & Schindler, 2008:329). Azzara (2010:18) points out that the design goal of a questionnaire is to meet the research objective by collecting valid data from respondents who are properly screened and qualified. According to Brace (2008:2), in market research a questionnaire refers both to questionnaires intended for self-completion by survey participants and to survey instruments intended to be administered by the interviewer either in a face-to-face interview or by telephone. Conversely, in other disciplines, the term questionnaire is reserved solely for the self-completion survey instrument (Brace, 2008:2). The survey questionnaire was designed with reference to literature review in order to find answers to questions that were posed for the purpose of this research. The questionnaire comprised three sections (See Appendix A).

The first section provided information that pertains to profile details of respondents, which include gender, age, year of studies, academic background at national diploma level, class group meaning full or part time type of study, nationality, race, ownership of business by the family, as well as the status of employment that respondents are at.

The second section contained questions, which sought to address the issues of entrepreneurship education within the academic institution, career choice as well as career intention of students. This section included questions that sought to find factors that motivate students to pursue a career in self-employment and factors that may constrain them from entering self-employment activities. In this section, some open ended questions were asked to obtain insight into what motivates students to undertake a project management course and how a project management qualification can enable them to overcome graduate unemployment, which is rampant in South Africa.

The third section contained a series of statements that were made in order to find answers to questions posed in this research. The statements focused on the role of education in general, and of project management knowledge and skills in particular, in

promoting self-employment activities. In addition, the statements focused on the career intention of respondents. Respondents were asked to rate their levels of agreement and disagreement with the provided statement on a five-point Likert scale (1=strongly agree; 2=agree; 3=neutral or undecided; 4=disagree; 5=strongly disagree).

3.5.2 Reliability and validity of instruments

Reliability refers to the extent to which obtained results may be generalised to different measuring circumstances in different times (Welman & Kruger, 2001:139). In addition, Maylor and Blackmon (2005:159) contend that reliability means that different researchers would obtain the same findings if they repeat the study. Furthermore, according to Daniel, Stephen and Frederick (1998:104), if one cannot trust the measures, then one cannot trust an analysis that uses those measures. In a quantitative study, Quinton and Smallbone (2006:130) asserts that reliability is about the consistency of the results, the robustness of the measure and whether it is free of random or unstable error. Thus, the quality of data collected and results of the results will always reflect reliability of the instruments used. The validity is defined by Cooper and Schindler (2008:289) as the ability of a research instrument to measure what is intended to measure. Another meaning of the term "validity" in research is how accurately the research has been conducted (Maylor & Blackmon, 2005:158). The social science view of validity relates more thoroughly to procedures to obtain information so that suitable inferences and interpretation may be made (Daniel, Stephen & Frederick, 1998:135).

In this study, in order to ensure that the research instruments fulfil the conditions of validity and reliability, the questionnaire was adapted and modified from the ones utilized in previous similar studies by Akpomi (2008:58) and Olufunso (2010:96-97). The modification of the adapted questionnaire was done in reference to relevant literature to suit the purpose of this study. Furthermore, an internal reliability test of the instrument was performed using IBM SPSS Statistics version 19 (Table 3.3).

Table 3.3: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha based on standardized items	Number of items
.905	.910	27

Table 3.3 indicates a high reliability Cronbach's alpha coefficient of 0.905, which is a measure of the internal reliability of a research instrument (Pietersen & Maree, 2010:216). According to Pietersen and Maree (2010:216), a research instrument is highly reliable if its Cronbach's alpha coefficient is 0.90, while it is moderately reliable if its coefficient is 0.80. However, a research instrument is lowly reliable if its Cronbach's alpha coefficient is 0.70. Thus, the internal reliability test has proved that the instrument used in this study was highly reliable.

3.5.3 Language used in collecting data

English is the official language of communication within the academic institution and every individual is expected to utilize such a language. The research instruments were designed and presented in English to avoid any ambiguity in questionnaires and to ensure that all questions were clearly understood by the respondents.

3.5.4 Data collection procedure

Before commencing this research, a letter authorising the research (Appendix C) was sought and issued by the department of Management and Project Management, in which the survey was conducted. The survey was carried out by the researcher and two trained research assistants, both of whom were lecturers in project management classes, in which the survey was conducted. A brief description about the researcher and the purpose of research was provided to participants in order to obtain their consent in taking part in this survey. For respondents who have completed their class work, questionnaires were sent to them via email. After the participants have been introduced to the aim of research they were handed the questionnaire and were asked to complete them at their own convenience. The questionnaires were be returned and handed back to the research assistants or to the researcher at the end of their classes. Questionnaires were comprehensively designed to facilitate easy and quick completion.

Once all data were collected, they were sent to CPUT statistician to be coded and the researcher entered them into the Special Package for Social Science (IBM SPSS version 19) for analysis.

3.5.5 Ethical consideration issues of the research

Many institutions require a researcher to consider any ethical issues that might arise from the research and to include those within the research document (Quinton & Smallbone, 2006:57). CPUT is no exception to such requirements. In this regard, prior to undertaking primary data collection, an ethical clearance certificate has been sought and issued by the Faculty of business ethical clearance committee at CPUT (Appendix D). According to Quinton and Smallbone (2006:57), people have a human right not to be researched. If the research involves primary data collection involving people, then the researcher is obliged to ensure that people's dignity, privacy and confidence are respected, and that any collected data, particularly anything that identify the respondent, is handled correctly.

The principle of informed consent means that research participants need to know why they are involved and need be guaranteed confidentiality and anonymity of the information they give to the researcher (Jankowicz, 2000:140). In order to be in line with research ethical requirements, respondents were informed of the aims of the research and their consent over participating in this research were sought and obtained. In addition, anonymity and confidentiality were guaranteed to the respondents. This process together with the aims of this research is clearly indicated in the cover page accompanying the research questionnaire.

3.6 Data analysis

Collected data were presented and discussed in conjunction with available literature. All primary data were analyzed using IBM SPSS Statistics (Version 19), which helped to analyse data, compile appropriate tables, and examine relationships among variables and perform test of statistical significance based on research questions (Babbie, Mouton, Vorster & Prozesky, 2001:583). In addition, open ended data were analysed using Microsoft word document, in which data were summarised into tables. Moreover, Microsoft Excel was used to compile charts based on the tables obtained through SPSS data analysis. After capturing all necessary data, the results were presented, discussed and recommendations were drawn up.

3.7 Summary

This chapter dealt in details with research design and methodology which was used in conducting empirical research. Aspect covered in this chapter included the theoretical aspect of research methodology, research design, study population and sampling methods, as well as the methods and procedures of data collection.

The following chapter presents and discusses the results of the empirical research.

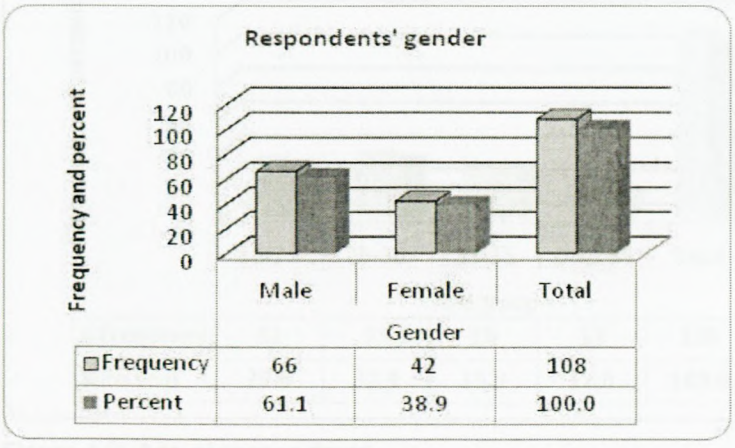
CHAPTER FOUR: PRESENTATION AND DISCUSSION OF RESULTS

4.1 Introduction

This chapter presents and discusses the results of the study, which are summarized and presented in frequency distribution charts and tables, as well as cross-tabulation with Pearson Chi-square (X^2) test for independence. The frequency distribution charts and tables describe the quantitative data of demographic characteristics of the study population, career intention, motivation as well as obstacles to self-employment. Lastly, this chapter analyses the extent to which education, project management education, and entrepreneurship education are important in self-employment direction. The survey findings are presented and analysed per dataset of each question or statement contained in the questionnaire according to its relationship with the study. Conversely, cross-tabulation with chi-square tables present the relationships between variables in order to determine if demographic characteristics of respondents can influence an individual's decision to enter self-employment.

4.2 Section one: Demographic characteristics of the study population

This section presents and discusses the demographic characteristics of respondents, which include gender, age, level of study, type of study, academic background, race, their current occupation, as well as the involvement in business by their family members. The following figure (Figure 4.1) illustrates gender of participants in this survey.

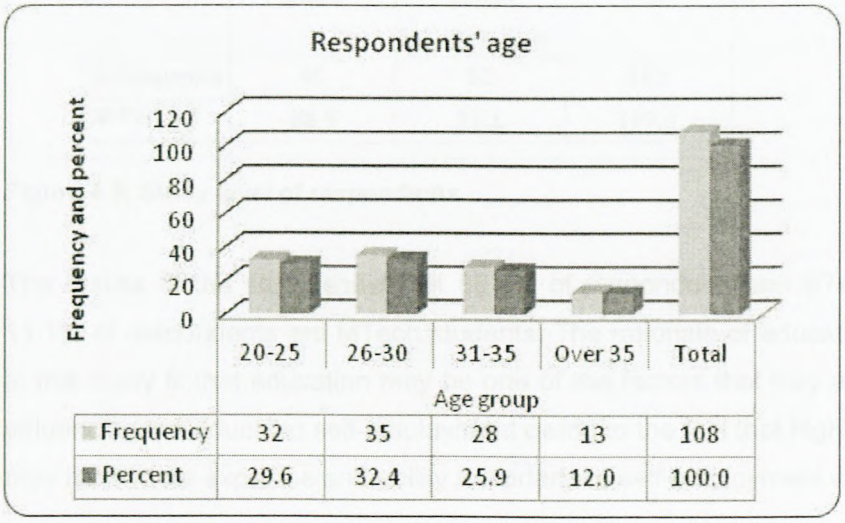


	Male	Female	Total
Frequency	66	42	108
Percent	61.1	38.9	100.0

Figure 4.1: Gender of respondents

Figure 4.1 shows that 61.1% of respondents were male while 38.9% of respondents were females. The disproportional ratios of gender assume that the female students end their studies earlier rather than further their studies compared to their male counterparts. The relevance of gender variable in this study relies on the fact that historically women were forced to balance work with family responsibilities and hence were inclined to choose salary-paid employment over self-employment career, while men were more likely to be business owners owing to financial considerations and were inclined to be pulled into their business ventures (Walker & Webster, 2007:125). The United Nations Economic Commission for Europe (2006) argues that that gender specific barriers to self-employment among women are as a result of the past and current social and cultural norms, as well as structural inequalities created by such norms. Another issue pertaining to women entering self-employment activities is the risk associated with opening a new business irrespective of the size. According to Walker and Webster (2007:126), men are considered more as risk takers than women and are likely to be more involved in self-employment activities than women. However a cross tabulation between gender and other variables pertaining to career choice and intention revealed that gender is not statistically related to individual career choice. In a similar environment, male and female graduates portray similar attitudes towards any career choice be it in self-employment or paid employment.

The following figure (Figure 4.2) illustrates the age categories of respondents.

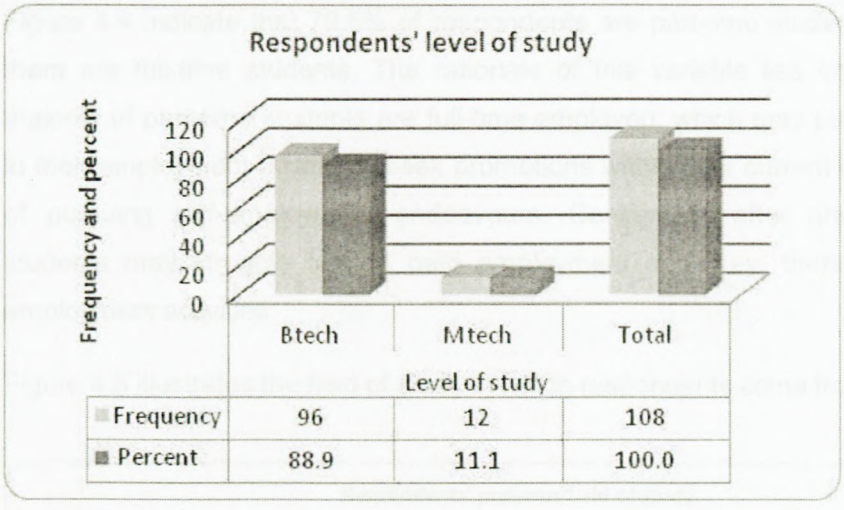


	20-25	26-30	31-35	Over 35	Total
Frequency	32	35	28	13	108
Percent	29.6	32.4	25.9	12.0	100.0

Figure 4.2: Age of respondents

The results of the survey indicate that the highest number of respondents was in the age category of 26 to 30 years (32.4%) followed by the age group of 20 to 25 years (29.6%), and the age category of 31 to 35 years with 25.9%. The lowest number of respondents was over 35 years of age with 12%. These results indicate that students are finishing their graduate studies at a young age. Age is one of the factors that may influence the career choice of an individual. On the one hand, young people may lack business and work experience and may seek paid employment to acquire such experience. Conversely, young people are more risk takers since they do not have family responsibilities, therefore, they may be inclined to pursue self-employment endeavours. A statistical test of significance was performed to determine the relationship between age and career intentions of graduate and the results indicated that age does not play a role in influencing graduates' career intentions.

Figure 4.3 below shows respondents' level of study.

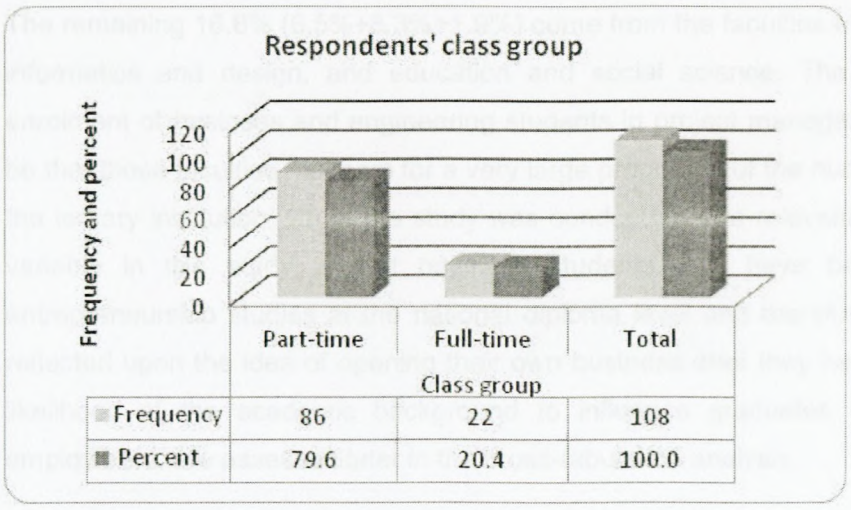


	Btech	Mtech	Total
Frequency	96	12	108
Percent	88.9	11.1	100.0

Figure 4.3: Study level of respondents

The results of the study show that 88.9% of respondents are BTech students while 11.1% of respondents are MTech students. The rationale of educational level variable in this study is that education may be one of the factors that play an important role in influencing individuals to self-employment owing to the fact that highly educated people may have more expertise and ability to undertake self-employment activities.

Figure 4.4 indicates the types of program in which respondents are enrolled.

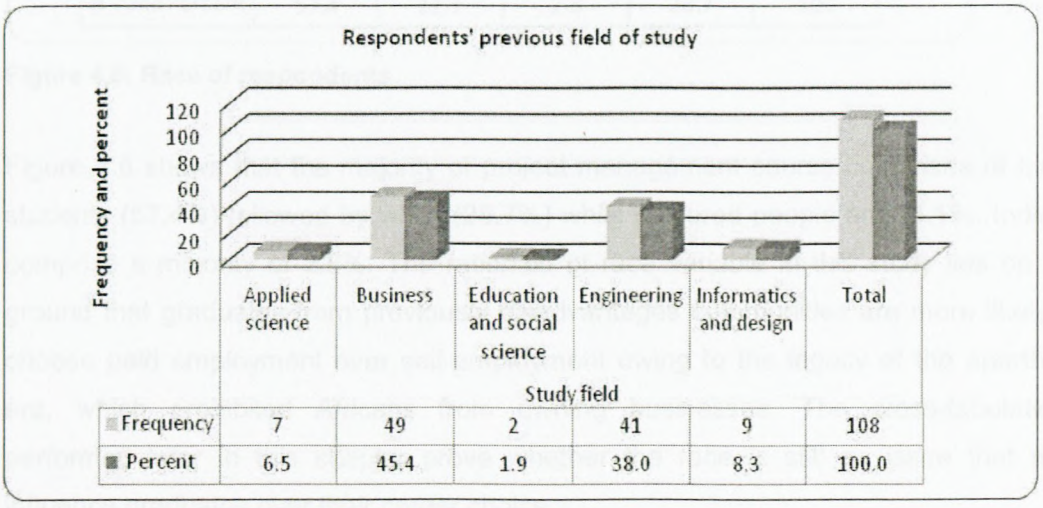


	Part-time	Full-time	Total
Frequency	86	22	108
Percent	79.6	20.4	100.0

Figure 4.4: Study programs of respondents

Figure 4.4 indicate that 79.6% of respondents are part-time students while 20.4% of them are full-time students. The rationale of this variable lies on the fact that the majority of part-time students are full-time employed, which may push them to remain in their employment positions, seek promotions within their current companies instead of pursuing self-employment endeavours. Conversely, after graduation, full time students may struggle to find paid employment and may, therefore, opt for self-employment activities.

Figure 4.5 illustrates the field of study in which respondents come from.

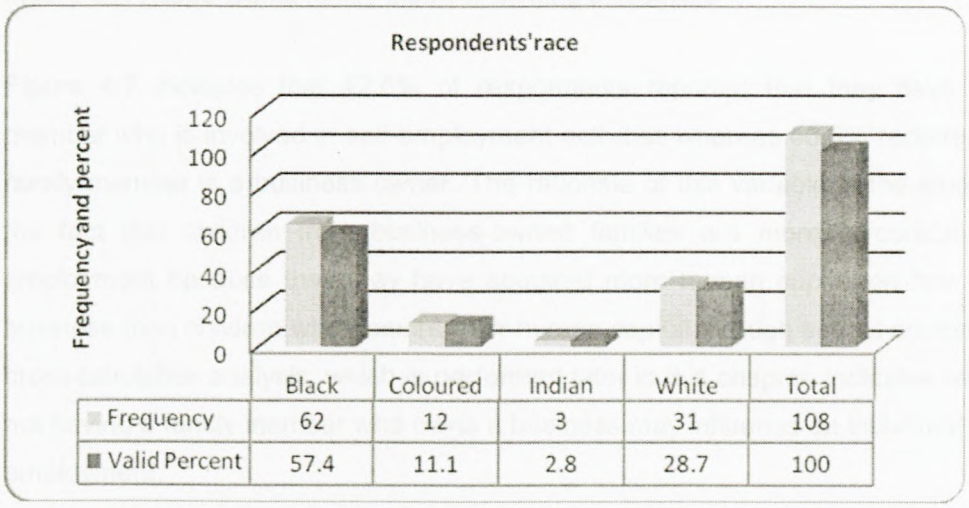


	Applied science	Business	Education and social science	Engineering	Informatics and design	Total
Frequency	7	49	2	41	9	108
Percent	6.5	45.4	1.9	38.0	8.3	100.0

Figure 4.5: Respondents' previous field of study

Figure 4.5 indicates that the project management class is dominated by students from business background (45.4%) and students from engineering background (38.0%). The remaining 16.6% (6.5%+8.3%+1.9%) come from the faculties of applied sciences, informatics and design, and education and social science. The reasons for high enrolment of business and engineering students in project management course could be that those faculties make up for a very large proportion of the number of students at the tertiary institution where the study was conducted. The relevance of field of study variable in this study is that business students may have been introduced to entrepreneurship studies at the national diploma level and therefore, they may have reflected upon the idea of opening their own business after they have graduated. The likelihood of the academic background to influence graduates in their choice of employment, are assessed later in the cross-tabulation analysis.

Figure 4.6 indicates the race of study participants

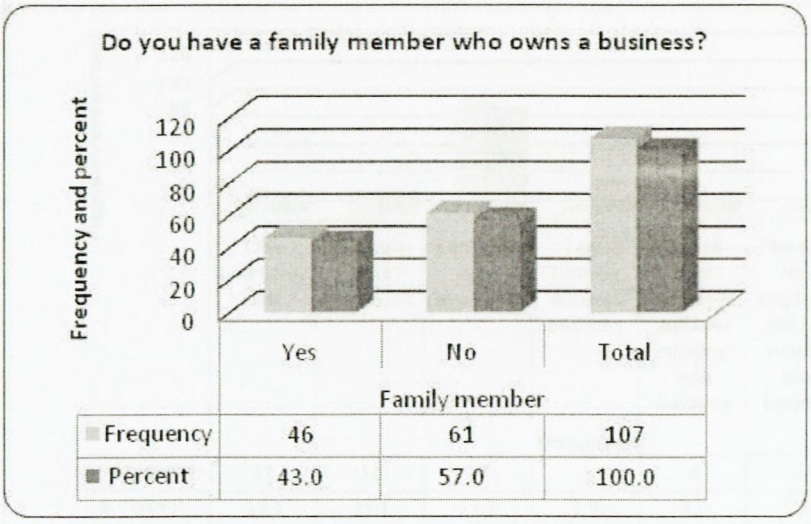


	Black	Coloured	Indian	White	Total
Frequency	62	12	3	31	108
Valid Percent	57.4	11.1	2.8	28.7	100

Figure 4.6: Race of respondents

Figure 4.6 shows that the majority of project management course comprises of black students (57.4%) followed by white (28.7%) while coloured people are 11.1%. Indians comprise a minority of 2.8%. The rationale of race variable in this study lies on the ground that graduates from previously disadvantages communities are more likely to choose paid employment over self-employment owing to the legacy of the apartheid era, which prohibited Africans from owning businesses. The cross-tabulations performed later in this chapter prove whether the race is still an issue that may influence graduates over their career choice.

Figure 4.7 indicates whether study participants have family members who own a business.



	Yes	No	Total
Frequency	46	61	107
Percent	43.0	57.0	100.0

Figure 4.7: Respondents family member owning a business

Figure 4.7 indicates that 42.6% of respondents reported that they have a family member who is involved in self-employment activities whereas 56.5% reported that no family member is a business owner. The rationale of this variable in the study lies on the fact that children from business-owned families are more favourable to self-employment because they may have acquired more human capital on how to run a business than children who acquire their human capital through school education. The cross-tabulation analysis, which is performed later in this chapter, indicates whether or not having a family member who owns a business may influence an individual into self-employment.

Figure 4.8 illustrates occupation of the participants of this survey.

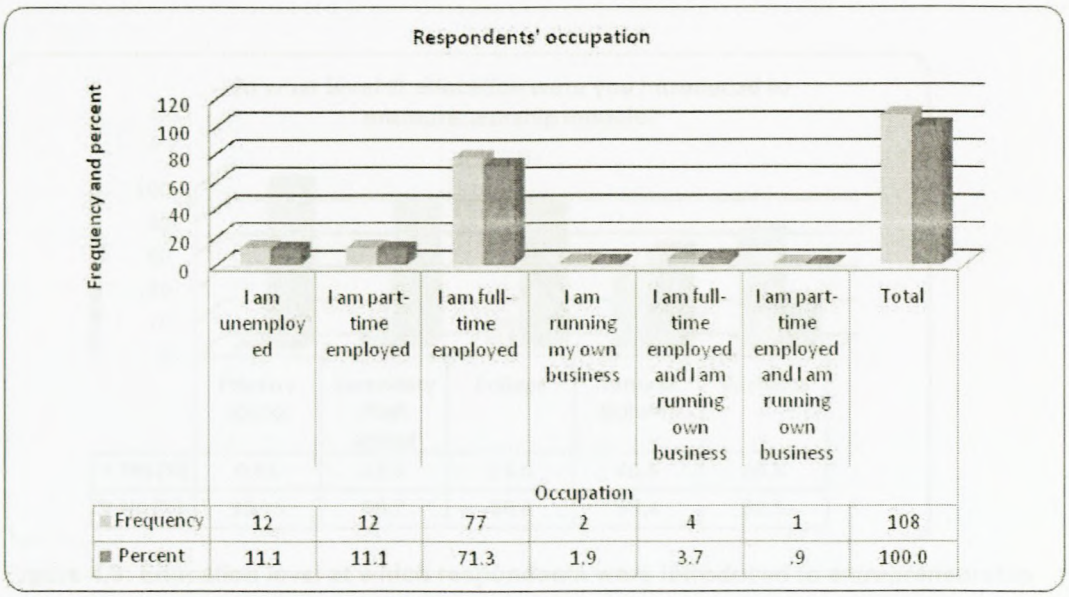


Figure 4.8: Respondents' occupation

A majority of respondents, namely 77.3% are full-time employed, while the unemployed and part-time employed represent an equal proportion of 11.1% of respondents (Figure 4.8). The self-employed are under-represented with 6.5% (1.9%+3.7%+0.9), which comprise students who combine part-time or full time employment with running their own business. These results indicate that unemployment is not a major problem among project management students. The reason could perhaps be that the majority of project management students are part-time students with 79.6% (see Figure 4.4), who are mostly full time employed. The full time employed may hold on their current jobs, seek promotions or seek other better job opportunities rather than engage in self-employment activities. However, they, in the long run eye a career in self-employment owing to the project management skills acquired, as well as the work experience they have accumulated over the years. While unemployed may struggle to find employment owing to their inexperience, they may opt for self-employment as an alternative. Nevertheless, cross tabulation results indicated no statistical significance between respondents' occupation and their career intentions. Thus, this study confirms that at any time and in similar conditions, both full-time employed, part-time employed and unemployed individuals may enter self-employment.

Figure 4.9 indicates the level at which this survey participants were introduced to entrepreneurship module.

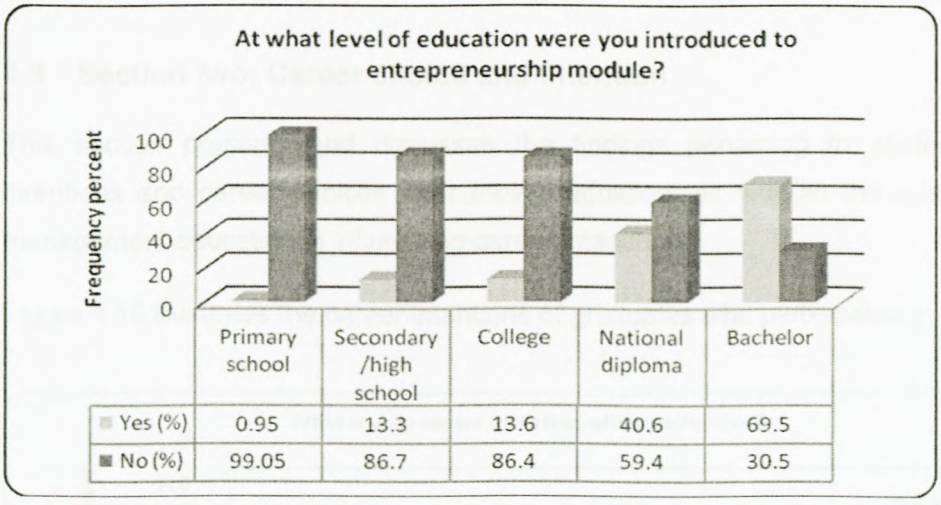


Figure 4.9: Education level at which respondents were introduced to entrepreneurship education

Respondents were asked to indicate if they have been introduced to entrepreneurship education in any of the stages of education provided. Figure 4.9 indicates that entrepreneurship education is almost non-existent at primary level with only one individual having reported to have been introduced to entrepreneurship at that stage. At secondary and college level of study, entrepreneurship education improves slightly to 13.3% and 13.6% respectively. These results indicate that Curriculum 2005 programme of the Department of Education has not been effective across the education system in South Africa. The Curriculum 2005 programme of the Department of Education was designed to identify critical outcomes, which will ensure that learners gain the skills, knowledge and values that will allow them to contribute to their own success as well as the success of their families, and the nation as a whole (North, 2002:26). At national diploma level, entrepreneurship course is provided as evidenced by 40.6% of respondents. The reason for such lower percentage is explained by the fact that only students from business faculty are offered entrepreneurship course. The remaining faculties within the academic institution offer the entrepreneurship course at BTech level with 69.5% of respondents.

The entrepreneurship module in project management course is offered in the second semester, which explains the reason why 30.5% of respondents have not yet been

introduced to entrepreneurship education module. It is important to note that a large number of project management students were still in the first semester during this survey.

4.3 Section two: Career choice and intention

This section presents and discusses the findings pertaining to students' career intentions and career choices after their graduation, as well as the role of project management education in influencing career intentions.

Figure 4.10 illustrates the career intentions of graduates who participated in this study.

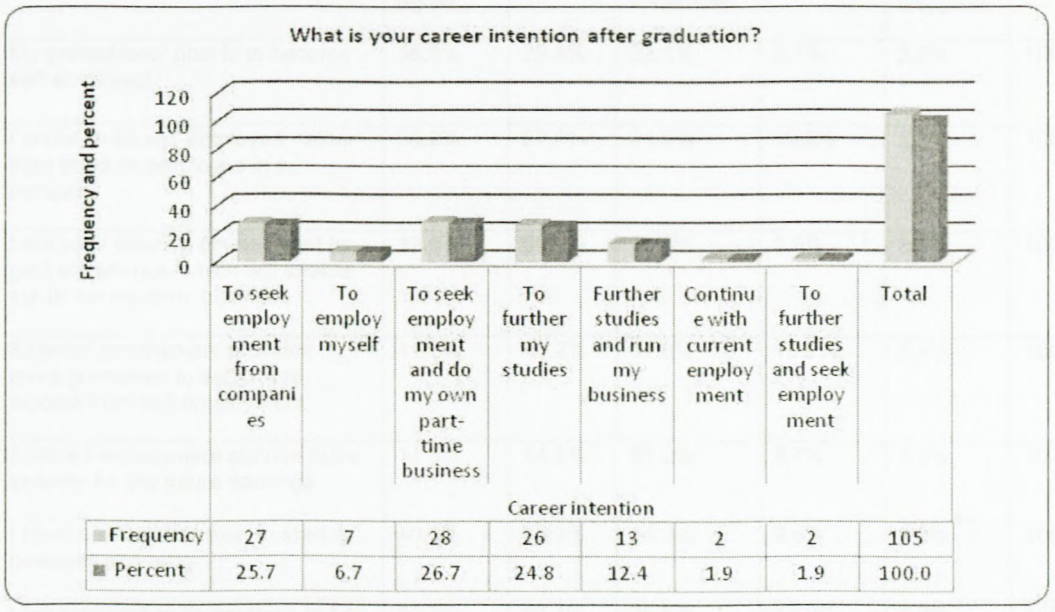


Figure 4.10: Respondents' career intention

Respondents were asked to indicate their career intention after their graduation. Figure 4.10 shows that 26.7% of respondents reported that they will seek employment from companies and run their own part-time businesses, followed by those who intend to seek employment with 25.7%, while the continuation of studies accounted for 24.8% of respondents. 12.4% of respondents reported that they would like to continue their studies while running their businesses, whereas 6.7% intend to get involved into self-employment activities. The continuation of current employment, as well as continuation of studies while seeking employment accounted only 1.9% respectively. The intention to seek employment dominated career intention by students with 54.3 %(

25.7+26.7+1.9%), which clearly indicate that graduates anticipate greater employment opportunities and career advancement after their graduation. The results of this study indicate that a large number of students intend to get involved into self-employment in one way or another with a figure of 45.8% (6.7%+26.7%+12.4%), which would help in reducing unemployment in south Africa.

In order to find more information regarding career intention of project management students, they were asked to agree or disagree with the statements pertaining to career intention (Table 4.1).

Table 4.1: Career intention of project management graduates

Statements	Strongly agree	Agree	Neutral or undecided	Disagree	Strongly disagree	Total
My professional goal is to become self-employed	36.5%	29.8%	22.1%	8.7%	2.9%	100%
I prefer to be self-employed rather than to be an employee in a company	36.2%	27.6%	21.9%	10.5%	3.8%	100%
I will seek salaried employment to gain experience, which will enable me to run my own business	32.1%	50.9%	10.4%	2.8%	3.8%	100%
Salaried employment provides more guarantee to earn more income than self-employment	11.3%	46.2%	17.0%	16.0%	9.4%	100%
Salaried employment provide more security for the future earnings	11.5%	54.8%	21.2%	8.7%	3.8%	100%
I have a strong intention to start a business someday	40.0%	33.3%	14.3%	9.5%	2.9%	100%
I am prepared to do anything to be self-employed	21.5%	27.1%	35.5%	15.0%	0.9%	100%

Table 4.1 presents career intention of respondents. They were asked to agree or disagree with the statement that self-employment is their professional goal. A total of 66.3% (36.5%+29.8%) strongly agreed or agreed with the statement while 22.1% were undecided whereas 11.6% (8.7%+2.9%) disagreed or strongly disagreed with the statement. The lower percentage of disagreement implies a positive intention into self-employment. However, respondents who were neutral or undecided are more likely to seek paid employment rather than employ themselves although they could be tempted to enter self-employment later in their career.

Respondents were asked if they prefer to be self-employed over paid employment. Table 4.1 indicates that a total of 63.8% (36.2%+27.6%) of respondents either strongly agreed or agreed with the statement. 21.9% were neutral or undecided whereas 14.3% (10.5%+3.8%) disagreed or strongly disagreed with the statement. Although these results indicate strong intention to enter self-employment, paid employment still enjoy a good share at the employment market as evidenced by the findings. In order to seek more insights from respondents with regard to salaried employment, they were asked to agree or disagree if they will pursue paid employment path to gain experience, which will enable them to run their business in the future. A majority of respondents agreed with the statement with 83% (32.1%+50.9%), while 10.4% were undecided whereas 6.6% (2.8%+3.8%) either disagreed or strongly disagreed with the statement. These findings suggest that experience is very important in self-employment. However, while the majority of respondents prefer self-employment over paid employment, they are not yet ready nor well prepared to enter self-employment straight after graduation owing to lack of experience.

When asked if salaried employment provides more guarantee to earn more income than self-employment, the results indicate that 57.5% (11.3%+46.2%) of respondents either strongly agreed or agreed with the statement while 17.0% were undecided whereas 25.4% (16.0%+9.4%) disagreed or strongly disagreed. Although more than half of the respondents showed favourable attitudes towards paid employment, the number of those who were undecided or disagreed with the statement is not negligible, which suggest that respondents consider self-employment to offer guarantee to earn as much if not more than paid employment. To further make a comparison of salaried employment with self-employment over future earnings, respondents were asked whether salaried employment provides more security for the future income. A total of 66.3% (11.5%+54.8%) of respondents agreed that salaried employment offer more security for future earnings than self-employment. A total of 21.2% were undecided while 12.5% (8.7%+3.8%) disagreed with the statement. These findings indicate that job security is in the mind of graduates when they choose their career path. However, a good number of respondents with 33.7% (21.2%+8.7%+3.8%) were either undecided or disagreed that salaried employment offers more security for future income than paid employment, which suggest that self-employment could offer security of future earnings although with far less extent than what paid employment is likely to offer.

This study sought to find the career intention of project management students by asking them if they intend to start a business someday. The results in Table 4.1 shows that 73.3% (40.0%+33.3%) of respondents have a strong intention to start a business in future, while 14.3% were undecided, whereas 12.4% (9.5%+2.9%) are not intending to open a business in future, which implies that they prefer paid employment over self-employment. The majority of respondents intend to open their own business in the future even though it may offer less security of future income compared to paid employment.

Although respondents showed positive reactions towards self-employment or showed intention to enter self-employment, the study doubts whether graduates will enter self-employment after graduation. In order to respond to that doubt, respondents were asked whether they were prepared to do anything to be self-employed. The results indicate that 48.6% (21.5%+27.1%) of respondents are prepared to be self-employed, while 35.5% were undecided, whereas 15.9% (15.0%+0.9) are not prepared for self-employment. These results provides evidence that a large number of graduate are not prepared nor ready to enter self-employment straight after graduation although they have intention to own business in future. Perhaps the lack of business experience combined with the security over future earning offered by paid employment influence graduates in choosing their career path.

In order to find how respondents compare paid employment to self-employment, they were asked to admit if they would give up their own business if they were offered a better paying employment (see Figure 4.11).

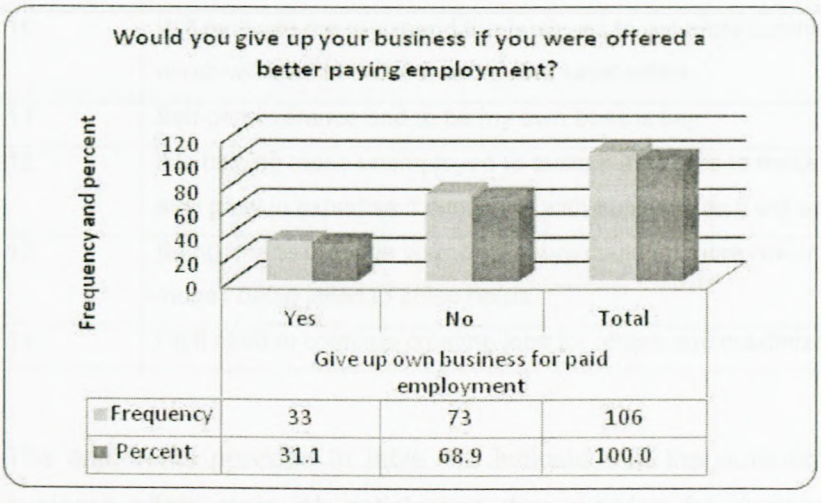


Figure 4.11: Giving up own business for a better paying job

The results presented in Figure 4.11 show that only 31.1% of respondents admitted that they would give up their business if they were to obtain a better paying employment while 68.9% said that they would not give up their business for a paid job. The results of the study prove the value attached to owning a business by individuals. In that regard, individuals would prefer to maintain their businesses even if there were availability of other career opportunities. The reasons provided for not giving up their own business are summarized in the Table 4.2 below.

Table 4.2: Reasons for not giving up own business if obtained a better paying employment

Reference	Answer
1	Because I need to be my own boss one day, hence I will need my business as a security
2	I'll be satisfied if self-employed
3	Better paying employment position does not give job security
4	Better to have my own business because of control
5	Lack of freedom to do your own thing
6	My business is about building a legacy not money
7	I would rather focus on my business growth and if you leave your business you can get retrenched
8	Well, it depends on the money of course but for me it is the freedom about being your own boss emitting your own pay check but definitely the lifestyle is very important when making this decision
9	It is not just about money, there is also the independency and the fact that the salary will be fixed but when running your own business income is not fixed, other month it can be good and there is also the working during/at your own part
10	Will motivate me to expand the business to get more business and work harder which will lead to better income and satisfaction
11	Self-perseverance and to be my own boss is key
12	It is helping those unemployed to sustain their jobs to make a better living. I will also grow in expertise if continued with business as it will be an ongoing lesson
13	Being free to manage your own hours could be more rewarding than earning more money being jailed to office hours
14	I still need to continue creating jobs for others and maximize income

The comments provided in table 4.2 indicate that the autonomy to run ones' own business offers more job satisfaction than working for someone else. In addition,

individuals stated that owning a business is more about building a lasting legacy rather than a means of making money. These results contrast with the study of Kangasharju and Pekkala (2002:217-218) who found that if the employment rate in economy is improving, educated people may cease operating as self-employed and go for paid employment. Moreover, respondents reported that maintaining ones' own business will save jobs for other people and contribute to the national economic growth. Conversely, 31.1% of respondents admitted that they would give up their business if obtained better paying jobs. The reasons given for dropping own business were that running own business is much more stressful and can take a lot of time away from the family. In addition, individuals believe that owning a business is not financially safe as it has its positives and setbacks. This can disrupt not only the lifestyle of the owner's family but also that of the families of his employees. Moreover, paid employment provides assurance for a stable salary with benefits and peace of mind. These results are similar to the work of Storey (1994) who argued that the flow of earnings is less secure as self-employed than as an employee owing to higher inherent risks associated with running a business. However, some respondents reported that employment created more networking, which can be helpful at a later stage while they get back to own business.

4.4 Section 3: Statements

This section comprises three groups of statements pertaining to the role of education (Table 4.3), the role of project management (Table 4.4), and lastly the role of entrepreneurship education (Table 4.7) in influencing self-employment. Respondents were asked to agree or disagree on the provided statements, where a more positive agreement would mean that respondents are favourable to self-employment owing to the skills and knowledge acquired through studies.

Table 4.3: Role of education in self-employment

Statements	Strongly agree	Agree	Neutral or undecided	Disagree	Strongly disagree	Total
I have acquired enough skills and knowledge through education, which allow me to be self-employed	24.8%	51.4%	18.1%	3.8%	1.9%	100%
Adequate education is important for the success of an individual	41.0%	41.0%	11.4%	5.7%	1.0%	100%
A higher educated individual is more likely to be more successful than a lower educated person	24.8%	39.0%	18.1%	14.3%	3.8%	100%
A highly educated individual is more likely to run a business more efficiently than a lower educated person	21.9%	42.9%	17.1%	14.3%	3.8%	100%

These findings are consistent with previous study results (Branson et al. 2009:10-16), which noted that tertiary study can increase the probability of both salary employment and self employment significantly. The results also conform to the assertion by Smith (2004:83) that education enhances the nation's human capital investment, which has a significant impact on self-employment as it provides the skills needed for establishing and learning a business. In addition, the acknowledgement of the link between education and self-employment in this study supports the previous study (Luthje & Frank, 2002) that education can enhance attitudes towards self-employment.

Respondents were asked to agree if higher educated individuals are likely to be more successful than lower educated people. Table 4.3 indicates that 63.8% (24.8%+39.0%) while 36.2% (18.1%+14.3%+3.8%) were undecided or disagree with the statement. When asked if higher educated people have the ability to run a business more efficiently than lower educated individuals, 64.8 %(21.9%+42.9) agreed with the statement while 35.2% (17.1%+14.3%+3.8%) were either undecided or disagreed with the statement. The agreement on the statement is an acknowledgement of the role of education in creating a successful career, which is consistent with the human capital theory. The increase in disagreement implies that respondents are of the view that lower educated people can be successful in their career. The reason could be associated with the highly publicized stories of successful world renowned

entrepreneurs such Richard Branson and Bill Gate, Patrice Motsepe in South African context and others, who are among the richest in the world without having acquired university education.

Project management education can be an important tool in enhancing attitudes towards self-employment amongst project management graduates. Respondents were asked to agree on given statement pertaining to the role of project management education in enhancing individual's ability to enter self-employment activities (Table 4.4)

Table 4.4: Role of project management in self-employment

Statements	Strongly agree	Agree	Neutral or undecided	Disagree	Strongly disagree	Total
Project management course provides relevant skills and knowledge to employ myself after graduation	35.2%	48.6 %	13.3%	1.9%	1.0%	100%
Project management knowledge and skills will enable me to open and run a successful business	29.5%	51.9 %	14.3%	3.8%	1.0%	100%
Graduates with project management skills have more chance of success in self-employment	26.7%	55.2 %	14.3%	2.9%	1.0%	100%
Project management knowledge and skills are critical in establishing a new business venture	26.0%	52.9 %	16.3%	3.8%	1.0%	100%

According to Table 4.4, a majority of respondents, namely 83.6% (35.2%+48.6%) strongly agreed or agreed that project management course provides relevant skills and knowledge required to enter self-employment endeavours. In addition, 81.4% (29.5%+51.9%) of respondents acknowledged that project management skills and knowledge will enable them to open and run successful business, while 81.9% (26.7%+55.2%) of respondents either strongly agree or agreed that graduates who possess project management skills have more chance of success in self-employment. Lastly, 78.9% (26.0%+52.9%) agreed that project management and skills are critical in establishing a new business venture. These findings are consistent with previous results, which noted that people who are well equipped with project management skills

have more chance of successful businesses as projects constitute an average of one third of the turnover of the small and medium enterprises (Turner, Ledwith & Kelly, 2009). In addition, Walker (2006) state that if projects are not properly planned, tracked, and effectively managed, then the business cannot be built. Thus, for one to start and run a successful business, one has to possess project management skills, which is in line with the argument by Rodriguez (2010) that project management is one of those skills that successful entrepreneurs seem to be born with while the rest of people have to learn.

To emphasize the importance of project management education in influencing career intention, respondents were asked to indicate their motives in selecting project management course (Table 4.5).

Table 4.5: Motivation to undertake project management qualification

Reference	Answer
1	It is a requirement for my responsibilities at work to have project management skills
2	I have interest in projects and I want to manage them in future
3	I joined the project management class in order to obtain skills and knowledge required for better work performance
4	It looked like an interesting course since I am doing a lot of small projects at work
5	Due to knowledge explosion, companies have moved from traditional management to management by projects. I want to keep myself updated for better performance
6	I wanted a basis to complete not only projects but all aspects of work
7	I work in a project management environment and need the skill to be effective in project management
8	I am in the construction field as a project manager. So basically, I wanted to get knowledge in order to be able to plan, organize, manage and lead.
9	Create opportunities and alternate career paths
10	To obtain better career opportunities
11	I joined project management course in order to get promotion at work because I can see that in my department they are lacking with skills of project management
12	To learn from different challenges from time to time with new projects and better financial advantages in the future

Reference	Answer
13	You are not bound to one sector which ensures new challenges constantly to keep on intrigued
14	Own employment, better opportunities in the market place , change of career if needed
15	I want to run my own business. Therefore, project management skills will help me become a more successful entrepreneur
16	To have business background and management, which are important in opening and running a business
17	I undertook project management course in order to gain skills which will enable me to start my own business
18	To empower myself with management and entrepreneurship skills, which are critical in self-employment activities

The summary in Table 4.5 indicates motivations for choosing project management among students. According to table 4.5, most respondents reported three categories of motivation for choosing project management, namely: to acquire skills that will enhance their work performance (Reference 1 to 8 in Table 4.5); to acquire skills and knowledge that will enable them to have more employment opportunities and career enhancement (Reference 9 to 13); and to acquire knowledge and skills that will enable them to open and manage their own business effectively (Reference 14 to 18). The study found that project management skills are required within any career choice, be it in salary employment or self-employment endeavours since the current and future success of businesses depend on the how effective one can manage project. According to Gray and Larson (2008:10), project management has become a standard way of doing business. Thus, individuals who have acquired project management skills have more chance of securing a successful career than those who lack project management skills, which is true as projects constitute average of one third of the turnover of the small and medium enterprises (Turner, Ledwith & Kelly, 2009).

In order to find if the intention for self-employment was a result of skills and knowledge acquired, respondents were asked to indicate whether project management qualification can assist in overcoming unemployment (Figure 4.12).

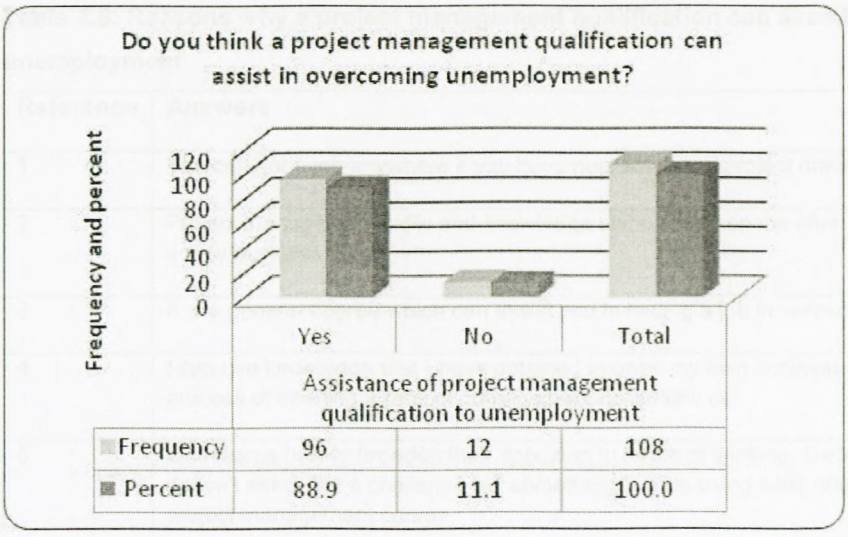


Figure 4.12: Role of project management qualification in overcoming unemployment

The results in Figure 4.12 show that 88.9% of respondents acknowledged that project management education is an important factor in reducing unemployment. The reasons that were provided were that project management education provides skills and knowledge that are required in various disciplines, thus offering more employment opportunities for project management graduates. In addition, respondents reported that project management skills and knowledge can enable individuals to open and run their own companies effectively, which conform with the study by Ajam (2011) who argued that entrepreneurs needs project management skills in opening a new venture from idea generation to initial operation of the venture. Equally, Walker (2006) asserts that if your projects are not planned, tracked and managed effectively then you can't build your business. Project management education is, therefore, an important aspect for a successful business management. The results of importance of project management education in reducing unemployment are summarized in Table 4.6.

Table 4.6: Reasons why a project management qualification can assist in overcoming unemployment

Reference	Answers
1	You can get a job anywhere if you have qualification of project management
2	Project management skills and knowledge shine a light on the often disastrous hurdles a new business faces
3	It is a general degree which can assist you in finding a job in various working sectors
4	I can use knowledge that I have obtained to open my own business. I'm already in the process of opening a project management consultant cc
5	One learns how to broaden their spectrum in terms of thinking. Owning a business doesn't seem like a challenge but something one do using what one has learnt in project management course
6	Everything is about projects these days and if you don't get a job you will have the knowledge to start a business
7	Project managers are in demand in the 21st century
8	One will be able to come up with business ideas, project management will assist you in putting together all the relevant documents and then you will be able to employ people and delegate duties to your team
9	The course makes you think about outside the box more in entrepreneurial direction
10	With project management you could create jobs by starting a business and successfully managing individual projects to ensure the business succeeds
11	It equips you with the required tools and it opens up your mind to managing projects from different professions
12	Individuals will learn skills that will give them the confidence and competence to start their own business and employ other people

As it can be read in table 4.6, most project management students have a common understanding that project management education equips them with skills and knowledge, which are required in any discipline, thus creating more employment opportunities. Furthermore, project management education provides skills and knowledge that can enable one to create and manage effectively own business, which in turn result in job creation for other people. Hence, the importance of project management education in alleviating unemployment has been acknowledged. Figure 4.12 indicates that 11.1% of respondents denied that project management can assist in reducing unemployment. The common reasons shared by respondents on that regard was that work experience was very critical in the project management field and that the

lack of work experience may hinder individuals to penetrate the field of project management. Specifically, respondents argue that one needs to specialize in a field already and supplement it with a project management qualification. Perhaps, these reasons could be relevant to full time students who have not yet entered the employment market and who indeed lack work experience. However, the majority of respondents expressed confidence that project management qualification will open up excellent career opportunities.

Besides the role that project management education can play in enhancing self-employment activities among graduates, the study sought to find whether entrepreneurship education can motivate graduates to enter self-employment endeavours (Table 4.7)

Table 4.7: Role of entrepreneurship education in self-employment

Statements	Strongly agree	Agree	Neutral or undecided	Disagree	Strongly disagree	Total
In future, I will be able to employ myself because of entrepreneurship education that I have acquired from this university	27.6%	44.8%	21.9%	3.8%	1.9%	100%
Entrepreneurial skills are very important for graduates to succeed at the business world	35.2%	49.5%	11.4%	3.8%	0.0%	100%
The benefits of entrepreneurship education are significantly high	36.2%	49.5%	12.4%	1.9%	0.0%	100%
Students must undertake entrepreneurship modules regardless of the field of study	36.2%	46.7%	15.2%	1.9%	0.0%	100%
Entrepreneurship education will contribute to the reduction of Unemployment in south Africa	45.7%	40.0%	11.4%	1.0%	1.9%	100%

Table 4.7 shows the extent to which entrepreneurship education is viewed in relation to its role in enhancing self-employment. When, asked to rate the extent to which entrepreneurship education will enable graduates to employ themselves, the results were positive with 72.4% (27.6%+44.8%) of respondents strongly agreeing or agreeing with the statements. A total of 21.9% were undecided while only 5.7% (3.8%+1.9) of respondents either disagreed or strongly disagreed with the statement. The slightly higher number of undecided respondents on this statement could be that entrepreneurship education is not the only factor that will enhance their professional

career but also education in general, as well as project management education in particular, which proved to be critical in influencing self-employment activities (see Table 4.3 and Table 4.4).

Respondents were asked to agree or disagree whether entrepreneurial skills are very important for graduates to succeed at the business world and the results were overwhelmingly positive. A total of 84.7% (35.2%+49.5) of respondents either strongly agreed or agreed with the statement while 11.4% of respondents were undecided whereas only 3.8% disagreed with the statement. These results highlight the importance of having entrepreneurship skills in order to succeed in self-employment career.

Respondents were also asked to agree or disagree whether the benefits of entrepreneurship education are significantly high. The results of the survey were extremely positive with 85.7% (36.2%+49.5%) of respondents who either strongly agreed or agreed while 12.4% of respondents were undecided whereas only 1.9% disagreed with the statement. These results indicate that the benefits of providing entrepreneurship education must not be ignored for the success of an individual professional career.

In addition, respondents were asked to agree or disagree with the statement that says that students must undertake entrepreneurship modules regardless of their field of study. The results show that a majority of respondents with 82.9% (36.2%+46.7%) either strongly agreed or agreed with the statement while 15.2% were undecided whereas 1.9% of respondents disagreed with the statement. These findings indicate that entrepreneurship education can play a key role in influencing graduates' career choice regardless of their field of studies. Whereas students from the business faculty undertake entrepreneurship modules at national diploma level, the study observed that students from other faculties do not undertake entrepreneurship module at the undergraduate level. It is important to note that a large number of students end their studies at the national diploma level. Thus, the provision of entrepreneurship education would significantly benefit them in their professional career.

Finally, respondents were asked to agree or disagree with the statement that entrepreneurship education will contribute to the reduction of unemployment in South Africa. A total of 85.7% (45.7%+40.0%) of respondents strongly agreed or agreed with the statement while 11.4% were undecided whereas 2.9% (1.0%+1.9%) disagreed with

the statement. These results highlight the importance of providing entrepreneurship education in a country such as South Africa that is facing a high level of graduate unemployment.

The results of this survey support previous studies (Postigo & Tomorini, 2002; Luthje & Prugl, 2006:211; Ekpoh & Edet, 2011:172). According Postigo and Tomorini (2002) entrepreneurship education builds and stimulates entrepreneurial process by providing all indispensable tools for starting up new business. Luthje and Prugl (2006:211) argue that the success of new ventures may be linked to prior entrepreneurship education and training in which the knowledge and skills required by entrepreneurs are taught. Ekpoh and Edet (2011:172) comment that entrepreneurship education contributes to improved people's attitudes towards entrepreneurship orientation, which leads to the acquisition of skills, confidence, creativity, drive and courage, in order to create employment for self and for others. According Wilson, Kickul and Marlino (2007), entrepreneurship education has the potential to enhance students' interests in entrepreneurship as a career.

The results of this study support previous studies that have found that education provides human capital, which has a great impact on self-employment since education transfers the skills for establishing and running a successful business (Robinson & Sexton, 1994; Charney & Libecap, 2000; Luthje and Frank, 2002; Smith, 2004:83).

The following section provides the findings related to motivating factors, as well as barriers to self-employment.

4.5 Section four: Motivating factors and barriers to self-employment

4.5.1 Motivating factors to self-employment

This study has sought to identify motivating factors behind which people choose self-employment over wage paid employment even if the latter would offers more advantages.

Table 4.8 illustrates the outcomes of the survey regarding what motivate people to pursue self-employment endeavours.

Table 4.8: Motivating factors to enter self-employment

Factors	Yes	No
I will employ myself in order use project management skills obtained from my qualification	82.4%	17.6%
I will employ myself in order to benefit from the knowledge and skills I have acquired through education	81.3%	18.7%
I will employ myself in order to avoid dependence/Gain autonomy	80.6%	19.4%
I will employ myself due to less job opportunities in my country	61.1%	38.9%
I will employ myself in order to earn higher income	78.7%	21.3%
I will employ myself in order to provide myself a job security	75.0%	25.0%
I will employ myself in order to take advantages of opportunities in the market	89.8%	10.2%
I will employ myself if I receive support for potential entrepreneurs	81.5%	18.5%
I will employ myself for my own satisfaction and growth	90.7%	9.3%
I will employ myself in order to be my own boss	80.6%	19.4%
I will employ myself in order to challenge myself	88.9%	11.1%
I will employ myself because there is a good economic environment in the country	61.7%	38.3%
I will employ myself because I enjoy taking risk	62.3%	37.7%
I will employ myself because it is entrepreneurial family culture	38.9%	61.1%
I will employ myself in order to take advantage of my creative talent	75.0%	25.0%
I will employ myself in order to increase my prestige and status	52.8%	47.2%
I will employ myself in order to follow the example of someone that I admire	52.8%	47.2%
I will employ myself in order to maintain my family legacy	46.3%	53.7%
I will employ myself in order enjoy myself	69.2%	30.8%

Respondents were asked to provide a "Yes" or "No" answer to the questions pertaining to motivating factors to self-employment. The variables with the highest positive (yes) percentage for motivators were to achieve own job satisfaction and growth (90.7%); to take advantages of the market opportunities (89.8%); to self-challenge (88.9%); to use

project management knowledge and skills obtained from university education (82.4); availability of support for potential entrepreneurs (81.5%); to benefits from knowledge and skills obtained through education (81.3%); to avoid dependence (80.6%) and to be own boss (80.6); to earn higher income (78.7%); enjoy job security (75.0%); and less job opportunities (61.1%) . The variables with the lowest positive (Yes) percentage were the family culture in entrepreneurship (38.9%); to maintain family legacy (46.3%; to follow the example of the role model (52.8%) to increase status and prestige (52.8%).

Firstly, the results indicate that graduates who are interested in self-employment do so because it enables them to effectively utilize skills and knowledge they have accumulated throughout their studies. These results support the argument of Smith (2004:83) that education provides the skills needed for establishing and running a business. In addition, tertiary education plays a significant role in forming the intention to start a career or a business after graduation (Roudaki, 2009:37). According to Carr (1999:27), tertiary education increases the probability that a person will choose self-employment over salaried employment.

Secondly, the results revealed that graduates would choose self-employment owing to the positive emotions attached to self-employment such as greater job and life satisfaction, lower dependence (autonomy) and enjoyment of being own boss. These results corroborate with the findings of Blanchflower et al. (2001) who noted that self-employment provides high levels of job, as well as life satisfaction than being employed. Furthermore, the results of this study are consistent with the studies that found that self-employed people often experience high levels of passion and positive feelings (Baum & Locke, 2004:588; Cardon, Wincent, Singh and Donovsek, 2009:512). Moreover, Patzel and Shepherd (2011:229), argue that autonomy is probably the most role characteristic distinguishing self-employment from employment.

Thirdly, the results of this study indicate that graduates who are interested in self-employment do so because of economic motives such as the prospect of earning higher income, having job security and exploitation of market opportunities. These results support the argument of Van Praag and Van Stel (2010:5) that higher educated individuals can earn a premium income as entrepreneurs while those with lower level of education are better off as employee.

Lastly, other motivators that were revealed to influence graduates in self-employment were related to availability of financial support for potential entrepreneurs and insufficiency of job opportunities in South Africa. As Dhliwayo (2004:330) noted, graduates unemployment is very high in South Africa. Thus, young graduates will engage in self-employment to avoid unemployment, which will be facilitated with the availability of support to potential entrepreneurs. In their report, Maas and Herrington (2006) indicate that lack of financial support is the second major contributor to the low total entrepreneurship activity (TEA) rate in South Africa.

Besides the motivating factors described above, Ashley-Cotleur, King and Solomon (2009) suggested that demographic characteristics can motivate a person's decision to become self-employed. Cross tabulation of demographic characteristics against certain career intentions are performed in order to evaluate whether individual characteristics can be a motivator to self-employment.

4.5.2 Barriers to self-employment in South Africa

Although a big number of respondents expressed interests in self-employment, certain factors have been voiced to prevent people from entering self-employment activities (Table 4.9).

Table 4.9: Obstacles to self-employment

Factors	Yes	No
Availability of job opportunities	57.0%	43.0%
Lack of start-up capital	88.0%	12.0%
Lack of business idea and experience	59.3%	40.7%
Lack of income security	79.6%	20.4%
Poor attitudes of South African towards entrepreneurial activities	56.5%	43.5%
Lack of credit history to enable me acquire loan from financial institutions	53.7%	46.3%
I do not have enough knowledge and skills to run my own business	45.4%	54.6%
Academic courses have not prepared me enough to think about working for myself	38.9%	61.1%
Inadequate preparation to face the demands of running business	57.4%	42.3%
Lack of assets for collateral (guarantee to financial institutions)	67.6%	32.4%

Factors	Yes	No
Lack of information about how to start a business	50.9%	49.1%
Do not know how to write a business plan	37.0%	63.0%
Need to pay back education loans	41.7%	58.3%
Cost of business registration	32.1%	67.9%
Did not do any business management or entrepreneurship module	38.0%	62.0%
The uncertainty about the future if I start my own business	57.9%	62.1%
The fear of starting a business because of a risk associated with running a new business	55.6%	44.4%
Weak economic environment	49.5%	50.5%
Lack of support from family or friend	34.3%	65.7%
Nobody in my family has ever gone into business	31.5%	68.5%
Cannot see any opportunity in the market place	38.0%	62.0%
No one to turn to for help	38.0%	62.0%
Fear of crime	42.6%	57.4%
Finding the right partner	48.1%	51.9%

Table 4.9 presents the barriers to self-employment as expressed by respondents. The variables that scored high as barriers to self-employment were financially related and include lack of start-up capital (88.0%); lack of income security (79.6%); lack of assets for collateral (67.6%); and lack of credit history (53.7%). Other barriers to self-employment seem to be not as important as capital barriers and include the lack of business ideas and experience (59.3%); the uncertainty of the future of the business (57.9%); inadequate preparation of how to run a business (57.4%); availability of job opportunities (57.0%); poor attitudes of South Africans towards entrepreneurial activities (56.5%). These results are consistent with previous studies (Elsenhardt &Martin, 2004; Owusu-Ansah, 2004; Cichello, 2005:3). For instance, Elsenhardt and Martin (2004) reported that fixed assets and working capital are needed to enable self-employed people achieve competitive advantage. Equally, Owusu-Ansah (2004) and Cichello (2005:3) argue that the lack of experience and lack of business management

skills coupled with difficulties in raising finance for a start up business constitute key challenges facing potential self-employed.

Variables that scored lower and were not felt to be barriers to self-employment include absence of family culture to business (31.5%); lack of support from family (34.3%); cost of business registration (32.1%); lack of knowledge to write business plan (37.%); inadequate academic program to prepare graduates into self-employment (38.9%); and lack of knowledge and skills to run a business (45.4%). These results indicate that graduates have acquired knowledge and skills, which will enable them to start and run a business effectively. However, the increased percentage regarding the lack of knowledge and skills to run a business could be that a large number of project management students have not yet attended the entrepreneurship module. Perhaps more could be done to address such a situation such as providing entrepreneurship module at all undergraduate students regardless of their field of study.

Besides barriers to self-employment discussed above, this study sought to establish whether demographic characteristics such as gender, age, race, study level and other can influence an individual career choice. In this study, demographic characteristics were cross-tabulated with statement pertaining to the role of education, project management education, entrepreneurship education, as well as the career intention of respondents. Table 4.10 provides a summary of variables that showed a statistical relationship between each other.

4.5.3 Relationship between field of study and career intention

The chi-square test for independence provided in table 4.10 indicates that the field of study influences career intention of graduates (Chi-square= 43.721, p= 0.008).

Table 4.5 have indicated that the project management class, which is the study's unit of analysis, is mostly dominated by students with a business background (45.4%) as well as an engineering background (38.0%).

Table 4.10: Factors influencing individuals to enter self-employment

Independent variables	Dependent variables	Pearson Chi-Square (X2)	Statistical significance (p-value <0.05)
Faculty	Career intention	43.721	0.008
	I prefer to be self-employment rather than be employed by a company	28.190	0.030
	A higher educated person has the ability to run a business more efficiently than a lower educated person	26.854	0.043
	Project management qualification can assist in overcoming unemployment	15.716	0.003
Study level	To open a successful business, one needs to have project management skills	11.226	0.024
	Graduates with project management knowledge and skills have more chance of success in self-employment activities	14.830	0.005
	Project management knowledge and skills are critical in establishing a new business venture	11.181	0.025
	Project management knowledge and skills will enable me to open and run a successful business	13.245	0.010
	Adequate education is important for the success of an individual	11.848	0.019
	Students must undertake entrepreneurship modules regardless of their field of study	8.330	0.040
Class group	I will seek salaried employment to gain experience, which will enable me to run my own business	13.358	0.010
Race	I have acquired enough knowledge and skills through education, which allow me to be self-employed	43.795	0.000
	Entrepreneurial skills are very important for graduates to succeed at the world of work	24.429	0.018
	The benefits of entrepreneurship education are significantly high	34.796	0.001
	Students must undertake entrepreneurship modules regardless of their field of study	23.019	0.028
Having a family business member	A higher educated person has the ability to run a business more efficiently than a lower educated person	11.130	0.025

The cross-tabulation results (Table 37 in Appendix B) indicates differences between business and engineering students over their career choice where business students

prefers to seek employment from company(16.2%) while engineering students prefer to seek employment and run own part-time business concurrently (12.4%), as well as continue their studies (14.3%). These results were supported by the statement that respondents would choose self-employment over paid employment, which showed a relationship between the previous field of study and career intention (Chi-square= 28.190, p= 0.030). These results imply that experience is very important in influencing the career path of an individual although respondents were generally positive towards self-employment. While graduates from business background would choose to acquire experience through paid employment, their engineering counterpart choose to gain experience by combining paid employment with running own business. Perhaps engineering students who join the project management course do so owing to their inclination to acquire both project management skills and business management knowledge, which will enable them to run their own business. In contrast, business students enrol in project management course to acquire project management skills and knowledge, which enhance their employment prospects in different fields.

Although a majority of respondents agree that a higher educated individual has the ability to run a business more efficiently than a lower educated person (Table 4.5), there was a discrepancy between students from different field of studies (Chi-square= 26.854, p=0.043). These results could justify why more engineering students prefer to further studies in comparison with students from other academic background. Whereas engineering education provides technical skills, project management skills and knowledge and business management knowledge acquired from project management course provide students with the ability to open and run their own business. This is evidenced by the graduate intention to be involved in project management consultancy within engineering industry. Thus, these results strongly support the importance of education in general and project management education in particular in enhancing career paths of graduates. However, more chi-square test for significance indicated that respondents hold different view that project management can assist in overcoming unemployment (Chi-square =15.716, p=0.003).

The table 37 (Appendix B) indicates that a big proportion of students from informatics and design, as well as students from education and social science do not think that project management qualification can assist in overcoming unemployment. The reasons that were advanced were that on top of having a project management qualification, people must have enough experience within their field of work in order for

them to either find a career in project management career or succeed in self-employment endeavours. They stressed that industry experience is critical if they are to have a chance to penetrate in the project management field or self-employment activities. These results indicate that work experience is a major obstacle to find appropriate employment and engage in self-employment activities, which exacerbate further graduate unemployment. Moreover, respondents affirmed that they will seek employment to gain experience, which will enable them to run their own businesses (Table 4.1).

4.5.4 Relationship between study offering and career intention

There was a discrepancy between part-time and full time students with regard to the statement that they will seek employment to only gain experience future business ownership purpose (Chi-square= 13.358, p=0.010). The reasons for this opinion discrepancy could that that the majority of part time students are full time employed and thus they have already work experience in contrasts with full time students who have not yet entered the world of employment. Although, part-time students have work experience, the results of this study indicated that they are unlikely to leave their jobs for self-employment. Perhaps, the lack of experience in project management field is the main reasons why the majority of students intend to seek paid employment in order to acquire work experience.

4.5.5 Relationship between level of study and career intention

The study considers education as one of the factors that play an important role in influencing individuals to self-employment. Highly educated people may have more expertise and ability to undertake self-employment activities. Smith (2004:83) argues that education provides the skills needed for establishing and learning a business. According to Van Praag and Van Stel (2010:5), individuals with high level of education can earn a premium income as self-employed while those with lower level of education are better off working as employee. Thus, highly educated people may be inclined to self-employment owing to such likelihood of earning more income. In addition, Carr (1996:27) asserts that individuals with more than four years of tertiary education are almost three times as likely to be self-employed in comparison with high school graduates. Conversely, highly educated people may have more opportunities over well paid jobs, which may limit their involvement into self-employment endeavours. As Kangasharju and Pekkala (2002:218) put it forward, if the general employment in the

economy is improving, higher educated people may even cease to operate as self-employed and go to work for other companies as employees. However, if the economy's employment level is poor, then self-employment becomes a more attractive alternative for people with any level of education (Kangasharju & Pekkala, 2002:218). Accordingly, this study found that education is positively associated with graduates' successful careers in self-employment.

The findings of this study indicated that there was a relationship between the study level of respondents and statements that links project management education to self-employment activities. Table 4.10 shows the discrepancy between MTech and BTech students with regard to statements that one has to have project management skills in order to open a successful business (Chi-square= 11.226, p=0.024); graduates with project management knowledge and skills have more chance of success in self-employment activities (Chi-square =14.830, P=0.005); project management knowledge and skills are critical in establishing a new business venture (Chi-square= 11.181, p=0.025); project management knowledge and skills will enable me to open and run a successful business (Chi-square= 13.245, p=0.010). The reasons for differences in opinions between MTech students and BTech students could be related to the fact that masters' students have acquired more in-depth knowledge and skills at the master's program level, which enables them to strongly link project management education with the opening and running a successful business. These results confirm the earlier assumption that a higher educated individual is more likely inclined to self-employment than a lower educated one.

Although the majority of respondents admitted (82.2%) that adequate education is important for the success of an individual (Table 4.4), there was a notable differences between masters and bachelor students with regard to the statement that adequate education is important for the success of an individual (Chi-square =11.848, p=0.019). Owing to more in-depth knowledge provided at the master's program level, master's students might have seen themselves to be better equipped with adequate education, which would enhance their successful career.

Even though the majority of respondents agreed that students must undertake entrepreneurship education regardless of their field of study (Table 4.8), there is a relationship between the study level and the statement that says that students must undertake entrepreneurship education regardless of their field of study (Chi-

square=8.330, p=0.040). The difference of opinions between bachelor students and master's could be because a large number of bachelor's students had not yet attended the entrepreneurship module at the time of this study. Therefore, they may not be aware of the impact that the entrepreneurship education can have in shaping an individual career path.

4.5.6 Relationship between race and career intention

Even though the majority of respondents agreed with statements pertaining to the role of education, and entrepreneurship education in enhancing an individual career path, the results have noticed some discrepancies among races with statements that they have acquired enough knowledge through education, which will enable them to go into self-employment (Chi-square= 43.795, p=0.000); entrepreneurship skills are very important for graduates to succeed at the world of work (Chi-square= 24.429, p= 0.018); the benefits of entrepreneurship education are significantly high (Chi-square = 34.796, p= 0.001); students must undertake entrepreneurship modules regardless of their field of study (Chi-square=8.330, p= 0.040). The observed discrepancies between races could be the legacy of the apartheid era in which better education facilities were only provided to white communities whereas other races were disadvantaged and received poor level of education.

Although South Africa is into its 17th year of democracy, the legacy of apartheid may still have a negative impact on the predominantly black institutions, who may suffer from inadequate teaching facilities and lack of qualified teaching staff. This study doubts whether all South African institutions follow the same curriculum from primary to high schools or perhaps they could be following the same program but produce different outcomes owing to facilities available from one institution to another. This is evidenced by the fact that some respondents admitted to have had entrepreneurship modules at primary and high school (Figure 4.8). However, the chi-square test for independence did not show any relationship between race and the level at which students were introduced to entrepreneurship education. Thus, the study concludes that entrepreneurship education had been provided equally across races but generated different outcomes. Perhaps races are interested in entrepreneurship at a different level, which support the argument of Herrington et al. (2009:42) that whites are more likely to be entrepreneurs than black Africans. This study found that the Curriculum 2005 programme of the Department of Education failed to live up to its expectations. In

addition, it is questionable whether such curriculum is followed by all schools in South Africa. Perhaps more investigation should be done to address the ineffectiveness of the Curriculum 2005 programme, which was developed to foster entrepreneurship education in South African schools.

4.5.7 Relationship between family member owning a business and career intention

Colombier & Masclet (2006:3) asserted that a child of a self-employed parent receives constant exposure to the family business; he/she picks up a working knowledge of how to run a business, while a child of non-self-employed parent only acquires formal human capital from colleges and Universities. According to Dunn and Holtz-Eakin (2000), the transmission of financial capital from parents to children brings about only a small positive effect of becoming self-employed while the effect of transmission of human capital is large. Moreover, Lentz and Laband (1999) argue that most competencies required for self-employment are not necessarily obtained through formal education system but obtained through transmission of informal human capital.

This study found also that there is a relationship between having a family member involved in self-employment and the statement that a higher educated person has the ability to run a business more efficiently than a lower educated person (Chi-square=11.130, p= 0.025). The reasons may be that the business success of the family member could convince their relatives that you don't need to be highly educated in order to run your business effectively and efficiently. Although the experience points to renowned successful entrepreneurs across the globe who have acquired little school education, it does not provide the accurate number of businesses, which close down owing to poor business management associated with lack of education. Thus, having a successful business without being highly educated does not necessarily mean that education is not critical in business success.

4.5.8 Relationship between gender, age and career intention

Finally, the statistical test of independence did not show any discrepancy between males and females with regard to their career intention. Equally, age did not prove to be a factor in influencing an individual over his or her career choice because respondents were of similar age. Thus, the study concludes that there is no difference between young males and females graduates over their career intention.

4.6 Summary

This chapter has presented and discussed the results of the survey. It aimed at presenting results in the form of tables and charts, and analyzing them in order to find answers to questions that were posed for the purpose of this study.

The results were presented in four main sections. The first section presented the demographic characteristics of respondents, the second section presented career intention of respondents, while the third section presented the results of the statements pertaining to the role of education, the role of project management education and lastly the role of entrepreneurship education in enhancing self-employment. In addition, the third section presented the results of statements that were formulated to find career intentions of project management graduates. Lastly, the fourth section dealt with motivating factors as well as obstacles that hinder graduates in entering self-employment.

The following chapter covers the summary of the results, recommendations and concluding remarks.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings emanating from the empirical study. Thereafter, the chapter presents conclusions of the study and makes recommendations for implementation, as well as for future research.

5.2 Summary of findings

The findings of this study were presented and discussed in relation to the research questions outlined in chapter one. The aim of the study was to determine the prospects of self-employment amongst project management graduates in order to fight high graduate unemployment in South Africa. The findings are summarized into three sub-sections, namely: the contribution of education on self-employment, motivating factors in self-employment and barriers that hinder graduates to enter self-employment.

5.2.1 The contribution of education on self-employment

The main purpose of this study was to find the extent to which education is important in assisting graduates to fight unemployment. The study found that:

- Education plays a significant role in increasing the probability of finding a better paid employment or undertaking self-employed activities. It provides individuals with skills and knowledge, which enables them to understand the dynamism of business management, leading to a successful career in self-employment
- The provision of project management knowledge and skills play important role in reducing unemployment in two ways. Firstly, project management education provides skills and knowledge that are required in various disciplines, thus offering more employment opportunities for project management graduates. Secondly, project management skills enable individuals to open and run their own business effectively, leading to job creation for other people. Thus, graduates who have project management skills and knowledge have more chance of success than those who lack such skills. As Turner et al (2009) assert, projects constitute an average of one-third of the turnover of small and medium enterprises.

- Entrepreneurship education is of paramount importance in providing skills, confidence and courage in order to start up new ventures that create employment for many people. Through equipping students with skills pertaining to business establishment, entrepreneurship education provides human capital, which has a great positive impact on self-employment.

5.2.2 Motivating factors for self-employment

One of the objectives of this study was to investigate factors that motivate individuals to enter into self-employed activities. The study found that:

- Tertiary education plays an important role in influencing graduates to engage in self-employment. Graduates choose self-employment over paid employment in order to effectively utilize skills and knowledge they have acquired throughout their studies. Tertiary education equips students with more in-depth knowledge and skills, which enhance their successful career in self-employment. Nevertheless, the study found that graduates are neither ready nor prepared to enter self-employment activities straight after their graduation owing to lack of relevant experience in business management. They prefer to seek employment in order to gain experience that will assist them to open and run their own business at a later stage in their career.

- Positive emotions associated with self-employment such as greater job and life satisfaction, lower dependency (autonomy) and enjoyment of being own boss play a huge role in motivating individuals to be self-employed. However, the study found out that positive emotions from self-employment are not enough to compensate for the negative emotions that result from a high degree of risk taking, income and job uncertainty, increased work effort, autonomy in decision making and more responsibilities, which are associated with running one's own business. Hence, those negative emotions push graduates to choose paid employment over self-employment.

- Economic factors such as the prospects of earning higher income; having job security and the prospect of exploiting market opportunities motivate individuals to choose self-employment over paid employment. At the same time self-employment provides less security for future earnings owing to risks associated

with running a business, which drive the majority of graduates to seek paid employment rather than self-employment.

- Insufficiency of job opportunities in South Africa and financial support for potential entrepreneurs may motivate graduates to enter self-employment

5.2.3 Barriers to self-employment

The study sought to investigate what hinders graduates from engaging into self-employment activities, the study found out that:

- Financially-related factors such as lack of start-up capital, lack of income security, lack of asset for collateral and lack of credit history constitute obstacles to self-employment. Additionally, the lack of business ideas and experience, the uncertainty of the business future, inadequate preparation of how to run a business, as well as poor attitudes of South Africans towards entrepreneurial activities, although at a lesser extent, do act as obstacles on self-employment activities in contrast with financially related obstacles.

- Although graduates are favourable towards self-employment, they are neither ready nor prepared for self-employment owing to inadequate experience in project management field. Thus, work experience has been found to be an obstacle to finding appropriate employment and engagement in self-employment. This, in turn, exacerbates further graduate unemployment

- The past history of South African education system still seem to have impact on individual career intention with previously disadvantaged races, who despite being positive about self-employment, have less intention to enter self-employment.

5.3 Conclusions

The economic development and growth of a nation depends on its ability to provide human capital to its population through adequate education. Equally, Barber (1998:20) argued that the success of any economy lies on the level of education of its workforce and on the capability of its people to apply their skills as individuals or collectively. As in the study of Rosti and Chelli (2000), this study found that education may either enhance individual entrepreneurial ability, thereby increasing the likelihood of choosing

self-employment or increasing opportunities for paid employment, both of which reduce unemployment. Moreover, this study has confirmed the argument of Bevia and Iturbe-Ormaetxe (2002:323) that tertiary education provides human capital that enables graduates to achieve increased level of productivity. This, in turn, leads to one's ability to earn more income than less and lower educated people in both paid employment and self-employment career.

Furthermore, this study recognises the role of tertiary education in providing human capital, which is needed for establishing and running a business. The higher an individual is educated, the more human capital is accumulated. This is imperative in assisting graduate to either obtain better paying job opportunities or setting up one's own business. Graduate unemployment can only be reduced if students are provided with the right skills and knowledge to match the requirement of the employment market. The acquisition of the right skills will also enhance graduates confidence, which is necessary in self-employment undertakings.

5.4 Recommendations

Based on the study findings, the following recommendations are being made by this study:

Recommendation one: Entrepreneurship education

Entrepreneurship education in tertiary institutions is critical in providing knowledge and skills that are required to succeed in self-employment. As one course in entrepreneurship does not ensure self-employment orientation or more positive expectations about entrepreneurial abilities and careers, this study suggest that students, irrespective of their field of study, should be given entrepreneurship module in every academic year. This will help in reminding them that their success does not solely rely on their ability to find a better paying employment but also on their ability to employ themselves.

In addition, entrepreneurship education at a lower level of education should be given much consideration, where children should learn, from an early age, to develop the right attitudes towards work. It will also help develop the skills required to spot business opportunities, which will pave the way for self-employment thus reducing the excessive level of unemployment in South Africa. There is also the need to review the

implementation of the Curriculum 2005 programme of the Department of Education, which has so far failed to live up to its expectations.

Recommendation two: Project management education

In the current business environment, project management has become a way of doing business. Since projects constitute a big source of revenues for companies, students need to be provided with project management modules at undergraduate level irrespective of the field of study. This will strongly benefit students who will not have the chance to join the bachelor program in project management. In addition, project management education should not be limited to tertiary level of education but should also be extended to lower levels of education. This is because lots of small business failures occur owing to ineffective resources management. In order to enhance effective resources management skills amongst matriculates who do not join tertiary institutions, learners should be provided with skills and knowledge in project management. This will help them to succeed once they have undertaken self-employment activities.

Recommendation three: Funding and business culture

At tertiary level of education, students should constantly be encouraged to come up with business ideas and business plans, for which competitions should be organised in order to determine the most viable business plans to be supported financially. This culture would inspire students to think out of the box and develop business ideas, which may be executed upon their graduation. Since lack of funding constitute a major obstacle to self-employment, the Department of Education in collaboration with the Department of Commerce and Business Development should establish a funding agency that support graduates who have developed sound business plans. This practice will reduce the graduate unemployment in South Africa to a certain extent.

Recommendation four: Matching skills and employment requirement

Tertiary education plays a significant role in reducing unemployment through the provision of appropriate skills and knowledge required not only in paid employment but also in self-employment. However, the high level of graduate unemployment, which contrasts with the skills shortage in South African labour, points to a mismatch between skills provided at tertiary education and job classification requirements. Adequate and relevant skills will pave the way for competitive graduates not only at

paid employment market but also at self-employment career path. Therefore, tertiary institutions need to engage with public, as well as private sectors in order to understand the specific outcomes expected by employers, which will enable them to align their academic program with the requirement of the labour market demand. In this regard, tertiary institutions should organize workshops and seminars in which academic programs will be reviewed to match the current requirements of the labour market.

Recommendation five: Motivational speeches

In order to sensitise and encourage graduates to move away from being job seekers, tertiary institutions need to constantly invite prominent members of the public, and private sector as speakers to public lectures, whereby they will be telling their own success story, which may inspire graduates to pursue self-employment careers.

5.5 Recommendations for further research

This study was descriptive in nature and was undertaken with a quantitative rather than qualitative approach, which limited to a certain extent the quality and accuracy of data. Thus, further research using qualitative methods of data collection such as interviews, is recommended in order to obtain more insights from graduates with regard to their view on the role of tertiary education in influencing graduates career orientations, as well as motivating factors in choosing a certain career over the other. The study found that the field of study plays a key role in influencing individuals to choose one career over the other. The study assumed that the reasons were that many of the survey participants had not had entrepreneurship module by the time of the survey. Therefore, this study recommends that further research should be conducted amongst project management graduate after they have completed the program in order to ascertain the role of entrepreneurship education in motivating graduates to undertake different careers directions.

One of the objectives of the study was to find the career intention of project management graduates. Although project management graduates are generally positive about self-employment, it is not known whether graduates from other programs hold similar attitudes. Thus, more research should be done in order to find similarities and differences between project management graduates and graduates from other fields of study. In addition, this research should be replicated to

undergraduate students so as to determine their career intentions, which could be influenced by the provision of entrepreneurship and project management modules at that level of study.

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APPENDICES

APPENDICES

Cape Peninsula
University of Technology

APPENDIX A: RESEARCH INSTRUMENT (QUESTIONNAIRE)

Waterside Residence

P.O. Box 2315
Cape Town 8000
April 2011

Sir/Madam

QUESTIONNAIRE on The role of tertiary education in promoting self-employment: A study of project management students at a South African University of Technology.

Your kind co-operation as part of a sample survey is sought for the completion of the questionnaire which is part of a survey to investigate the role of tertiary education in promoting self-employment. A main objective of this study is, thus, to determine whether project management prospective graduates are inspired and motivated to undertake self employment endeavours.

Your willingness to complete the questionnaire will be much appreciated as the information obtained will assist the researcher to complete his Master's- Business administration in Project management at Cape Peninsula University of Technology.

The questionnaire has been designed in such a way that it will require the minimum of time to complete. Please place an "✓" in the block that you wish to select your response to that question unless a more detailed answer is provided.

All information will be treated as strictly confidential

Enquiries about the questionnaire or the research project may be directed to the researcher.

Gaetan NGABONZIZA
Researcher

Department of Management and Project management
Faculty of Business
Cape Peninsula University of Technology
Email: ngagaet1@gmail.com or 204222877@cput.ac.za
Tel. 0837668577

SECTION (1): GENERAL INFORMATION

- Please answer the questions by putting (✓) in a relevant square (❑) or by writing your answer in a space provided.

1. Gender

Male	❑
Female	❑

2. Age range

Under 20	20-25	26-30	31-35	Over 35
❑	❑	❑	❑	❑

3. The current level of study

BTech	MTech
❑	❑

4. Are you a part-time or a full-time student?

Part-time	❑
Full-time	❑

5. What are your academic background: Faculty

Applied Science	Business	Education and Social Science	Engineering	Wealth and Wellness Science	Informatics and Design
❑	❑	❑	❑	❑	❑
Other ❑ please specify:					

6. Nationality

7. Home language

8. Do you have a family member who owns a business?

Yes	❑
No	❑

9. **If yes please specify your relationship with him or her (e.g Brother):**
.....

10. **Please indicate your current occupation other than being a student**

I'm not employed	I'm part-time employed	I'm full time employed	I'm running my own business
❑	❑	❑	❑

SECTION (2): Education, career choice, career intention, motives and obstacles to self-employment

- Please answer the questions by putting (✓) in a relevant square (❑) or by writing your answer in a space provided.

11. **What was your motivation to undertake project management qualification?**
.....
.....
.....
.....

12. **Do you think a project management qualification can assist in overcoming unemployment?**

Yes	❑
No	❑

12.1 If Yes,
why?.....
.....
.....
.....
.....

12.2 If no,
why?.....
.....
.....
.....

13. **What is your career intention after graduation?**

To seek employment from company	To employ myself	To seek employment and do my own part time business	To further study	Further study and run my business
❑	❑	❑	❑	❑

14. **If you were to open your own business, in what kind of business would you operate?**

.....

15. **The following factors can motivate an individual to be self-employed. Please answer with "Yes" or "No" if you will be influenced by these factors to be self-employed**

Factors	Yes	No
I will employ myself in order to use project management skills obtained from my qualification	❑	❑
I will employ myself in order to benefit from the human capital I have acquired through education	❑	❑
I will employ myself in order to avoid dependence/autonomy	❑	❑
I will employ myself due to less job opportunities in my country	❑	❑
I will employ myself in order to earn higher income	❑	❑
I will employ myself in order to provide myself a job security	❑	❑
I will employ myself in order to take advantages of opportunities in the market	❑	❑
I will employ myself if I receive support for potential entrepreneurs	❑	❑
I will employ myself for my own satisfaction and growth	❑	❑
I will employ myself in order to be my own boss	❑	❑
I will employ myself in order to challenge myself	❑	❑
I will employ myself because there is good economic environment in the country	❑	❑
I will employ myself because i enjoy taking risk	❑	❑
I will employ myself because it is entrepreneurial family culture	❑	❑
I will employ myself in order to take advantage of my creative talent	❑	❑
I will employ myself in order to increase my prestige and status	❑	❑
I will employ myself in order to follow the example of someone that I admire	❑	❑
I will employ myself in order to maintain my family	❑	❑
I will employ myself in order enjoy myself	❑	❑
Others, please specify	❑	❑

16. Do you see the following factors as obstacles to pursue a self-employment path?

Factors	Yes	No
Availability of job opportunities	❑	❑
Lack of start-up capital	❑	❑
Lack of business idea and experience	❑	❑
Lack of income security	❑	❑
Poor attitudes of South African towards entrepreneurial activities	❑	❑
Fear of failure	❑	❑
Lack of credit history	❑	❑
I do not have enough knowledge and skills to run my own business	❑	❑
Academic courses have not prepared me enough to think about working for myself	❑	❑
Inadequate preparation to face the demands of running business	❑	❑
Lack of assets for collateral	❑	❑
Lack of information about how to start a business	❑	❑
Do not know how to write a business plan	❑	❑
Need to pay school loans	❑	❑
Cost of business registration	❑	❑
Did not do any business management or entrepreneurial module	❑	❑
The uncertainty about the future if I start my own business	❑	❑
The fear of starting a business because of a risk associated with a business	❑	❑
Weak economic environment	❑	❑
Lack of support from family or friend	❑	❑
Nobody in my family has ever gone into business	❑	❑
Convincing others that it is a good idea	❑	❑
Cannot see any opportunity in the market place	❑	❑
No one to turn to for help	❑	❑
Fear of crime	❑	❑

Factors	Yes	No
Finding the right partner	❑	❑
Others, please specify	❑	❑

17. Would you give up your business if you obtained a better paying employment position?

Yes	❑
No	❑

17.1. If Yes, why?.....
.....
.....
.....
.....

17.2. If No, why?.....
.....
.....
.....

18. Have you undertaken entrepreneurship education in your studies?

Yes	❑
No	❑

18.1. At what level of studies have you been introduced to entrepreneurship education? (You may indicate **MORE THAN ONE** answer)

Primary school	Secondary school	college	National diploma level	Btech level
❑	❑	❑	❑	❑

SECTION (3): QUESTIONNAIRE'S STATEMENTS

❖ Please read the statements carefully and select **ONLY ONE** answer that represents your opinion by putting (✓) in a relevant square (❑).

No	STATEMENTS	SCALE				
		1	2	3	4	5
		Strongly agree	Agree	Neutral or undecided	Disagree	Strongly disagree
19.	Project management course provide relevant skills and knowledge to employ myself after my graduation	❑	❑	❑	❑	❑
20.	Project management knowledge and skills will enable me to open and run a successful business	❑	❑	❑	❑	❑
21.	Graduates with project management knowledge skills stand more chance of success in self-employment activities	❑	❑	❑	❑	❑
22.	Project management knowledge and skills are critical in establishing a new business venture	❑	❑	❑	❑	❑
23.	I have acquired enough knowledge and skills through education, which allow me to be self-employed	❑	❑	❑	❑	❑
24.	Adequate education is important for the success of an individual	❑	❑	❑	❑	❑
25.	A higher educated individual is more likely to be more successful than a lower educated person	❑	❑	❑	❑	❑
26.	A higher educated person has ability to run a business more efficiently than a lower educated person	❑	❑	❑	❑	❑
27.	My professional goal is to become self-employed	❑	❑	❑	❑	❑
28.	I prefer to be self-employed rather than to be an employee in a company	❑	❑	❑	❑	❑

No	STATEMENTS	SCALE				
		1	2	3	4	5
		Strongly agree	Agree	Neutral or undecided	Disagree	Strongly disagree
29.	I will seek salaried employment to gain experience, which will enable me to own my business	❑	❑	❑	❑	❑
30.	Salaried employment provides more guarantee to earn more income than self-employment	❑	❑	❑	❑	❑
31.	Salaried employment provide more security for the future earnings	❑	❑	❑	❑	❑
32.	I am prepared to do anything to be self-employed	❑	❑	❑	❑	❑
33.	I have a strong intention to start a business someday	❑	❑	❑	❑	❑
34.	In future, i will be able to employ my-self because of entrepreneurship education i have acquired from this university	❑	❑	❑	❑	❑
35.	Entrepreneurial skills is very important for graduates to success at the world of work	❑	❑	❑	❑	❑
36.	The benefits of entrepreneurship education are significantly high	❑	❑	❑	❑	❑
37.	Students must undertake entrepreneurship modules regardless of the field of study	❑	❑	❑	❑	❑
38.	Entrepreneurship education will contribute to the reduction of unemployment in South Africa	❑	❑	❑	❑	❑

SECTION (4): CONTACT DETAILS

- Please write your e-mail. This will be used confidentially, and only in case of incomplete information.

39. e-mail

If you have any comments to share about this questionnaire or the study, please write them below:

The END of the questionnaire

Thank you very much for your co-operation in this survey

- PLEASE RETURN THE COMPLETED QUESTIONNAIRE TO THE FIELDWORKER WHO HANDED THE QUESTIONNAIRE TO YOU.

APPENDIX B: TABLES OF RESULTS

Table 1: Gender of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	66	61.1	61.1	61.1
	Female	42	38.9	38.9	100.0
	Total	108	100.0	100.0	

Table 2: Age group of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-25	32	29.6	29.6	29.6
	26-30	35	32.4	32.4	62.0
	31-35	28	25.9	25.9	88.0
	Over 35	13	12.0	12.0	100.0
	Total	108	100.0	100.0	

Table 3: Respondents' level of study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	BTech	96	88.9	88.9	88.9
	MTech	12	11.1	11.1	100.0
	Total	108	100.0	100.0	

Table 4: Respondents' class group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Part-time	86	79.6	79.6	79.6
	Full-time	22	20.4	20.4	100.0
	Total	108	100.0	100.0	

Table 5: Respondents' previous field of study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Applied science	7	6.5	6.5	6.5
	Business	49	45.4	45.4	51.9
	Education and social science	2	1.9	1.9	53.7
	Engineering	41	38.0	38.0	91.7
	Informatics and design	9	8.3	8.3	100.0
	Total	108	100.0	100.0	

Table 6: Respondents' race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		2	1.9	1.9	1.9
	Black	60	55.6	55.6	57.4
	Coloured	12	11.1	11.1	68.5
	Indian	3	2.8	2.8	71.3
	White	31	28.7	28.7	100.0
	Total	108	100.0	100.0	

Table 7: Respondents family member owing a business

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	46	42.6	43.0	43.0
	No	61	56.5	57.0	100.0
	Total	107	99.1	100.0	
Missing	System	1	.9		
Total		108	100.0		

Table 8: Respondents' Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I am unemployed	12	11.1	11.1	11.1
	I am part-time employed	12	11.1	11.1	22.2
	I'm full time employed	77	71.3	71.3	93.5
	I am running my own business	2	1.9	1.9	95.4
	I am full-time employed and running my own business	4	3.7	3.7	99.1
	I am part-time employed and running own business	1	.9	.9	100.0
	Total	108	100.0	100.0	

Table 9: Level at which entrepreneurship module was introduced (Primary level)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	1	.9	1.0	1.0
	No	104	96.3	99.0	100.0
	Total	105	97.2	100.0	
Missing	System	3	2.8		
Total		108	100.0		

Table 10: Level at which entrepreneurship module was introduced (secondary level)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	14	13.0	13.3	13.3
	No	91	84.3	86.7	100.0
	Total	105	97.2	100.0	
Missing	System	3	2.8		
Total		108	100.0		

Table 11: Level at which entrepreneurship module was introduced (College level)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	14	13.0	13.6	13.6
	No	89	82.4	86.4	100.0
	Total	103	95.4	100.0	
Missing	System	5	4.6		
Total		108	100.0		

Table 12: Level at which entrepreneurship module was introduced (National diploma level)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	43	39.8	40.6	40.6
	No	63	58.3	59.4	100.0
	Total	106	98.1	100.0	
Missing	System	2	1.9		
Total		108	100.0		

Table 13: Level at which entrepreneurship module was introduced (BTech level)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	73	67.6	69.5	69.5
	No	32	29.6	30.5	100.0
	Total	105	97.2	100.0	
Missing	System	3	2.8		
Total		108	100.0		

Table 14: Respondents' career intention

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	To seek employment from companies	27	25.0	25.7	25.7
	To employ myself	7	6.5	6.7	32.4
	To seek employment and do my own part-time business	28	25.9	26.7	59.0
	To further my studies	26	24.1	24.8	83.8
	Further studies and run my business	13	12.0	12.4	96.2
	Continue with current employment	2	1.9	1.9	98.1
	To further study and seek employment	2	1.9	1.9	100.0
	Total	105	97.2	100.0	
Missing	System	3	2.8		
Total		108	100.0		

Table 15: Propensity to give up own business if offered a better paying employment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	33	30.6	31.1	31.1
	No	73	67.6	68.9	100.0
	Total	106	98.1	100.0	
Missing	System	2	1.9		
Total		108	100.0		

Table 16: Propensity of project management qualification to reduce unemployment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	96	88.9	88.9	88.9
	No	12	11.1	11.1	100.0
	Total	108	100.0	100.0	

Table 17: Project management course provide relevant skills and knowledge to employ myself after my graduation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	37	34.3	35.2	35.2
	Agree	51	47.2	48.6	83.8
	Neutral or undecided	14	13.0	13.3	97.1
	Disagree	2	1.9	1.9	99.0
	Strongly disagree	1	.9	1.0	100.0
	Total	105	97.2	100.0	
Missing	System	3	2.8		
Total		108	100.0		

Table 18: Project management knowledge and skills will enable me to open and run a successful business

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	31	28.7	29.5	29.5
	Agree	54	50.0	51.4	81.0
	Neutral or undecided	15	13.9	14.3	95.2
	Disagree	4	3.7	3.8	99.0
	Disagree	1	.9	1.0	100.0
	Total	105	97.2	100.0	
Missing	System	3	2.8		
Total		108	100.0		

Table 19: Graduates with project management knowledge skills stand more chance of success in self-employment activities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	28	25.9	26.7	26.7
	Agree	58	53.7	55.2	81.9
	Neutral or Undecided	15	13.9	14.3	96.2
	Disagree	3	2.8	2.9	99.0
	Strongly disagree	1	.9	1.0	100.0
	Total	105	97.2	100.0	
Missing	System	3	2.8		
Total		108	100.0		

Table 20: Project management knowledge and skills are critical in establishing a new business venture

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	27	25.0	26.0	26.0
	Agree	55	50.9	52.9	78.8
	Neutral or Undecided	17	15.7	16.3	95.2
	Disagree	4	3.7	3.8	99.0
	Strongly disagree	1	.9	1.0	100.0
	Total	104	96.3	100.0	
Missing	System	4	3.7		
Total		108	100.0		

Table 21: I have acquired enough knowledge and skills through education, which allow me to be self-employed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	26	24.1	24.8	24.8
	Agree	54	50.0	51.4	76.2
	Neutral or Undecided	19	17.6	18.1	94.3
	Disagree	4	3.7	3.8	98.1
	Strongly disagree	2	1.9	1.9	100.0
	Total	105	97.2	100.0	
Missing	System	3	2.8		
Total		108	100.0		

Table 22: Adequate education is important for the success of an individual

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	43	39.8	41.0	41.0
	Agree	43	39.8	41.0	81.9
	Neutral or Undecided	12	11.1	11.4	93.3
	Disagree	6	5.6	5.7	99.0
	Strongly disagree	1	.9	1.0	100.0
	Total	105	97.2	100.0	
Missing	System	3	2.8		
Total		108	100.0		

Table 23: A higher educated individual is more likely to be more successful than a lower educated person

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	26	24.1	24.8	24.8
	Agree	41	38.0	39.0	63.8
	Neutral or Undecided	19	17.6	18.1	81.9
	Disagree	15	13.9	14.3	96.2
	Strongly disagree	4	3.7	3.8	100.0
	Total	105	97.2	100.0	
Missing	System	3	2.8		
Total		108	100.0		

Table 24: A higher educated person has ability to run a business more efficiently than a lower educated person

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	23	21.3	21.9	21.9
	Agree	45	41.7	42.9	64.8
	Neutral or Undecided	18	16.7	17.1	81.9
	Disagree	15	13.9	14.3	96.2
	Strongly disagree	4	3.7	3.8	100.0
	Total	105	97.2	100.0	
Missing	System	3	2.8		
Total		108	100.0		

Table 25: In future, I will be able to employ my-self because of entrepreneurship education I have acquired from this university

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	29	26.9	27.6	27.6
	Agree	47	43.5	44.8	72.4
	Neutral or Undecided	23	21.3	21.9	94.3
	Disagree	4	3.7	3.8	98.1
	Strongly disagree	2	1.9	1.9	100.0
	Total	105	97.2	100.0	
Missing	System	3	2.8		
Total		108	100.0		

Table 26: Entrepreneurial skills are very important for graduates to success at the world of work

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	37	34.3	35.2	35.2
	Agree	52	48.1	49.5	84.8
	Neutral or Undecided	12	11.1	11.4	96.2
	Disagree	4	3.7	3.8	100.0
	Total	105	97.2	100.0	
Missing	System	3	2.8		
Total		108	100.0		

Table 27: The benefits of entrepreneurship education are significantly high

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	38	35.2	36.2	36.2
	Agree	52	48.1	49.5	85.7
	Neutral or Undecided	13	12.0	12.4	98.1
	Disagree	2	1.9	1.9	100.0
	Total	105	97.2	100.0	
Missing	System	3	2.8		
Total		108	100.0		

Table 28: Students must undertake entrepreneurship modules regardless of the field of study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	38	35.2	36.2	36.2
	Agree	49	45.4	46.7	82.9
	Neutral or Undecided	16	14.8	15.2	98.1
	Disagree	2	1.9	1.9	100.0
	Total	105	97.2	100.0	
Missing	System	3	2.8		
Total		108	100.0		

Table 29: Entrepreneurship education will contribute to the reduction of unemployment in South Africa

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	48	44.4	45.7	45.7
	Agree	42	38.9	40.0	85.7
	Neutral or Undecided	12	11.1	11.4	97.1
	Disagree	1	.9	1.0	98.1
	Strongly disagree	2	1.9	1.9	100.0
	Total	105	97.2	100.0	
Missing	System	3	2.8		
Total		108	100.0		

Table 30: My professional goal is to become self-employed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	38	35.2	36.5	36.5
	Agree	31	28.7	29.8	66.3
	Neutral or Undecided	23	21.3	22.1	88.5
	Disagree	9	8.3	8.7	97.1
	Strongly disagree	3	2.8	2.9	100.0
	Total	104	96.3	100.0	
Missing	System	4	3.7		
Total		108	100.0		

Table 31: I prefer to be self-employed rather than to be an employee in a company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	38	35.2	36.2	36.2
	Agree	29	26.9	27.6	63.8
	Neutral or Undecided	23	21.3	21.9	85.7
	Disagree	11	10.2	10.5	96.2
	Strongly disagree	4	3.7	3.8	100.0
	Total	105	97.2	100.0	
Missing	System	3	2.8		
Total		108	100.0		

Table 32: I will seek salaried employment to gain experience, which will enable me to own my business

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	34	31.5	32.1	32.1
	Agree	54	50.0	50.9	83.0
	Neutral or Undecided	11	10.2	10.4	93.4
	Disagree	3	2.8	2.8	96.2
	Strongly disagree	4	3.7	3.8	100.0
	Total	106	98.1	100.0	
Missing	System	2	1.9		
Total		108	100.0		

Table 33: Salaried employment provides more guarantee to earn more income than self-employment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	12	11.1	11.3	11.3
	Agree	49	45.4	46.2	57.5
	Neutral or Undecided	18	16.7	17.0	74.5
	Disagree	17	15.7	16.0	90.6
	Strongly disagree	10	9.3	9.4	100.0
	Total	106	98.1	100.0	
Missing	System	2	1.9		
Total		108	100.0		

Table 34: Salaried employment provide more security for the future earnings

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	12	11.1	11.5	11.5
	Agree	57	52.8	54.8	66.3
	Neutral or Undecided	22	20.4	21.2	87.5
	Disagree	9	8.3	8.7	96.2
	Strongly disagree	4	3.7	3.8	100.0
	Total	104	96.3	100.0	
Missing	System	4	3.7		
Total		108	100.0		

Table 35: I am prepared to do anything to be self-employed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	23	21.3	21.5	21.5
	Agree	29	26.9	27.1	48.6
	Neutral or Undecided	38	35.2	35.5	84.1
	Disagree	16	14.8	15.0	99.1
	Strongly disagree	1	.9	.9	100.0
	Total	107	99.1	100.0	
Missing	System	1	.9		
Total		108	100.0		

Table 36: I have a strong intention to start a business someday

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	42	38.9	40.0	40.0
	Agree	35	32.4	33.3	73.3
	Neutral or Undecided	15	13.9	14.3	87.6
	Disagree	10	9.3	9.5	97.1
	Strongly disagree	3	2.8	2.9	100.0
	Total	105	97.2	100.0	
Missing	System	3	2.8		
Total		108	100.0		

Table 37. Previous field of study and career intention cross-tabulation

			Career intention							
			To seek employment from companies	To employ myself	To employ myself and do own part time business	To further my studies	Further studies and run own business	Continue with current employment	Further studies and seek employment	Total
Faculty	Applied science	Count	1	0	3	2	1	0	0	7
		% of Total	1.0%	.0%	2.9%	1.9%	1.0%	.0%	.0%	6.7%
	Busines s	Count	17	5	9	8	5	1	1	46
		% of Total	16.2%	4.8%	8.6%	7.6%	4.8%	1.0%	1.0%	43.8%
	Educatio n And social science	Count	0	0	1	0	0	0	1	2
		% of Total	.0%	.0%	1.0%	.0%	.0%	.0%	1.0%	1.9%
	Engineer ing	Count	5	2	13	15	5	1	0	41
		% of Total	4.8%	1.9%	12.4%	14.3%	4.8%	1.0%	.0%	39.0%
	Informati on and design	Count	4	0	2	1	2	0	0	9
		% of Total	3.8%	.0%	1.9%	1.0%	1.9%	.0%	.0%	8.6%
Total		Count	27	7	28	26	13	2	2	105
		% of Total	25.7%	6.7%	26.7%	24.8%	12.4%	1.9%	1.9%	100.0%

APPENDIX C: A LETTER AUTHORISING DATA COLLECTION WITHIN THE INSTITUTION

Cape Peninsula
University of Technology

FACULTY OF BUSINESS
Department of Management & Project Management
(Cape Town Campus)

24 January 2011

To whom it may concern,

Re: Permission to use CPUT BTech Project Management Students as audience for MTech Business Administration in Project Management Research – Gaetan Ngabonziza

This letter serves to grant permission for Gaetan Ngabonzizi to canvass the opinion of the BTech Project Management Community towards the research effort in fulfilment of the MTech Business Administration in Project Management at CPUT.

The active research is to take place during the first semester of 2011. Any further requirement for access to the students for the purpose as stated will need to first be approved by the department.

Such research activities are not to negatively impact on the lecturing and research staff of the university and are to be conducted subject to the approval of the Faculty Ethical Clearance committee.

Yours sincerely

MR. A. F. RADFORD
PROGRAM COORDINATOR: BTECH PROJECT MANAGEMENT AND MTECH BUS9INESS ADMINISTRATION IN PROJECT MANAGEMENT
DEPARTMENT OF MANAGEMENT & PROJECT MANAGEMENT
TEL: (021) 460 3069

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APPENDIX D: ETHICAL CLEARANCE CERTIFICATE

Cape Peninsula
University of Technology

Cape Peninsula University of Technology
Faculty of Business Research Ethics Committee

Members present:
Prof S Davies, Dr Steyn, F Salie (Secretariat)

Venue: Sports Department, Faculty of Business, Mowbray Campus
Date: Wednesday 26 January 2011

Please note that applications to the Faculty of Business Research Ethics Committee (FBREC) must include a full research proposal (that has been approved by the supervisor) that includes a section on the ethical issues involved in the study; along with necessary supportive documentation.

Student:	GAETAN, Ngabonziza (204222877)
Supervisor:	Mr S Fore
Level:	MTech: Business Administration in Project Management
Title:	The role of tertiary education in promoting self-employment: A study of prospective project management graduates at the Cape Peninsula University of Technology

Decision of committee: The Faculty of Business Research Ethics Committee (FBREC) has **approved** the submission and make the recommendation that it be forwarded to Faculty of Business MANCO Committee (MANCO).

Prof S Davies
Chairperson: Faculty of Business Research Ethics Committee
26 January 2011

Faculty of Business Ethics Committee: 2011 January
Prof S Davies email: davisss@cput.ac.za Tel: 021 680 1575 Fax 021 680 1562

APPENDIX E: SAMPLE SIZE OF A GIVEN POPULATION SIZE

N	S	N	S	N	S
30	28	280	162	1500	306
40	36	290	165	1600	310
50	44	300	169	1700	313
60	52	320	175	1800	317
70	59	340	181	1900	320
80	66	360	186	2000	322
90	73	400	196	2200	327
95	76	420	201	2400	331
100	80	440	205	2600	335
110	86	460	210	2800	338
120	92	480	214	3000	341
130	97	500	217	3500	346
140	103	550	226	4500	354
150	108	600	234	5000	357
160	113	650	242	6000	361
170	118	700	248	7000	364
180	123	750	254	8000	367
190	127	800	260	9000	368
200	132	850	265	10000	370

CAPE PENINSULA
UNIVERSITY OF TECHNOLOGY