

UNIVERSITY OF KWAZULU NATAL

**THE IMPACT OF HIGHER EDUCATION ON ENTREPRENEURIAL INTENTIONS
OF POLYTECHNIC STUDENTS IN SOUTH AFRICA**

By

Nomthandazo Jwara

210540234

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Supervisor: Dr Muhammad Hoque

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DECLARATION

I, Nomthandazo C Jwara declare that:

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Date.....

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ABSTRACT

Whilst the rate of growth of unemployed graduates is gradually increasing, entrepreneurship is considered to be one of the factors that can increase employment and be a significant factor for economic growth in developing countries. Entrepreneurial education is measured as an important variable which impacts on entrepreneurial intentions. This study attempted to establish the impact of higher education on the entrepreneurial intentions of polytechnic students in South Africa and looks at the role of entrepreneurial education in developing entrepreneurial intentions for becoming business owners, using a sample of Durban University of Technology students. The study adopted stratified random sampling and a self-administered questionnaire was used to collect data from 366 respondents. The questionnaire comprised of close-ended questions and was distributed to under- and postgraduate students at Durban University of Technology from three faculties. Questions were answered at the point of collection and as a result, all the questionnaires were completed giving a response rate of 100%. The data obtained from the respondents was analyzed using the SPSS (Statistical Package for Social Science) package. The findings revealed a positive relationship between social factors while no relation existed between entrepreneurial intentions and current education and university life. In response to the tight labour market as well as the mission for sustainable competitive advantage at DUT and for the growth of the South African economy, higher educational institutions should integrate the positive change of mindset and skills about entrepreneurship in academic education and university life to nurture students' entrepreneurial intentions. This can be achieved by the development of an entrepreneurial culture amongst academic and support staff in conjunction with student clubs. Given the significance of entrepreneurship, it is desirable to transform the educational system to encourage creativity and innovation in students. The study focussed on only three faculties at DUT, therefore the results may neither be generalized for the entire university nor for the entire South African polytechnic population. However, they could be used to form the basis for further studies because the study has ascertained that there is a need for change and improvement.

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Chapter One

Introduction

1.1 Introduction

The promotion of entrepreneurial culture in South Africa cannot be overstated as the country's universities produce large volumes of graduates annually who are equipped to be employees; however, the rate of unemployed graduates keeps on escalating each year. Kigotho (2015:1) revealed that 25% of African university graduates are unemployed, while 60% of the stats are the youth. According to Wijnberg (2015:1) 600,000 South African university graduates are unemployed. Under these circumstances an assertion can therefore be made that entrepreneurship is a possible option because producing graduates that have limited practical skills constitutes a waste of time and money. However, developing and identifying a young entrepreneur is a process that calls for the involvement of higher education institutions. Society now evaluates how education, provided by higher institutions, responds to social and economic needs. Wu (2008: 755) confirmed that higher education impacts on students with respect to their personal development, change in attitude and change in ability. The main purpose of this study was to conduct a formal assessment of the impact of higher education on the entrepreneurial intentions of polytechnic students in South Africa at Durban University of Technology (DUT).

The primary purpose of this chapter is to provide an overview of the research and the motivation that supports the study. The problem and the research areas are captured in the problem statement. The study explored the key areas followed by a presentation and discussion of the data collected.

1.2 Problem Statement

It has been realized that tertiary institutions produce graduates for whom there is no employment market. Graduates are produced for salaried employment hence the unemployment of South African graduates has become a major national problem. The period between graduation and employment has continued to lengthen and has become a basis of frustration for South African graduates. In the current circumstances, it is asserted that one of the possible options is for these graduates to become entrepreneurs, however, developing sustainable entrepreneurs involves an education process. Koe, Sa'sri, Majid and Ismail (2012:202) stated that entrepreneurs can actually be trained hence entrepreneurs are not

always born but can be developed. Therefore, the study sets to answer the question: “What is the impact of higher education on students’ entrepreneurial intentions at Durban University of Technology?”

1.3 Motivation for the study

The rate of unemployed graduates is gradually increasing; Wijnberg (2015) reported that, currently 600,000 graduates are unemployed. The reason being the type of product that universities are producing as these students lack the skills required by the current labour market. They also lack the skills to establish their own businesses. This study was influenced by the former reasons. The studies conducted by universities in various countries gave clear results about the effectiveness of entrepreneurial education. An educational change to producing job creators instead of job seekers could make a significant contribution.

The following stakeholders will benefit:

- DUT students will graduate mentally equipped because they will understand the need for entrepreneurship in the country
- DUT students will be relevant to the labour market and will bring relevant skills, because postgraduates will be employable due to acquired, relevant business skills
- DUT will achieve a sustainable, competitive advantage as this university will be deemed as the leading university in business development for young entrepreneurs
- Economic growth due sustainable businesses run by young entrepreneurs
- Students clubs will gain insight on how to make effective contributions to the process
- Skills development experts could be sourced to assist DUT so that entrepreneurial education is taken seriously by both students and lecturers
- Skills development experts would assist DUT in developing more support infrastructures that are relevant to all faculties within the University.

1.4 Focus of the study

This study focussed on the currently registered students in three faculties i.e. Applied Sciences, Health Sciences and Management Sciences. Students from the three remaining faculties will be excluded; which are Engineering and Built Environment, Accounting and Informatics, lastly Art design. The following key dimensions will be examined: demographic information, clarity of influencing traits, impact of education regarding career desires, feelings about the influence of university life, entrepreneurship development, attributes of

an entrepreneur, significance of entrepreneurial education, barriers to entrepreneurship, government and university support and the benefits of entrepreneurial education.

1.5 Research Question

The questions of this study are:

- Which traits stimulate business ownership in students?
- How much impact does the curriculum have on students' career choices?
- Does the university life of students promote entrepreneurship?

1.6 Objectives of the study

The objectives of this study are:

- To identify factors influencing students to undertake entrepreneurship
- To examine impact of curriculum on students' decisions towards entrepreneurship
- To investigate the influence of university life on students' desires towards entrepreneurship

1.7 Limitations of the Study

A few limitations were observed and noted, these shortcomings were that the researcher is not in a position to initiate change. The sample size limits the generalization because the study focussed on only three faculties of DUT students, therefore the results may neither be generalized over the entire university nor the entire South African polytechnic population.

Some questions were based on students' perceptions, and there is a difference between perception and reality. Administration of the questionnaires might be a cause of weakness to the results, because respondents may have responded without putting much thought into their answers due to time constraints as the questionnaires were distributed by the researcher who waited for the respondents to complete the survey and then collected them.

1.8 Chapter outline

This study adopted a deductive approach. It applies a well-known theory of entrepreneurial education with a problem question based on an existing theory. The five chapters in this study that captured the information are:

- **Chapter 1** introduces the problem statement and provides a detailed overview of the chosen research topic. It outlines the reasons behind the objectives of the study and

provides a summary of stakeholders that will benefit from this study. Lastly, this chapter highlighted the limitations and layout of the study.

- **Chapter 2** provides a theoretical perspective on entrepreneurial education and the development of a postgraduate entrepreneur as well as external factors that shape students' career desires. The literature review covers the benefits of entrepreneurial education and features of university and government support.
- **Chapter 3** is the methodology chapter which describes the aim of the study, the participants as well as the location of the study. It features key areas of data collection, design and a data analysis plan.
- **Chapter 4** presents results and analysis of the findings gathered with the aid of charts and tables. It discusses findings in the viewpoint of the literature review and study objectives.
- **Chapter 5** ties up influencing factors with the findings presented in Chapter 4 - the impact of a curriculum and the influence of university life on students. It also submits recommendations for improving shortcomings for entrepreneurial education. It proposes areas that can be considered for future studies.

1.9 Summary

Entrepreneurial education serves a good purpose in terms of economic growth and developing prepared minds. There are factors that must be identified that facilitate effective entrepreneurship education. This chapter outlined nature, motives of the study, methods and procedures leading to the achievement of the study objectives. Chapter 2 will focus on reviewing existing literature which provides a background to the study

Chapter Two

Literature Review

2.1 Introduction

The aim of this chapter is to present a theoretical perspective of the impact of higher education on the entrepreneurial intentions of polytechnic students. The review covered the following aspects: The overview and the impact of higher education, development and the necessity of entrepreneurship while analysing various types of entrepreneurships and attributes that brand an entrepreneur; entrepreneurship education and curriculum; significance and benefits of entrepreneurial education; entrepreneurship intentions; barriers to entrepreneurship; factors that influence students' entrepreneurial intentions; the university's role and projects and government initiatives that support entrepreneurship intentions. This chapter viewed entrepreneurship as a whole by linking it to education and programmes that have taken place within the African continent and abroad. It concluded by summarizing the literature review.

2.2 Higher Education overview

Nicolaidis (2011:1046) stated that, these higher education institutions are custodians of knowledge and play a vital role in developing the nation. Another researcher, Zegeye (2013:318), defined Polytechnics as a place that has an ability to design and develop curriculum that meets the demands of students as well as the needs of ever-evolving industry. Higher education institutions offer various qualifications like: Higher National Diplomas, Bachelor's Degrees, Honours and Postgraduate programmes (Masters and Doctorates). These qualifications are provided by polytechnics and as a result, people studying there can create their future or their own careers, including entrepreneurial careers (Remeikiene *et al.* 2013:303).

2.3 Impact of higher Education

Higher education has a tendency of changing an individual's perception, once familiar with the characteristics of business ownership and is therefore capable of influencing an individual's prosperity by becoming an entrepreneur via several channels (Henley 2007; Pihkala and Miettinen 2004; Wu 2008; and Nabi *et al* 2010). Higher education has been found to have a positive impact on individuals however there is an element of negative impact. Knowledge and education reduces the likelihood of business ownership because

students become aware of the effort required to become an entrepreneur and therefore are no longer interested (Lee, Wong, Foo and Leung 2011). Fortino (2012) stated that the primary objective of higher education is to create a prepared mind. The individuals who graduate with prepared minds create new businesses and more jobs.

2.4 Entrepreneurship

According to Raposo and Paco (2011:454) entrepreneurship is a vibrant process of vision, change and creation that requires energy and passion, new ideas and creative solutions. Williams (2011:31) translated entrepreneurship as being the process where an individual seeks to use their abilities, efforts and given resources to create their own business ventures, hence entrepreneurship is more than a simple business creation. Entrepreneurship is a term that refers to an individual who takes the risk of turning a vision into a successful business enterprise. It can be further defined as the creation of new organizations, wealth creation and ownership (Hisrich and Kearney 2014:8).

Onu (2013: 41) explained entrepreneurship as a process where individuals use their talents, efforts, and resources to establish their own ventures that capitalize on business opportunities and create value. The process of an entrepreneurship is applied in any enterprise context: it creates value where there was none; it gathers resources in an exclusive way and further involves opportunity-driven behaviour. It is a significant source and a driving force behind economic development and job growth (Kuratko, Morris, and Covin 2011: 9-10).

2.4.1 Types of entrepreneurship

- Small business – the main aim is not to take over industry but to feed the family and make a profit. These businesses are self-funded or funded by family and friends because it does not attract venture capital. These businesses are: plumbers, electricians, hairdressers etc. (Blank 2011).
- Scalable start-up – these entrepreneurs know from day one that their vision could change the world. They attract venture capital and search for repeatable business models (Blank 2011).
- Large company - these businesses have a life cycle. They offer new products, change customer tastes and create a new market. Existing companies achieve this by acquiring new, innovative companies (Blank 2011).

- Social - these entrepreneurs strive to solve social needs and problems by creating relevant products and services. They try to make the world a better place, not create fortunes for the founder members (Blank 2011).

2.4.2 Why is entrepreneurship necessary?

South Africa is faced with a need to improve its economic growth-rate as well as a need to convert products and services into something meaningful and commercial. This conversion creates employment because entrepreneurship encourages competitiveness between businesses and ideas within a society. Employees are encouraged by the current downturn in the economy to become more flexible and become self-employed in areas where they have relevant skills and training. Promotion of entrepreneurial thinking will create employment for multitudes of unemployed South Africans. Free enterprise is found to be the driver of economic growth within the country and globally (Nicolaidis 2011: 1044). This theory is supported by Akanwa and Akpanabia (2013) who stated that entrepreneurship enhanced job creation, reduced crime, and created new technology and bridged the gap between science and the market place in the Nigerian community. Free enterprise is seen as a method of dealing with issues of poverty and job creation as it fosters innovative thinking and leads to pioneering and cutting edge companies (Global Business School Network 2013).

2.4.3 Entrepreneurship Development

According to Entangled (2013) entrepreneurship development is an agency that selects some entrepreneurship development courses. Koe *et al* (2012:202) stated that entrepreneurs can actually be trained hence entrepreneurs are not necessarily born but can be developed. There are development centres that provide information about this from financial institutions and government sectors. Osemeke (2012) defined entrepreneurship development as a procedure that enhances business skills and business knowledge through structured training and institution building programmes. This procedure aims to expand the base of entrepreneurs and speed up the pace at which free enterprises are created which hastens employment and economic growth. Entrepreneurial development focusses on individuals who wish to start or enlarge their businesses by concentrating more on growth potential and innovation. Development depends on certain skills that are entrenched to transform an entrepreneur. These skills are: conceptual, human and technical skills (Osemeke 2012).

2.4.4 Attributes of an Entrepreneur

Masi (2007) characterized an entrepreneur as a self-confident risk-taker who creates a product, markets it and makes money out of it, while showing commitment through hard work. Researchers have similar opinions about entrepreneurs, Bawuah, Buame and Hinson (2006: 5) defined an entrepreneur as a motivator, risk-taker and a self-confident individual who wants to design and take control of her/his destiny.

Akhter and Sumi (2014: 01) have a different view, defining an entrepreneur as a change-seeker who responds to change and uses it as an opportunity for change. Entrepreneurs are confident people who have know-how. However, some entrepreneurs are challenged by a lack of education. On the other hand, interest in entrepreneurship is growing which is resulting in more universities offering entrepreneurship as a course of study (Nicolaidis 2011:1044).

2.5 Entrepreneurial Education and Curriculum

Some higher education institutions recognise the importance of entrepreneurial education. They recognise what already exists and build on this in an innovative way (Heinnovate 2014: 4). Entrepreneurial education was found to have a positive impact on Polish and new students but a negative impact on German students (Packham et al. 2010). Kostoglou and Siakas (2012) suggested that entrepreneurial education has to be entrenched in all universities and in all disciplines and not limited to business studies students only. At university level the curriculum content has to stimulate a student's mind-set towards a business start-up (Abbas 2013:36). The Wollo Ethiopian University has made it the university's role to promote entrepreneurship and correlate it with an entrepreneurial curriculum (Zegeye 2013:316). Udeorah and Ogana (2014: 87) suggested that entrepreneurship education should be made mandatory, irrespective of the programme of study and mismatch of skills, to enrich the curriculum. This will meet youth challenges since they are failing to acquire skills required by the labour market.

Bawuah, Buame and Hinson (2006) mentioned that a major obstacle in economic growth is the lack of educated entrepreneurs. It is observed that banks who lend funds to uneducated entrepreneurs lose money because there are no returns, due to the business owners' lack of business skills. The study conducted by Remeikiene *et al* (2013) established the influence of education by comparing the entrepreneurial intentions of economics and mechanical

engineering students after completing their debut qualifications. The results of the survey revealed that economics students are of the opinion that education has a positive impact on their intentions of entrepreneurship, while mechanical engineering students revealed that entrepreneurial education hardly contributes to their intentions.

An empirical study conducted at Kaunas University of Technology found that economics students showed more interest and enthusiasm towards entrepreneurship when compared with mechanical engineering students. It also found that mechanical engineering students are motivated by their family backgrounds imagining themselves working in the family business. Economics students are already engaged in free enterprises, and those who are not already entrepreneurs are enthusiastic about being one (Remeikiene, Startiene and Dumciuviene 2013:304).

Remeikiene *et al* (2013) reported that business education for economics students offers a positive contribution towards developing students' entrepreneurial intentions as education is perceived to be the greatest motivator. A university education offered them useful knowledge about business and their studies developed personality traits as well as exposing them to external opportunities for entrepreneurial futures when compared with engineering students. It can be concluded that entrepreneurial education is more effective for economics students when compared with mechanical engineering students. Both these empirical studies confirmed that commercial education motivates students and influences the mind.

Zegeye (2013:307) found that the main challenge in teaching entrepreneurship is relevance of the curriculum and the teaching methods that develop entrepreneurial competences. In response to the challenge highlighted by the previous studies, Zegeye (2013) mentioned that business courses should be developed according to this knowledge: business venture, general knowledge and opportunity and venture specific knowledge (Zegeye 2013: 306-307).

2.5.1 The significance of entrepreneurial education

Entrepreneurial education is a model for changing attitudes and motives, which promotes responsibility and entrepreneurial thinking. Firstly, education provides individuals with independency and self-confidence. Secondly, people become aware of alternative career choices. Thirdly, ones horizon is broadened because you are better equipped to recognize opportunities. Lastly, education offers knowledge that can be used by an individual to

develop new business venture opportunities. Entrepreneurs are nurtured through effective entrepreneur education. Education allows an individual to access skills and the knowledge needed to start and grow their own business. Entrepreneurship is neither magic nor generic, but a discipline that can be learned (Raposo and Paco 2011: 454).

Lanero, Vazquez, Gutierrez and Garcia (2011) observed Spanish university students and found that education indeed has an impact on entrepreneurship feasibility which later affects students' behaviour. This is supported by Ertuna and Gurel (2011) who mentioned that senior students are more likely to have business ownership interests than novice students.

Abbas (2013:37) mentioned that entrepreneurship awareness is lacking in non-business fields of higher learning. This is proved by Hamidi, Wennberg and Berglund (2008) when they conducted research on students majoring in entrepreneurship and those in medical disciplines. The results found that medical students showed a low desire to start their own business after graduating. This is supported by Ahmed, Nawaz and Ramzan (2012) who highlighted that educated entrepreneurs are able to delegate responsibilities effectively.

Lack of entrepreneurial education cripples rural development as observed by Bawuah, Buame and Hinson (2006:6) who mentioned that postgraduates do not desire to go back to their villages or towns because there is no work, resulting in over populated urban areas. This observation is supported by Shane and Venkataraman (2000) who revealed the importance of free enterprise as it "leads to increased economic efficiencies, brings innovation to market, creates new jobs, and raises employment levels".

Education is one of the factors that separates entrepreneurs and non-entrepreneurs as stated by Lee, et al: 2005; Turker and Selcuk: 2009; De Jorge, Castillo and Triguero (2012). This is also supported by Arenius and Minniti (2005) who mentioned that individuals with a higher formal education are more likely to pursue entrepreneurial careers. Entrepreneurs are shaped by the information that they already have and education packages aim at building on this knowledge and skills. It is found that 67% of students who attended entrepreneurial education courses expressed a greater desire to start their own business than those who did not attend the course (Hattab 2014: 3). A study conducted in the Western Cape at Khayelitsha discovered that 53.2 % of the participants felt that education and training influenced their entrepreneurial decisions, while 72.7% felt that education plays a vital role in the success of

business (Gwija, Eke and Iwu 2014). Wilson, Kickul and Marlino (2007) stated that entrepreneurship studies have the potential of increasing a student's interest in starting a business as a career.

Lack of knowledge has been found to be a barrier for students and this shortcoming can be remedied by education. Although most individuals start a business without higher education they are continually on the look-out for any form of learning to enhance not only their business acumen but also to build their confidence when making business and personal decisions. The positive impact of personality traits can be greatly reinforced by entrepreneurial education (Remeikiene *et. al* 2013:302-303).

Researchers suggested that polytechnics should instil entrepreneurial knowledge in students as this would be useful to the students in their future endeavours. Higher learning institutions can do this as they are given a mandate to play a prominent role in students' lives (Zegeye 2013). The literature that has been explored by various researchers about entrepreneurial education proves that there is a need to examine how higher education institutions can influence students towards entrepreneurship.

Though several conducted studies have found similar results, Graevenitz, Harhoff, and Weber (2010) showed a negative impact. They found a decrease of interest, to a certain degree, in students after attending entrepreneurial studies. These results are further argued and analysed by Lorz, Muller and Volery (2011) who mentioned that these results are dissimilar to other studies because of the method used to collect data (small sample and design).

2.5.2 Benefits of entrepreneurship education

Economically it has been established that entrepreneurship growth is a primary source of economic growth (Bawuah *et al* 2006:1)

2.5.2.1 Be on par with changes in knowledge production

The revolution in global information technology and communication has brought about borderless education (Kwiek 2012). Heinnovate (2014:4) stated that travel boundaries between countries that prohibited physical communication have been broken down and altered however academia has not matched these changes.

2.5.2.2 Adjusting education

Polytechnics are perceived to be stimuli and facilitators of learning that results in graduates with broad social skills, normally referred to as T-shaped professionals. The new channels of learning encourage students to use a wider range of knowledge sources to find solutions and the lecturer becomes the facilitator (Heinnovate 2014:5). Etzkowitz, Ranga and Dzisah (2012) revealed that Graduate entrepreneurship entails a different approach to teaching, which is called “rethinking of the education mode”.

2.5.2.3 Enhancing graduate employability

Labour markets are evolving quickly which means employers seek graduates that have competencies and skills that are associated with entrepreneurship. Achieving these requirements requires education that encourages students to take business ownership. The erosion of unemployment requires educational responses to graduates who are more likely to be open to exploring new professions and new ventures (Etzkowitz et al 2012).

2.5.2.4 Promoting business start-ups through education

It is important for an individual to be familiar with the idea of running his/her own business as a potential career at an early stage and education can play this fundamental role. It is now recognised that starting up a sustainable business involves a learning process of enhanced education and learning (Heinnovate 2014:6). Students with natural entrepreneurship intent benefit from education (Matlay 2008).

2.5.2.5 Entrenching internationalisation into strategy

Internationalisation is widely practised by polytechnics. It leads to innovation and stimulates greater student and faculty collaboration that can open up new avenues for research collaboration. This approach facilitates staff and student exchanges (Heinnovate 2014:8)

2.5.2.6 Building partnerships

Klofsten (2013) stated that higher education institutions have capabilities to recognise opportunities for collaboration, and engage with stakeholders because stakeholders normally do not initiate collaboration with polytechnics. The process of stakeholder engagement can turn polytechnics into learning organisations (Gibb 2013).

2.6 Entrepreneurship intention

Studies conducted by several researches (Wu, Wu, 2008; Nabi et al., 2006; Guerrero, Rialp, and Urbano 2008) explained that entrepreneurial intention is one's state of mind to desire the creation of a new firm or enterprise. Entrepreneurial conviction measures the perceived simplicity of starting up a new enterprise as well as the perceived possibility. Past studies proved that belief stands out as a key description and determining factor of entrepreneurial intentions (Kuratko Morris and Covin 2011: 9-10). An intention measures potential because it leads to a decision to start a business (Varamaki Joensuu, Tornikoski and Viljamaa (2015). This is confirmed by Kautonen, Tornikovski and Kibler, (2011) who mentioned that entrepreneurial intention predicts well for a future start-up. Abbas (2013) emphasised that entrepreneurial intentions can be influenced by personal characteristics, culture and demographic factors. Ahmed *et al.* (2012:1) defined entrepreneurial intention as a way of thinking which guides and gives direction to individuals who desire to formulate new business concepts.

The different researchers found that authors analyse entrepreneur intention by viewing different aspects; these are individual level factors and geographical factors (Remeikiene *et al.*: 2013). Quan (2012) said that intention has two categories: impulsive and deliberate. Abbas (2013:95) also confirmed that entrepreneurship intention indeed has two categories: impulsive and deliberate. 'Impulsive' is an aim without the realistic control of business resources. It can, however, be influenced by personal characteristics, culture or demographic factors. 'Deliberate' is a willingness to go into business due to the possibility of entrepreneurial behaviour and depends on experience or network building. Meta analysed and suggested that intention is a trusted predictor of actual behaviour; it is also emphasized that education and training programs are aimed to steer students or individuals towards entrepreneurship

According to Oosterbeek, Van Praag and Ijsselstein (2010) entrepreneurship intention and skills can be taught. They further distinguish the difference between traits and skills. Traits are defined as a need for achievement, need for autonomy, need for power, social orientation, self-efficacy and risk-taking prosperity. Skills are defined as market awareness, creativity, flexibility and entrepreneurial intentions. There are longstanding theories that base an intention to start a business, these theories are: "Ajzen's theory (1991) of a planned

behaviour, Shapero and Sokol's (1982) model of entrepreneurial event and Bandura's (1997) model of social learning" (Remeikiene, Startiene and Dumciuviene 2013).

2.6.1 Challenges to entrepreneurship

The literature from European vocational schools revealed two hindrances to effective entrepreneurial education which are practical experiences on either lectures or on existing enterprises. On the other hand, young entrepreneurs are challenged by limited life experience, limited financial support, lack of credibility due to age, lack of business language and limited exposure to role models. A study conducted at Tswane University of Technology (TUT) on 82 students, identified that 76% (the highest percentage) did not have money to start a business while 34% stated that they do not have the skills. The 64.7% students indicated that they lack the knowledge therefore they have no idea where to start and have no direction (van Aardt and van Aardt 2011). The majority of the youth in the Western Cape - Khayelitsha mentioned that they lack financial assistance and government support and they experience poor management practise and that the registration of a business is a challenge and an expensive procedure (Gwija, Eke and Iwu 2014: 15).

Jones (2013) published a year 2011 report of Global Entrepreneurship Monitor which stated that South African education is poor especially in Maths and English and that only 10% of South Africans aged 25-35 are entrepreneurs. It is unrealistic to expect people with poor education to start a successful enterprise. It also found that there are difficulties and barriers in accessing finance from youth institutions such as National Youth Development Agency Global Entrepreneurship Monitor (2011). The United States (US) based indicator revealed that only those aged 39 years and older are equipped to start a successful business because of work experience gained by years of employment (Jones 2013). Rasli *et al* (2013 cited in Luethje and Franke 2002) stated that it is not enough for universities to introduce courses that encourage entrepreneurship but they also need suitable academic programs to prepare students for future entrepreneurship.

Students are faced with the challenge of poor quality higher education that has received little attention. They are not exposed to interactive classrooms where they can develop their thinking and decision-making. Inefficient regularities discourage youth entrepreneurs because it takes time and money. Diverse cultural norms have a negative effect on entrepreneurial intentions. In some cultures women are not expected to be business owners

therefore they need to work harder to prove themselves. (Global Business School Network 2013).

Financial institutions are unwilling to offer loans to young entrepreneurs who still need to build a reputation of trustworthiness. A fear of failure can also not be ignored because it cripples an individuals' self-esteem. Global Entrepreneurship Monitor (2013) reported that 21% of the Lebanese population confirmed that a fear of failure prohibits them from pursuing entrepreneurial careers (Bizri, Kojok, Dani, Mokahal and Bakri 2012). eNCA has another view. Their report indicated that black graduates are three times more likely to be unemployed than their white counterparts. The report further identified that the problem lies with businesses and not education, as the formal sector tends to claim (eNCA 2015)

2.7 Factors influencing Entrepreneurial intention

The study by Rasli (2013:5) showed that only two proposed models were significant predictors of students' entrepreneurial intention. The first factor is the university environment because educational studies develop business ownership interest in students and postgraduates. The second factor is structural support where there is a collaboration of all sectors in the society. Much attention for entrepreneurial intention has been shown by several researchers, the existing literature consists of a study of personality dimension, theory of planned behaviour, impact of education, impact of gender differences, family background, personal and family experience and their impact on becoming business owners (Ahmed, Nawaz and Ramzan 2012:1).

Franco *et al* (2010) found that independency and family tradition has an influence, while demographic profiles and entrepreneurial education was found not to be related to self-employment. Peng, Lu and Kang (2012:1) highlight three categories of models that influence business ownership intention: psychological, family background and social and environmental factors.

2.7.1 Demographic factors

2.7.1.1 Gender

Peng *et al* (2012:1) highlighted that psychological factors revealed that male students have stronger entrepreneurial intentions than female students. This statement is proved by research conducted at Kumasi Polytechnic in Ghana which found that 68% of males are

willing to graduate as entrepreneurs while only 35.2% females showed an interest in starting their business (Wongnaa and Seyram 2014). The study by Rasli, Khan, Malekifar and Jabeen (2013: 186) indicated that only two demographic variables are found to influence on ownership intention - gender and work experience. The research by Abbas (2013 cited in Startiene & Remeikiene 2009) is supported by large volumes of studies which describe demographic factors as stimuli. They reported that African females had more intention than other races.

In their study Ghazali, Ibrahim and Zainol (2013) asserted that female students were found to have a higher attitude and intention to succeed when compared to male students. The study conducted on Ethiopian university students revealed that male students, whose parents were self-employed, have a higher preference towards entrepreneurship (Zegeye 2013:316)

2.7.1.2 Family background

Rametse and Huq (2014: 110) reported findings from other researchers that students whose parents owned businesses showed higher interest and preference. The triggering factors are shown to be short term situational in nature. Koe *et al* (2012) reported that students with business experience are shown to have high intentions to become business owners. The findings by Ahmed *et al* (2012: 54-56) stated that entrepreneurial intentions are increased by family support while political instability and terrorism does not restrict students intentions. Hence it is concluded that students are not swayed by external forces of political instability or terrorism. Hypothesis testing confirms that family support influences entrepreneurial attitude but findings found no hypotheses of political instability and terrorism having an influence on students.

The study by Abbas (2013:3) commented that previous studies revealed external factors as motivation for entrepreneurial intention, which included family decisions and family background. Students that come from families who own businesses have greater entrepreneurial intention. Malaysian families that are active in business tend to mould graduating students into choosing entrepreneurship as their career when compared to those who come from families that do not run businesses (Abbas 2013). The sample size of Botswana students who were already involved in their parents' businesses, were certain that they would get support from family - they regard their parents as role models (Rametse and Huq 2014: 115).

Family ties have positive effects on students and play a vital role in influencing young people towards entrepreneurial intention; this is based on Chinese evidence. The parents encourage their children to carry on a family business. It is further evident that 42% of business owners in Ireland came from entrepreneurial parents. Peng *et al* (2012) found that family influence plays a huge role in moulding perspective and particularly parents, who play a significant role in influencing their children to choose entrepreneurship as a career.

Abir, Harrasi, Eyad, Zadjali, Zahran and Salti (2014: 2443) stated that family background is a key factor affecting attitude but reveals two models, that is, the parental model and the family support model. Business experience is found to encourage students to start-up businesses. Pruett *et al.*, (2009) states that family and close friends are who self-employed are found to be influencing factors. Contrary to what other researchers have found, further surveys showed that students are greatly influenced by psychological factors and that their prior entrepreneurship experience has a positive impact, while family background has no significant impact, which means their parents, relatives and friends entrepreneurship did not influence them (Peng, Lu and Kang 2012:97).

2.7.1.3 Education

Previous studies show a substantial relationship between business ownership education and career intention. Students who have major subjects in entrepreneurship have a higher intention to start their own business than other students who graduated in other disciplines (Ekpoh and Edet: 2011). Basse and Olu (2008) conducted a study using a sample of 690 students at three different universities. The findings revealed a positive relationship between entrepreneurship and university administration's provision, curriculum objectives, instructional methods, quality and quantity of educational instructors and lastly, the student's own potential. Other students are influenced by higher education knowledge; they feel ready and confident to embark on their own established ventures (Rametse and Huq 2014: 115).

Professional education support is an identified way to obtain knowledge about business ownership. This is supported by Williams (2011) who asserts that various types of education and training can teach, nurture, support and enhance a student's entrepreneurship desire because it is a learning process. The entrepreneurial intention is comprised of a positive and important relationship with the university environment, also business ownership education has been identified as a critical factor that helps students to understand and adopt a private

enterprise attitude. Incorporating entrepreneurship into education and training promotes business ownership in the polytechnics of Nigeria and can be taught across all disciplines. Business ideas arise from business disciplines but in most instances are ignored because students are insufficiently trained or educated in entrepreneurship and the entrepreneurial skills required.

Abir *et al* (2014: 2444) reveals that education and entrepreneurial training play an important role in enhancing entrepreneurial activities. It is also found that those with a limited education and training rarely venture into business. This finding is supported by Ghazali, Ibrahim and Zainol (2013) who stated that, those students who have attended entrepreneurial training indicated a higher attitude and social skill than those who did not attend this education and training. The survey conducted at Xi'an Jiao Tong university in China revealed that 48,8% of students have the intention of becoming entrepreneurs, therefore it was concluded that at this university students show a high expectation towards business ownership (Peng, Lu and Kang 2012:97).

These findings are sustained by a similar study conducted by Kadir, Salim and Kamarudin (2012: 2167) on 181 students of Mara. The results revealed that behavioural attitude and educational level correlated with entrepreneurial intention. The educational support contributes 40.8% towards attitudinal factors influencing business ownership. Therefore, when educational support goes up a unit, the attitudinal factor also increases.

Raposo and Paco (2011:456) reported that there is a possible link between entrepreneurial education and subsequent entrepreneurial activity, but there might be a long period between subsequent actions. The relationship between entrepreneurial education and entrepreneurship intentions is illustrated below, in a study conducted at Netherlands University, by introducing a Student Mini Companies (SMC) program. The students exposed to the SMC program showed the number of student mini-companies that have been developed since the establishment of this program at Netherlands University. The main objective was to infuse the SMC programme into students. In 2007, during the year of the study, 360 student companies were formed involving 3600 students out of 25000 students enrolled in the program. The results showed a growth of the students' companies, especially in 2004. (Oosterbeek *et al* 2010: 443).

2.7.2 Personality traits and related factors

2.7.2.1 Self-efficiency

Self-efficiency of an individual's entrepreneurship intention plays a predicting role in the early stage of starting a business. Other researchers found that prior entrepreneurship experience has an impact on an individual's intention to own a business. Mohammed and Aparna (2011) focused on self-efficiency in students in the Hyderabad area in India. They found that self-efficiency plays an important role in shaping career options. It is perceived that students have abilities to manage money and be leaders (Thresi and Hamadi 2013: 760)

The study by Rasli *et al* (2013:186) found that self-efficiency has a deeper direct relationship with entrepreneurial intention. This finding is supported by other previous studies by Rasli *et al* (2013) who reveal that self-efficacy explains, to a large extent, self-perception about the capabilities of being a business owner with high goal setting and commitment influencing the intention of ownership behaviour. They further presented the implications of self-confidence in skills related to the types of work they experience. Students of Finnish business studies revealed that entrepreneurship determination is facilitated by entrepreneurial self-efficiency (Drost and McGuire 2011).

The study by Pruet, *et al* (2015:302) stated that an individual's belief and confidence stimulate entrepreneurship. The subjective norm of university has a positive influence on a student's self-efficacy (Peng *et al* 2012:97-98). The existing literature agrees with the results found by Thresi and Hamadi (2013), when a sample of 200 students of Sohar University showed that self-efficiency is related to entrepreneurial intent.

2.7.2.2 Needs for achievement and behavioural control

One of the pointers indicating whether an individual is motivated to be an entrepreneur is a need for achievement (Remeikiene 2013:303). Kautonen, *et al* (2011) stated that behavioural control measures perception on how students could establish a successful business if they choose to start one. The study conducted at Universiti Tun Hussein Onn Malaysia revealed that students possessing high perceived behavioural control are confident. They can succeed in business, and are more motivated to involve themselves in business in their future. Perceived behaviour control is influenced by intimate sources: role models, enactive mastery and social persuasion (Abbas 2013: 6).

2.7.2.3 Independency

The younger generation is greatly influenced towards business ownership based on their psychological characteristics: this means they have a high locus of control. The majority of students who intend to be entrepreneurs are mostly extrovert, with stable emotions (Koe 2012:204). The sample of 101 women interviewed in Botswana was found to possess a desire for independency. They further stated that once they had succeeded in their jobs, independency was a good option as it allowed them to break from workplace monotony. (Muranda 2011).

2.7.2.4 Risk-taking propensity

According to Remeikiene, et al (2013:302) individuals who are tolerant of higher risk are more motivated to start their own business while non-risk takers are less motivated to get into entrepreneurship. This is supported by research carried out by Sanchez (2011) which revealed parallel results: the main factors are personality traits measured by risk-tolerance. According to Linan *et al* (2011) personal attitude is the main factor. Entrepreneurs are found to be savvy risk-takers who convert the socio-economic landscape by discovering new opportunities, hence their willingness to take a calculated risk is an essential component (Nicolaidis 2011: 1043).

2.7.3 Motivational and related factors

2.7.3.1 Unemployment and the need for money

Botswana female students stated that the current economic downturn resulted in unemployment for graduates. Their aspiration to achieve business ownership is influenced by a desire to make money and create employment for others, and a passion to make a difference in their society. Students mentioned the effects of looking for work, career advice and predictions of unemployment. Push and pull system seemed to be more influential. These female students have been forced into starting their own businesses due to either insufficient family income or unemployment (Rametse and Huq 2014: 110).

In the study of Abir *et al* (2014: 2443) it was found that a desire to make more money and lack of employment are key stimuli to business ownership. Existing studies revealed that Zambia, Ghana and South Africa have a low rate of employment compared to other African countries because of a low level of entrepreneurship (Udeorah and Ogana 2014). The current social problem and high level of unemployment, particularly in Bangladesh, has motivated

and influenced the community positively to create new businesses, in particular the educated individuals of Bangladesh (Akhter and Sumi 2014).

2.7.3.2 Job creation

New technologies, products and services are established and created by entrepreneurs who craft new markets and jobs during the process of entrepreneurship (Nicolaidis 2011:1043). Entrepreneurship is a requisition of ideas and skills with a primary goal of creating jobs for oneself and for others. It can also reduce unemployment and poverty among the youth (Udeorah and Ogana 2014). According to Akhter and Sumi (2014), the community of Bangladesh have been forced into entrepreneurship by poverty in order to service and create security for themselves. Entrepreneurs create more employment, because entrepreneurial activities encourage a student's creative thinking. In turn, the establishment of Small Medium Enterprises (SMEs) lead to job creation. It has been found that SMEs hold a higher percentage of formal jobs (Global Business School Network: 2013)

2.7.4 Contextual and related factors

2.7.4.1 Culture and Country

When compared with previous factors, economic and psychological factors influence individuals to start their own business (Rasli *et al* 2013:182- 184). In some societies men control the economy while women are restricted to domestic work. This is confirmed by Akhter and Sumi (2014:8) who found that cultural beliefs have negatively influenced an entrepreneurship desire in the women of Bangladesh. Pruett, *et al.*, (2009) found that culture and country influences entrepreneurial intention. According to Varghese and Hassan (2012) primary socialization practises in some cultural attitudes promote entrepreneurship, while other cultures may have more entrepreneurs than others.

2.7.4.2 Social Networks

A social network is defined as “series of formal and informal ties between a central actor and other actors in a circle of acquaintances and represents channels through which entrepreneurs get access to the necessary resources for business start-up, growth and success” (Abir *et al* 2014). The scholars indicated that social environmental factors are the adjusting variables which affect individuals' intentions. Social networks have been found to have a great impact on people's intentions (Abir *et al* 2014:2444).

2.7.4.3 Government and Financial support

Wongnaa and Seyram (2014) suggested that Government and other stakeholders be encouraged to make funds available for young entrepreneurs. Their research has proved that students who have access to finance are more likely to graduate as entrepreneurs. The availability of resources is important to young entrepreneurs. This is also supported in the study of Nigerian universities by Onu (2013:46), where it is mentioned that Government should motivate and inspire polytechnics in Nigeria.

2.8 University role and projects to support entrepreneurship intentions

Koe *et al* (2012) suggested that providing internship programs would enhance students' desires. According to Fayolle and Gailly (2015:77-78) numerous empirical studies have shown that a positive image towards entrepreneurship within a university campus encourages students. Colombian universities sampled three groups of students, where the entrepreneurial intention of students was observed from those universities that invested entrepreneurship support and training. In 2004 the University of Ghana introduced a compulsory entrepreneurship course for all their novices, in an attempt to cultivate an entrepreneurial mind-set in Ghanaian Youth (Bawuah, *et al* 2006). This development was also conducted by Kumasi polytechnic in Ghana where it is compulsory for every higher national diploma student to take one semester of the entrepreneurship course before qualifying for graduation (Wongnaa and Seyram 2014).

Hinson (2004) noted achievements that were gained through the facilitation of entrepreneurial activities, where a youth competition was introduced "Grow the Young Entrepreneur Competition". The competition resulted in students receiving major funding to start their own businesses. The Ministry of Private Sector Development in Ghana set up funds from Student in Free Enterprise (SIFE) activities. SIFE is the global non-profit organisation which operates in 1700 universities. It sponsors community-based business development education projects (Bawuah, Buame and Hinson 2006).

Bawuah *et al* (2006:5) further stated that educators cannot screen potential entrepreneurs therefore they should provide entrepreneurial education to all students of all disciplines. Taatila (2010) confirmed that practical entrepreneurial projects which are conducted in a real live environment with real customers are found to be effective. Studies conducted by Udeorah and Ogana (2014) found that a number of polytechnics in Nigeria offer

entrepreneurship development programs within higher institutions. Vaal University of Technology is one of the universities that has stated that it is an entrepreneurial encouraging university, and has promoted this innovation on its website. The University of Johannesburg is also promoting the idea of entrepreneurship by giving its students practical experience through a partnership with the Direct Selling Association (DSA). The students involved are exposed to direct selling and practical sales management. Students in Management Sciences are given a two-year opportunity in practical sales and a one year practical sales management experience (Nicolaides 2011:1046).

Nicolaides (2011: 1048) further highlighted that learning institutions should be the catalyst for business start-up for students. Teaching and learning should provide support and maximize the potential of individual students. A university is a place for teamwork between students, academics and the university as a whole - it is a hub incorporating all the features necessary for advancing a young mind.

2.8.1 Durban University of Technology (DUT) projects

Polytechnics should position themselves as a centre of entrepreneurship by creating a supportive environment that cultivates youth entrepreneurship. The creation of business ownership across all campuses is considered a most influential factor, because students are known to be easily influenced by environmental conditions (Zegeye 2013: 308). This theory is confirmed by projects that are currently taking place on campus at Durban University of Technology:

- The university project called (Technical and Business Education Initiative in South Africa) TABELISA is a European funded project that was established in 1994 with an aim to mainstream entrepreneurship within the university. This goal is achieved by introducing a curriculum covering entrepreneurial education. Some postgraduates have taken the opportunity presented by TABELISA and benefited from it (DUT 2015).
- Among other initiatives, initiated by academic departments, there was a three day workshop that was conducted on the 17-19 July 2014. This workshop was facilitated by the Information Technology department to develop and deliver new ideas on how to start a business. The first day of the workshop focussed on new technologies and business models (DUT 2015).

- Since 2000 an Industry Training and Business Unit (ITBU) has been partnered with the Centre of Excellence (CoE) Applied Science faculty. It has helped +150 people establish their own enterprises between 2007 and 2012 (DUT 2015).
- The university launched Invo Tech Innovation in August 2011. It focusses on developing entrepreneurial skills and business ideas in the university and within the province (DUT 2015).
- The Health Sciences run four clinics which serve the DUT community and the public at a reasonable cost. Students registered under this faculty are working in these clinics as part of their practical requirement, under the supervision of senior academic staff. These clinics are under the following departments: Somatology, Chiropractic, Homeopathy and Dental clinics. There is a TechMed unit operating under the Emergency and Medical Care department.
- Applied Sciences have a full-time restaurant operating under the Food and Nutrition Department.
- Management Sciences has a hotel school restaurant operating under the Hospitality Department

(DUT 2015).

2.8.2. Government initiatives that encourage entrepreneurship

The South African government has recognised the contribution of entrepreneurs to economic development and has therefore developed a 10 year vision for the Accelerated and Shared Growth Initiative of South Africa (ASGISA). This innovation is aimed towards creating a nation that is entrepreneurially oriented. A Global Entrepreneurship Monitor (GEM) has reported that problems in education and training are major setbacks to entrepreneurial growth within South Africa. Many people between 18 and 40 years old were affected by apartheid's inferior quality of education offered to Africans, where they were not given the opportunity to acquire skills. Today government has come up with initiatives to remedy the shortfalls of the past by creating various departments that support business ownership structures.

Minsiter Lindiwe Zulu reported that the President has established a Ministry for Small Business Development to encourage job creation and boost the economy. The government is positive that this initiative will unlock economic opportunities particularly for the youth

and women (Zulu 2014). Though government initiatives are in order, previous researchers have suggested that South Africans affected by apartheid education need to be given opportunities to develop their skills through affirmative action policies (Nicolaidis 2011: 1045).

2.9 Summary

This chapter has provided a theoretical perspective on higher education, entrepreneurial education and factors that stimulate students' desires to become entrepreneurs. Attributes of an entrepreneur, the obstacles that hinder young entrepreneurs and government initiatives were discussed. The literature addressed the relationship between higher education and entrepreneurship education, types of entrepreneurships, entrepreneurship intention, the significance, the benefits and the factors influencing students' entrepreneurial intentions. The entrepreneurship education and programmes that have taken place within the African continent and abroad were also discussed.

In view of the foregoing literature review, it is found that higher education has a positive impact on students' career decisions and their perceptions. It therefore has become evident that Universities curricula, programmes, projects and government initiatives are vital aspects of any entrepreneurship intention initiative. Durban University of Technology's projects that have been developed to support students were revealed. The next chapter will explain the research methodology of this study.

Chapter Three

Research Methodology

3.1 Introduction

Business research is a systematic process of collecting, recording, analysing and interpreting data to solve managerial problems. The research project is mainly about providing answers and developing knowledge however, efficient results are dependent on the appropriate research methodology (Wilson 2014). It is important to choose research methodology that will work best in relation to what it is intended to accomplish therefore the methodology chosen must be a reasoned, logical decision (Quinlan 2011). Managers with knowledge of research are able to deal with problems before they get out of control therefore research becomes a useful tool to make decisions because managers make good decisions and seldom make blunders that cost the company. Research grants managers knowledge about the best course of action to follow in order to make a good business decision (Sekaran and Bougie 2010).

This chapter begins by describing the primary aim of the study as well as the objectives, participants, location of the study, and the data collection strategies of the study are clearly described. The key concepts of the research which are description and purpose, construction of the questionnaire, sampling, pretesting and validation and administration of the questionnaire are covered. This chapter will conclude by describing the analysis of data and the chosen statistical test.

3.2 Aim and Objectives of the Study

Producing graduates that have limited practical skills constitutes a waste of time and money. It has been noted that tertiary institutions produce graduates for whom there is no job market, 25% of African graduates are unemployed while 60% of them are 24 year old youths (Kigotho 2015). The primary objective of higher education is to create a prepared mind that is able to make appropriate decisions (Fortino 2012). Through education an individual can access skills and knowledge needed to start and grow their own business. Entrepreneurship is neither magic nor generic, but a discipline that can be learned (Raposo and Paco 2011: 454).

The main question to be answered in this study: does higher education have the potential to influence students towards entrepreneurship? The purpose of this study is to investigate the relationship between higher education and entrepreneurial intentions on DUT students.

In order to answer this question, different objectives were formulated.

3.2.1 The objectives of the study

The objectives of the study are to:

- Identify factors influencing students towards entrepreneurship
- Examine the impact of curriculum on students' decisions towards entrepreneurship
- Investigate the influence of university life on students' desires towards entrepreneurship

3.3 Participants and Location of the Study

The University is a place that has the ability to design and develop curricula that meet the demands of students as well as the needs of ever-evolving industries. It offers various qualifications like: Higher National Diploma, Bachelor's degree, Honours and Postgraduate programmes (Zegeye 2013:318). The group of DUT students from the second level up to postgraduate level formed the target population for this study; these participants were drawn from three faculties (Applied Sciences, Health Sciences and Management Sciences) . The students at first level were excluded as they only had seven months experience of the university's education at the time of the collection of data. Therefore, second year students who are halfway through the completion of their debut qualification were chosen. It is believed that by the time of data collection they would have received in-depth exposure to a university education, as well as to the university environment.

The research projected these geographic areas: DUT Durban campuses (Steve Biko, Riston and M L Sultan). Campuses outside Durban are excluded from the population because they do not have the full diversity of the three faculties, each campus outside Durban specialises in a certain qualification only. The other reason only Durban campuses are part of the sample is due to time constraints and the costs involved.

3.4 Data Collection Strategies

According to Wilson (2014) there are two sources from which data can be obtained, that is primary and secondary sources. The former refers to information gathered first hand and the latter refers to information gathered from existing resources. This study considered both primary and secondary data for gathering information. According to Sekaran and Bougie (2010) primary data can be gathered by interviews, administration of questionnaires or observations. Secondary data is defined as already existing data.

A questionnaire was used to collect data because it was found to be suitable for a large population and it is not feasible to engage every member of the population. The respondents are asked the same clear questions (Quinlan 2011). According to Sekaran and Bougie (2010) a questionnaire is efficient when a researcher knows what is required and how to measure the variables of interest and when it can be administered personally, mailed or distributed electronically to respondents. The questionnaire is associated with both qualitative and quantitative study. Wilson (2014) defined a questionnaire as a data collection instrument that has a set of questions designed to achieve the objectives of the research project. It allows a researcher to obtain accurate and reliable information.

The recommendations from the Master of Business Administration (MBA) research methodology prescribed handbook were used to choose a presentable sample. The population for this study was of 7491 registered students from three faculties (Applied Sciences, Health Sciences and Management Sciences) therefore the appropriate sample size was 365 respondents. A confidence level of 95% and margin error of 5% is achieved with only a 5% chance of error (Sekaran and Bougie 2010).

The interview is associated with qualitative research. It refers to a situation where the researcher gains insight into a respondent's beliefs and attitudes regarding a particular subject, unfortunately the choice of venue is normally dependent on the respondent (Wilson 2014). Sekaran and Bougie (2010) stated that an interview can be structured in a manner whereby an interviewer has planned questions which the respondent must answer. An instructed interview is where an interviewer does not have planned questions for the respondents.

Observation is associated with qualitative research. It involves watching and recording subjects without communicating, interfering or interacting with them (Wilson 2014). It is expensive to gather data by this method since long periods of observation are required and the observer may be biased (Sekaran and Bougie 2010). Secondary data for this study originated from multiple valid resources (books, journals, articles, and other relevant electronic resources). Internal and external data was also considered. In business research secondary data has two classifications which are: internal and external data (Sekaran and Bougie 2010). Secondary data has been found to allow the researcher to compare primary and secondary data to an extent sufficient to agree or disagree with existing studies.

3.5 Research Design and Methods

3.5.1 Description and Purpose

The choice of study depends on the research purpose, which has the following three elements: exploratory, descriptive and hypothesis testing. This is a descriptive study because it describes an existing phenomena and a researcher wants to describe existing situations better by giving factors. A survey will be used to collect data which will later be analysed using descriptive statistics. This type of analysis has been chosen for this study because it provides accurate information and helps decision-making by providing answers to questions (Wilson 2014:119).

An exploratory study is conducted when there is not much information known regarding the situation and where there is no solution available for similar problems, therefore wide primary work has to be done. It is undertaken to understand the nature of the problem as few studies might have been conducted. It is also used for qualitative studies. A hypothesis study is conducted to enhance the understanding of an existing relationship between different variables (Sekaran and Bougie 2010).

The research design chosen for this study is a descriptive and comparative design because it compares three groups on one variable. The former refers to three faculties (Applied Sciences, Health Sciences and Management Sciences) and the latter refers to higher education provided by polytechnics. According to Wilson (2014:126) comparative design matches two or more groups on one variable so the researcher has to be certain because the chosen group interprets the variable of the study in the same way.

- **Research philosophy**

The philosophy chosen is ontology subjectivism because it examines beliefs and attitudes that motivate students to act in a particular way after receiving knowledge from higher education institutions. According to Wilson (2014:11) ontology is concerned with the nature of reality. On completion of this study an understanding will be gained of subjective beliefs and attitudes that motivate students to act in a particular way or choose career paths they have selected during the survey.

- **Research approach**

The quantitative method has been identified as most suitable because it draws a large and representative sample from the target population. A generalisation is constructed regarding the target population as a whole. This study adopted a deductive approach, it begins and applies the well-known theory of entrepreneurship education, and a problem question is based on the existing theory. Wilson (2014:12) stated that a deductive approach applies to an existing theory while an inductive approach generates a new theory.

- **Research strategy**

The recommendation from MBA research methodology prescribed handbook was used to select a representative sample from 7491 population. The research strategy used is quantitative because it draws a large sample of 365 students from the population of interest and measures students' behaviour to construct generalization regarding a large population of 7491 students (Sekaran and Bougie 2010). Wilson (2014:15) indicated that the quantitative approach is associated with a deductive approach while qualitative research is associated with inductive theory.

3.5.1.1 Construction of the Instrument

According to Wilson (2014:166) the questionnaire construction process is essential in that, these key factors are considered: purpose of the research, layout, length and questionnaire. Failure to note these vital keys is likely to have serious implications on the study when it comes to response rate, analysis and interpretation of collected data. Questionnaires must be well-developed taking into account the principles of wording and appearance of the questionnaire (Sekaran 2010:198). It was therefore vital to honour their advice for this study to avoid problems that may arise as a result of poor design and the construction of the questionnaire. This study wanted to find the impact of higher education on the

entrepreneurial intentions of DUT students, with reference to three objectives which are: influencing factors, effect of curriculum and the power of university life.

A funnelling approach was used in the construction of the questionnaire. The introductory questions asked respondents general, personal information, their view of the university and later more specific questions were asked about three study objectives. According to Sekaran and Bougie (2010) the funnel approach allows for the easy and smooth progress of the respondent through items of the questionnaire. A well-developed questionnaire consists of appropriately worded questions pitched at the level of understanding of the respondents.

The study involved under- and postgraduate students therefore the terminology used for questions was similar to that used by the respondents in their environment. The questionnaire given to respondents for this study had proper spacing and font size clearly separating questions from one another. The questionnaire consisted of 15 questions because surveys that are too long discourage respondents. The questions relating to specific sections fell within the same theme as a logical order encourages respondents to complete the survey because of the flow of a questionnaire. The layout of the questionnaire should be logical and clear, the length should not discourage respondents, and the order should follow a logical approach (Wilson 2014).

Wilson (2014:168) stated that questing techniques are important because they dictate methodical techniques that are later applied when analysing findings. The questionnaire for this study has closed questions because this technique helps the respondent to make quick decisions. Also, closed questions help the researcher to code information simply for analysis and presentation (Sekaran and Bougie 2010: 200)

3.5.1.2 Recruitment of Study Participants

The process of recruiting a sufficient number of study participants from the population involves sampling steps as listed below (Wilson 2014:211)

- Define population: In this study the population is 7491 currently registered students in three faculties (Applied Science, Health Science and Management Science) at Durban campuses. Sekaran and Bougie (2010) indicated that it is vital to define terms of elements, geographical parameters and time (Sekaran and Bougie 2010).

- Select sampling frame: The sampling frame for this study is the Registrar's database as at March 2015. The sampling frame is an actual list of all elements that have to be represented in the population. Sekaran and Bougie (2010) stated that a sampling frame may not always be accurate due to the departure and arrival of the target population.
- Choose sampling technique/method: probability sampling is chosen for this study because it has the greatest freedom from bias which is caused by the difference between the actual population and the sampling frame. This study adopted stratified random sampling because there is variation within the population therefore this technique ensures that every stratum is effectively represented. It also has a lower sampling error than simple, random sampling (Wilson 2014).
- Determine the sample size: the sample size is administered by the extent of precision and level of confidence. Though a minimum of 100 responses is required for MBA research the sample size of 365 students was deemed appropriate since the researcher followed the recommendations of the Sample Size Table as mentioned by Sekaran and Bougie (2010) to represent the whole population of 7491 students. Therefore the appropriate sample size was 365 as recommended, with a confidence level of 95% and a margin of error of 5%. Thus confidence for this sampling is high, with only a 5% chance that an error is made during the estimation (Sekaran and Bougie 2010).
- Data collection: the data can be collected once all the first four stages have taken place. This aspect is discussed under 3.4 above.

The total number of 365 plus 10% (401) questionnaires were distributed to collect the data. Faculties were identified as the strata, and the sample of 401 consisted of 137 applied sciences, 122 health sciences and 142 management sciences. The number chosen for each faculty is appropriate to the size of the stratum in relation to the entire population. During the process of data collection the lecturers were asked for 15 minutes of their lecturing time. The questionnaires were distributed by the researcher who waited for the respondents to complete the survey and collected them, thus obtaining 100% response rate.

3.5.2 Pre-testing, Validation and Reliability

According to Sekaran and Bougie (2010:210) it is significant to pre-test a questionnaire to establish whether it is clearly understood by the respondents or not. The pre-testing process includes using a few respondents to detect any problems in the questionnaire. The questionnaire for this study was piloted using five respondents from the sample. Respondents were asked to analyse the whole instrument and give feedback. The main reason for a pilot was to establish the average time taken to finish the questionnaire because data will be collected during a lecturer's time. There were no changes made to the original instrument since positive feedback was received.

This research project tested the quality of research by addressing issues of validity and reliability. Wilson (2014: 129) stated that without testing the quality of the measuring instrument, research is unlikely to carry much credibility. It can be established that an instrument is deemed successful if it produces the exact outcome that it was set to achieve. According to Sekaran and Bougie (2010), content validity ensures that the instrument comprises of a sufficient set and representative set of items that address the concept. The questionnaire was assessed by DUT research committee to ascertain if the questions covered all the objectives. The committee detected a few questions that did not cover the dimensions and elements of the concept. The feedback assisted in rectifying the error as the concerns specified that it would be challenging for a researcher to receive responses from postgraduates. After these adjustments, a questionnaire was then forwarded to the supervisor.

Wilson (2010:134) mentioned a few concerns that threaten validity, such as history, effects of pre-testing, mortality, instrumentation and maturation. However, threats to validity can be improved through ensuring that research questions and objectives are clearly defined and understood. According to Sekaran and Bougie (2010:161) reliability measures stable and consistent results if repeated measurements are taken. The data collected for this study is perceived to be reliable because the sample is formulated from faculties independent of each other. Hence the results are unlikely to change if the same students are tested under constant conditions.

3.5.3 Administration of the questionnaire

The lecturers were asked for a few minutes of their lecturing time. The questionnaires were distributed by the researcher who waited for the respondents to complete the survey and collected them, thus obtaining 100% response rate. Sekaran and Bougie (2010) revealed an advantage of self-administered questionnaires. They mentioned that questionnaires can be completed and collected within a short period of time in bulk, and any queries can be clarified on the spot. This method allows the researcher to introduce the topic and motivate respondents to offer an honest opinion.

The total sum of 401 questionnaires was distributed, which is (365 x 10%) to give respondents an allowance in the event of them making errors or losing questionnaires.

3.6 Analysis of the Data

Sekaran and Bougies (2010) stated that data must be prepared for analysis; the procedure includes coding and data entry, editing data and data transformation. The questionnaire was coded by giving each response a numerical value. Once the coding of responses was completed, the raw data was manually captured into Statistical Package for Social Science (SPSS) programme, a software package. A manual capturing process allowed the researcher to edit responses by excluding and disqualify incomplete questionnaires and those with unjustifiable errors. Therefore, complete and accurate information was used for analysis and presentation.

This study was analysed and presented by means of tables, charts and descriptive statistics using SPSS to enhance the understanding of the information presented. The statistical test chosen for the study is SPSS, because the researcher does not have to worry about remembering different formulae as the programme provides a wide range of descriptive statistical analysis. Data is easily interpreted and presented because summarizing data in this way gives the reader a simple overview of the data prior to a more complete analysis. SPSS is a user-friendly and efficient software package for students because most computers have spreadsheet packages, like Microsoft Excel, which lack statistical packages (Wilson 2014:236).

3.7 Summary

This chapter has provided an overview of the research methodology that was used to conduct this study. The primary aim of the study as well as objectives, participants, location of the study and data collection strategies was clearly described. The key concepts of the research which are description and purpose, construction of the questionnaire, sampling, pre-testing and validation, administration of the questionnaire and analysis of the data were also discussed. Pre-testing of the questionnaire, involving five respondents, was conducted to evaluate the validity of the questionnaire. The following chapter provides the presentation and discussion of data gathered from the respondents by studying the questionnaire.

Chapter Four

Presentation and Discussion of the Results

4.1 Introduction

The purpose of this chapter is to discuss the results. The data was gathered through self-administered hard copy questionnaires that were distributed to the target population at various sites on Durban campuses. The data obtained was captured on the Statistical Programme for Social Science (SPSS) for analysis. The results are presented with the aid of tables, graphs and charts to enhance the comprehension of findings. Fifteen categories have been used in the presentation of results and research study objectives are discussed in conjunction with the presentation of results. The results obtained may not be generalized to the entire population of the three faculties at DUT, but the findings highlight inclinations that exist within the target population.

4.2 Data Collection

The total sum of 401 hard copy questionnaires were distributed and 368 respondents attempted and completed the questionnaire. However two questionnaires were declared spoiled because of unjustifiable defects discovered hence 366 were completed. This is a representative sample based on the sample table in The Research Advisor 2013 MBA Dissertation Guide in conjunction with tables in Sekaran and Bougie (2010:295) where a sample of 365 is required for a population of 7500 people. A total of five questionnaires were not attempted while 27 were found to be missing. This missing data was not discovered. It took an average of 10 minutes for each respondent to complete the hard copy survey.

4.3 Treatment of Data

The data obtained was scrutinized to detect and remove any errors before capturing it in the SPSS programme. A further screening was conducted on the captured data against hard copies to ensure that accurate data was used to enhance the understanding of information presented and discussed thereafter.

4.4 Presentation of Results and Discussion of the Findings

4.4.1 Demographic Information

The study questionnaire was designed to capture the following profiles of the respondents: gender, age, ethnic group, current level of study, faculty registered under and family background.

Table 4.1 indicates that the majority (54.4%) of respondents were female. Most of the respondents were between the ages of 19-21 years. Students of this age group are full-time students therefore form the bulk of the target population. This is because most of the admitted students are normally exactly 19 years and they complete their national diploma at 21 years. In terms of ethnic groups, the frequency shows that Africans formed the majority of the respondents at 80.1% and Coloureds were the minority at 3%. This finding is in line with the biographic information available from the registrar's database as per the report extracted on the 2nd November 2015.

In terms of level of study, results show that the majority of respondents are at the second level, and DTech was the least to be represented. This distribution is in line with what was stated previously, that undergraduates are likely to register full-time, therefore they are easily accessible and make up the majority of the university population. The Faculty distribution discloses that the most represented faculty was Management Sciences with 129 students. Health Sciences was the least represented with 114 students. This is in line with the stratified random sampling that was used to proportion and distribute questionnaires.

Table 4.1 also showed that a majority of 221 respondents had no experience of family business, and prior experience could represent mature students. Family business relates to any form of legal business that a student may be exposed to, whether big or small. It has to be noted that small businesses play a significant role in the gross domestic product (GDP) of the country, as stated by Lindiwe Zulu the Minister of Small Business Development. The Minister's report indicated research conducted by Global Entrepreneurship Monitor revealed that SMME sector contributes more than 45% of the country's GDP.

Table 4.1 Profile of Respondents Demographic

| Demographic Profiles | | | |
|----------------------------------|---|-----------|-----------|
| | | Frequency | Percent % |
| Gender | Male | 167 | 45.6% |
| | Female | 199 | 54.4% |
| Age | 19-21 | 164 | 44.8% |
| | 22-24 | 143 | 39.1% |
| | 25 and above | 59 | 16.1% |
| Ethnic group | African | 293 | 80.1% |
| | Coloured | 11 | 3.0% |
| | White | 21 | 5.7% |
| | Indian | 41 | 11.2% |
| Current level of study | 2nd Year | 146 | 39.9% |
| | 3rd Year | 123 | 33.6% |
| | B-Tech | 77 | 21.0% |
| | M-Tech | 16 | 4.4% |
| | D-Tech | 4 | 1.1% |
| Faculty you are registered under | Applied Sciences | 123 | 33.6% |
| | Health Sciences | 114 | 31.1% |
| | Management Sciences | 129 | 35.2% |
| Family Background | I have an experience of family business | 145 | 39.6% |
| | I have no experience of family business | 221 | 60.4% |

Although African students are the most presented in this survey, Table 4.2 proved that some students from other race groups also have no family business experience. However, according to Raposo and Paco (2011) family experience is not a major problem because entrepreneurship is not generic but a discipline that can be learned. It was necessary to analyse and categorize family business with each ethnic group in Table 4.2. Table 4.2

discovered that out of the 293 Africans that responded in the survey, a minority of 103 have family business experience. This finding is in line with an eNCA report which stated that only 3% of South Africa's economy is black-owned (eNCA 2015). Out of a total of 11 Coloureds only 3 have experience; of the 21 Whites a majority of 13 have experience and of the 41 Indians a majority of 26 have family experience. Based on the ratio tabulated in Table 4.2 it can therefore be confirmed that Indian and White students were more exposed to entrepreneurship than Africans and Coloureds. These students are more likely to choose entrepreneurship as a career because family background has a significant influence on youth. In view of Table 4.2 a test of ($p = 0.001$) showed a significant association between family background and ethnic groups.

Table 4.2 Cross tabulation between family background and ethnic groups (n=366)

| Do you have entrepreneurship experience? | | Ethnic group | | | | Chi-squared value, p-value |
|--|---|--------------|-----------|-----------|-----------|----------------------------|
| | | African | Coloured | White | Indian | |
| | I have an experience of family business | 103 | 3 | 13 | 26 | 17.208, 0.001 |
| | I have no experience of family business | 190 | 8 | 8 | 15 | |
| Total | | 293 | 11 | 21 | 41 | |

4.4.2 Objective One: To identify factors influencing students towards entrepreneurship

In terms of influencing factors it is noted that personality can be the highest determinant, while motivational factors are key factors and contextual factors are perceived to impede or encourage youth career desires. This theory is confirmed by Rasli (2013) who proposed that a university environment and structural support from the society are two predictors of students' entrepreneurial intention. Ahmed *et al* (2012) found different stimuli *viz* personality, planned behaviour, impact of education and gender therefore objective one explored these theories. In terms of objective one the respondents were asked to rate the

statements as they relate to them in Table 4.3, 4.4 and 4.5. They had an option to ‘I agree’ or ‘I Disagree’ with the statement, also to indicate if these statements do not relate to them.

Table 4.3 revealed that being an entrepreneur described achievement for 59.3% of students. This is confirmed by Remeikene *et al* (2013) who emphasised that the need for achievement is one of the pointers indicating whether a person is motivated to be an entrepreneur or not. The minority of 24.6% of students disagreed which means their achievement is independent to their business ownership intention. The evidence presented by Table 4.3 confirmed that the majority of students felt that business ownership allows independency, a feeling that concurs with a study conducted at Botswana University. Abbas (2013) found that female students in Botswana possess a desire for independency; they perceive that owning a business gives them a break from workplace monotony.

While observing a positive perception from the same table, there were a few individuals who feel that business is too risky and that they are scared to fail. This feeling is in line with Sanchez (2011) observation which stated that the main factors for entrepreneurship are personality traits which are measured by risk tolerance. It is noted that 24.9% of students did not know whether starting a business is risky or not, this gives a clear indication that the target population has 91 students who have not identified their personalities.

Table 4.3 Personality factors as highest determinant (n = 366)

| Statements | I Agree | I Disagree | I don't know |
|--|---------|------------|--------------|
| Being an entrepreneur describes my achievement | 59.3% | 24.6% | 16.1% |
| I desire business ownership because it allows independency | 61.5% | 24.6% | 13.9% |
| I will not start business it is too risky and I am scared of failing | 13.1% | 62.0% | 24.9% |

Motivational factors as key stimuli were explored in Table 4.4. Youth is motivated by money and demotivated by a lack of appropriate job opportunities. These factors stimulate their entrepreneurship desires therefore motivation plays a big role in influencing individuals.

When respondents were asked to rate if unemployment, desire for money and job creation stimulates their desires, the majority (67.5%, 71.3% and 65.3%) felt that these factors do stimulate their entrepreneurial desires. This is parallel to the study conducted by Rametse and Huq (2014) of Botswana students who revealed that their business ownership is inspired by a desire to make money and create jobs. Udeorah and Ogana (2014) confirmed this by stating that entrepreneurship reduces unemployment and poverty among the youth. Akhter and Sumi (2014) confirmed the statements above by studying a Bangladesh community where they found that this community has been forced by poverty to start their own businesses and that SMEs lead job creation as per Global Business School network of 2013. It is asserted that monetary value and status steers these students to desire entrepreneurship because it improves their economic standing and their status in the eyes of the society. Their opinion is supported by Thresi and Hamadi (2013) who stated that monetary value provides freedom.

Table 4.4 Motivational related factors are key stimulus for business start-up (n=366)

| Statements | I Agree | I Disagree | I don't know |
|---|---------|------------|--------------|
| Desire for money and higher social status stimulate entrepreneurship | 67.5% | 20.5% | 12.0% |
| Unemployment and lack of appropriate job opportunities stimulate entrepreneurship | 71.3% | 13.1% | 15.6% |
| Job creation stimulate entrepreneurship | 65.3% | 9.3% | 25.4% |

Table 4.5 reveals that government financial support has a significant power of 57.1% to promote business ownership. These results are supported by Wongnaa and Seyram (2014) who found that students who have access to finance are more likely to graduate as entrepreneurs. In view of the findings the majority is conscious of government finance support and they feel that the support is helpful. Their opinion is factual because the South African government offers great support to young entrepreneurs with their 10 year vision for Accelerated and Shared Growth Initiative of South Africa (Nicolaides 2011).

Social networks were found to have a significant influence as expressed by 180 respondents as presented in Table 4.5. This is a realistic view from students because usage of technology has increased and social networks are central actors of formal and informal ties (Abir et al 2014). This concurs with views of Bizri *et al* (2012) who stated that the greatest influence on entrepreneurial preference is social networks, and a lack of strong social networks may be a barrier. The lack of a strong social network is associated with 23.8% students who do not know whether government support promotes entrepreneurship or not.

Although a majority of 142 respondents feel that culture promotes entrepreneurship it is also noted that culture does not have much impact because 30.6% do not think their culture encourages them while another 30.6% do not have a view. These findings concur with Akhter and Sumi (2014) who stated a similar view in relation to women - that cultural belief has a negative influence on women in Bangladesh because they are restricted to domestic work.

Table 4.5 Contextual related factors facilitate or impede entrepreneurship (n=366)

| Statements | I Agree | I Disagree | I don't know |
|---|---------|------------|--------------|
| Culture promote entrepreneurship | 38.8% | 30.6% | 30.6% |
| Social networks promote business ownership | 49.2% | 23.5% | 27.3% |
| Government finance support promote business ownership | 57.1% | 19.1% | 23.8% |

4.4.3 Objective Two: To examine the impact of curriculum on students' decision towards entrepreneurship

The results in Figure 4.1 revealed that 55.46% of respondents are encouraged and prepared by their current studies to become entrepreneurs. Although the majority have a positive opinion about current studies encouraging and preparing them to be entrepreneurs, the margin between the two is not very great hence the results do not give a clear impact of current studies. It is vital for a university to provide an entrepreneurship-friendly environment to encourage and foster the culture. However, the results presented in Figure 4.1 are justified by different studies. A different view is found from the results of a survey conducted on German students who felt that entrepreneurship education has a negative

impact on them. The more they know and learn, the more they lose interest. Another differing view is found from the results of a survey conducted on Polish students who felt that their education is very influential hence they are looking forward to be business owners when they graduate (Packham *et al.* 2010). These different feelings are reasoned by Lee et al (2005) who asserted that education separates entrepreneurs and non-entrepreneurs because it provides individuals with in-depth knowledge about a particular subject.

Your current studies encourage and prepare you to be an entrepreneur?

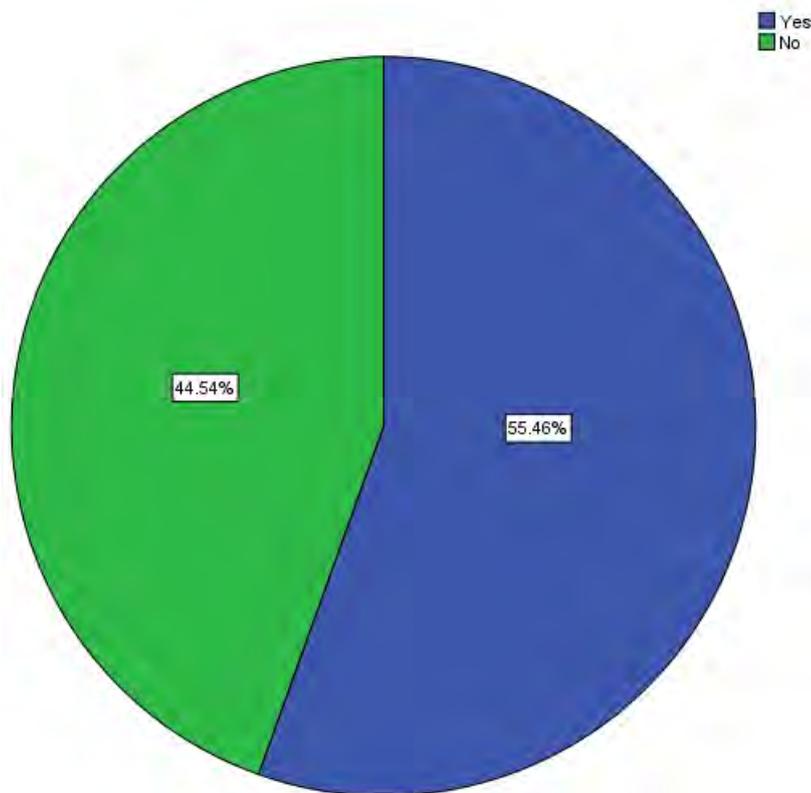


Figure 4.1 Influence of current studies

In view of the findings the majority of respondents are encouraged and prepared by their current studies to become entrepreneurs. It became necessary to analyse these results further to have a deeper understanding when each faculty is taken into consideration. Hence cross-tabulation between current studies has an impact and the faculty was computed. The results displayed in Table 4.6 clearly indicate that students from Applied Sciences were not encouraged by their current studies. Management Sciences is the faculty that encouraged their students the most and respondents indicated that they feel prepared to be business

owners. Initially it appeared that 55.46% of current students feel prepared for entrepreneurship however, it became clear that some faculties have more influence than others. As results showed different opinions between faculties it became necessary to note a suggestion by Kostoglou and Siakas (2012) who proposed that entrepreneurship education has to be entrenched in all disciplines. The results presented in Table 4.6, a test of ($p = 0.114$), showed no relationship between two variables cross-tabulated.

Table 4.6 Cross-tabulation between current studies effect and faculty registered under (n=366)

| Your current studies encourage and prepare you to be an entrepreneur? | | Faculty you are registered under | | | Chi-squared value, p-value |
|---|-----|----------------------------------|-----------------|---------------------|----------------------------|
| | | Applied Sciences | Health Sciences | Management Sciences | |
| Yes | Yes | 31.0% | 29.1% | 39.9% | 4.336, 0.114 |
| | No | 36.8% | 33.7% | 29.4% | |
| Total | | 33.6% | 31.1% | 35.2% | |

The results in Figure 4.2 revealed that a minority of 33.61% students felt the desire to be business owners after studying at DUT. This lower percentage conforms to the findings in Figure 4.1 where the margin between the two is not very great. These findings are in line with views of Van Aardt and van Aardt (2011) which identified that lecturers with no industry experience may hinder students' entrepreneurial intentions. The latter statement is supported by Global Business Network (2013) that identified the poor quality of higher education where students are not exposed to interactive lectures where they cultivate their thinking and decision-making skills.

Desire for entrepreneurship happened after studying at DUT?

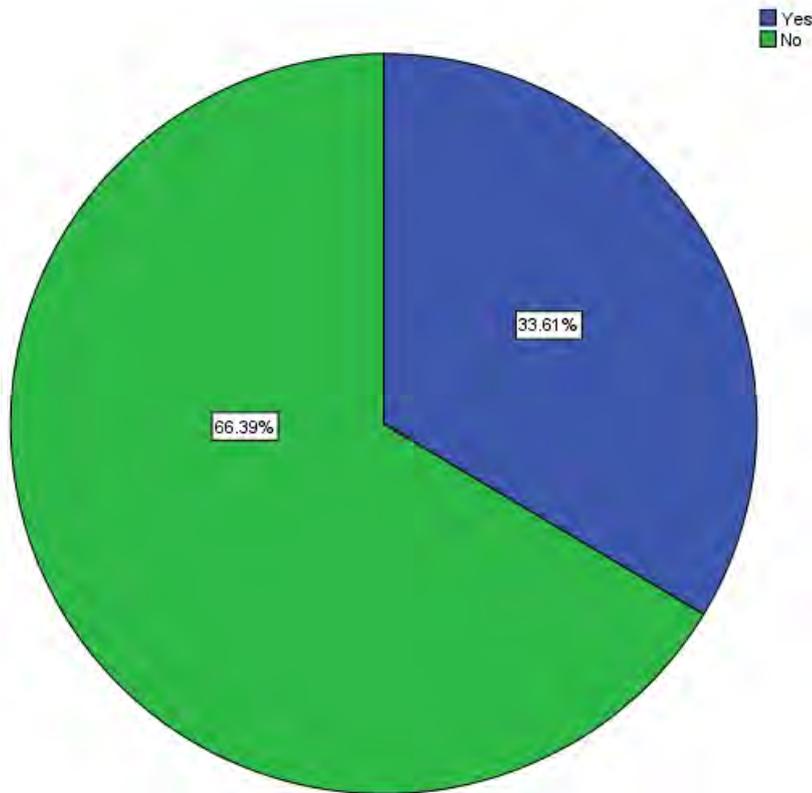


Figure 4.2 After effect of current studies

The minority of respondents felt the desire for entrepreneurship after studying at DUT, a further cross-tabulation was performed when the current level of study is considered and the results are shown in Table 4.7 to give a deeper understanding. In terms of the minority of 33.61% who revealed that desire for entrepreneurship happened after studying at DUT, the second level students are shown to be more encouraged. It was asserted that 1st level education does encourage students to be business owners but the interest deteriorates as they proceed to the following levels of study. This hypothesis is confirmed by the results in Table 4.7, as by the time students reach BTech level their feelings have completely changed as compared to when they were at a 2nd level. These results are no different to other previous studies as they are consistent with the views of Nabi *et al* (2010) who stated that education has a tendency of changing a person's thinking, as characteristics of a certain matter unfolds.

Table 4.7 Cross-tabulation between current curriculum and level of study (n=366)

| Desire for entrepreneurship happened after studying at DUT? | | Current level of study | | | | |
|---|-----|------------------------|--------------|--------------|-------------|-------------|
| | | 2nd Year | 3rd Year | B-Tech | M-Tech | D-Tech |
| | Yes | 41.5% | 38.2% | 19.5% | 0.8% | 0.0% |
| | No | 39.1% | 31.3% | 21.8% | 6.2% | 1.6% |
| Total | | 39.9% | 33.6% | 21.0% | 4.4% | 1.1% |

In Table 4.8 females are found to be more positively impacted by DUT’s education than males. Female students revealed that their desire to be business owners happened after studying at DUT. These results are relevant to the statement of Rasli *et al* (2013) who stated that women are dependent on higher education because they get no support from society, as men are automatically given a full role in the economy while women are restricted to domestic work. Although female students at DUT are positively impacted by the current curriculum it became evident that the curriculum has a positive impact on both genders, as the difference between genders is not that great. These findings concur with different views of different researchers about gender and entrepreneurship, Ghazali *et al* (2013) asserted that female students have a higher attitude to succeed when compared to males. While Peng *et al* (2012) found males at Kumasi Polytechnic in Ghana to have more willingness to graduate as entrepreneurs. The chi-squared test presented in Table 4.8 shows no association between the after-effect of current studies and gender.

Table 4.8 Cross-tabulation between current curriculum and gender (n=366)

| Desire for entrepreneurship happened after studying at DUT | | Gender | | Chi –Squared value, p-value |
|--|-----|------------|------------|-----------------------------|
| | | Male | Female | |
| | Yes | 53 | 70 | 0.481, 0.488 |
| | No | 114 | 129 | |
| Total | | 167 | 199 | |

The findings in Figure 4.3 discovered that a minority of 45.90% students were aware of graduate entrepreneurship prior to studying at DUT. It is important to note the pattern trend of frequencies displayed by Table 4.1 and Table 4.6. These results correspond with each other as Table 4.1 revealed that 221 did not have family business experience which leaves the University with a vast number of unprepared minds. It appeared that family background has the influence to prepare the minds of youngsters prior to receiving higher education

knowledge. These results are similar to the views of Peng *et al* (2012) who stated that family influence plays a huge role in moulding young minds. Raposo and Paco (2011) pointed out that an unprepared mind should not to be an obstacle because they believed that education is a model for changing attitudes and motives. Entrepreneurship is neither magic nor generic therefore entrepreneurs are developed through effective education.

Before studying at DUT were you aware of graduate entrepreneurship?

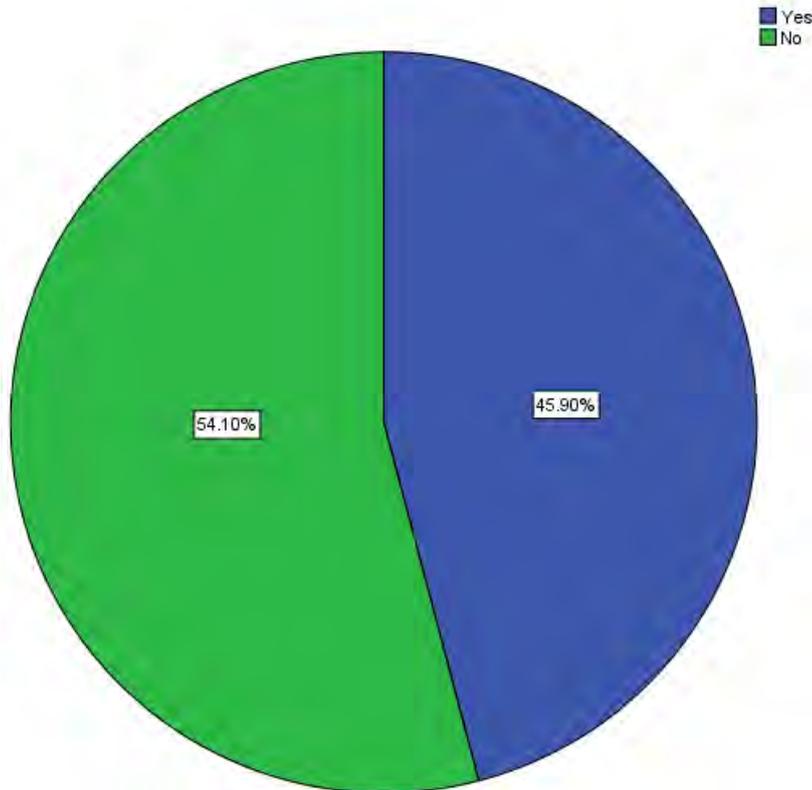


Figure 4.3 Prior entrepreneurial knowledge

Accordingly, a cross-tabulation between the clarity of prior knowledge of entrepreneurship before studying at DUT and family background - do these have an impact on students' intentions to become business owners? The results presented in Table 4.9 indicated that the majority of students who were unaware of graduate entrepreneurship had no experience of family business. These findings are in line with Pruett *et al* (2009) who stated that family and close friends who are self-employed are found to be more influential so that by the time students get to university the mind is already moulded. In terms of results shown by cross-

tabulation in Table 4.9 the test of ($p = 0.0000$) revealed that there is an association between these two variables.

Table 4.9 Cross tabulation between prior knowledge and family background (n=366).

| Before studying at DUT were you aware of graduate entrepreneurship | Do you have entrepreneurship experience? | | Chi-squared value, p-value |
|--|--|---|----------------------------|
| | I have an experience of family business | I have no experience of family business | |
| Yes | 87 51.80% | 81 48.20% | 19.221, <0.01 |
| No | 58 29.30% | 140 70.70% | |
| Total | 145 39.60% | 221 60.40% | |

4.4.4 Objective Three: To investigate the influence of university life on students' desires towards entrepreneurship

The questions asked the respondents to reveal whether they are aware of the university's infrastructures and they were also channelled to name them. In the results in Figure 4.4 it was evident that a majority of 86.89% participants were not aware of the university's entrepreneurial support infrastructures hence they are unable to name at least one. It is noted that from 13.11% that were aware of this, only 9 out of 47 were able to name a minimum of one support infrastructure or club of which they are aware. The university currently has initiatives to support and encourage students as discussed in the literature review, this initiative concurs with views of Nicolaidis (2001) who stated that a university is a hub that incorporates all features necessary to cultivate young minds. The respondents who were found to be aware of support infrastructures and clubs were channelled to name those structures. Nine respondents who responded to this particular question named: Business Studies Unit, HIV, Tabeisa, Chiropractic, Somatology, SCO, Rendezvous restaurant, Hotel

School restaurant, and EMC Techmed unit. Among these respondents 4 were from Applied Sciences, 1 from Health Sciences and another 4 from Management Sciences. Applied Sciences was the most represented and Health Science was the least represented.

Are you aware of DUT student infrastructures or clubs on campus which promote and support entrepreneurship?

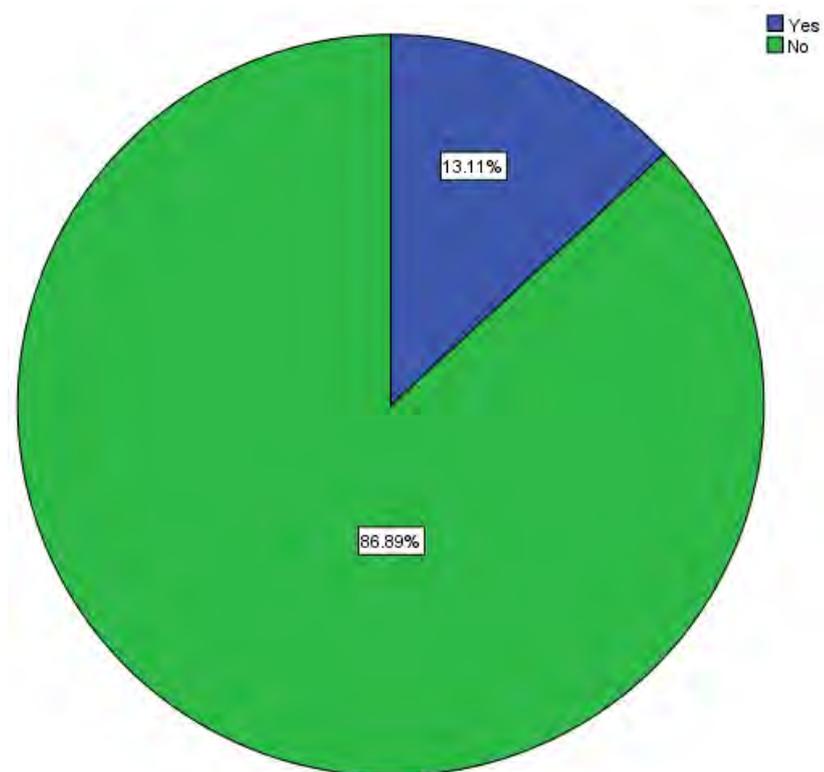


Figure 4.4 Awareness and visibility of infrastructures or clubs

Results found in Figure 4.4 revealed that 13.11% of students were aware of clubs or infrastructures that encourage them to become entrepreneurs. It was then necessary to evaluate the effectiveness of these support structures. The results in Figure 4.5 discovered that a majority of 77.05% found these infrastructures not to be beneficial and encouraging to them. These results in Figure 4.5 correspond with 86.89% of students who revealed that they were not aware of the university's entrepreneurial infrastructures. The idea of effective support infrastructures is reinforced by Fayolle and Gailly (2015:77) who stated that a positive image of entrepreneurship within a university campus encourages students.

On campus infrastructures/ clubs encourage and prepare you to be an entrepreneur?

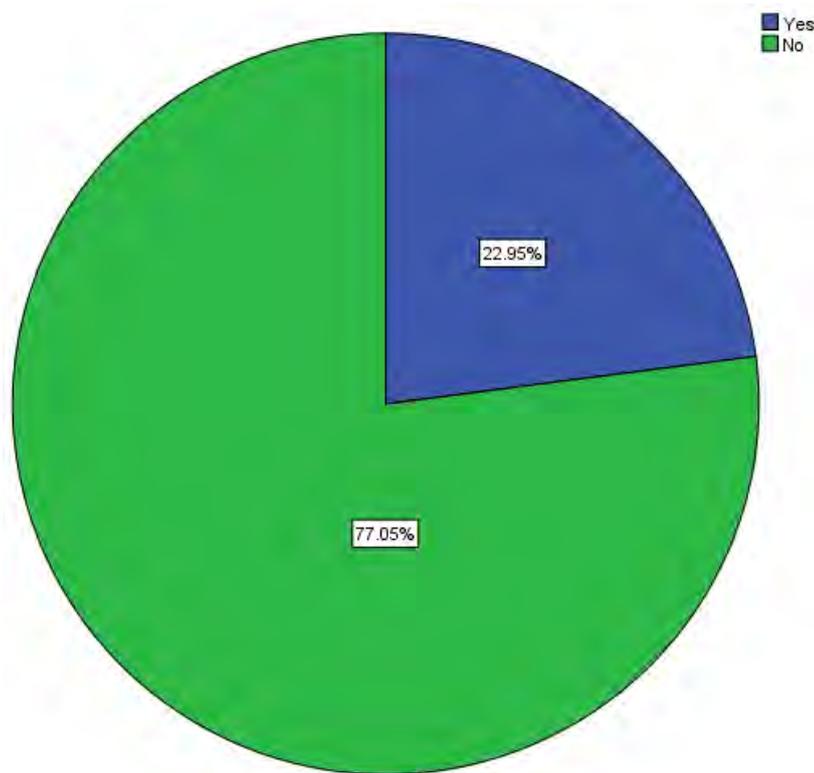


Figure 4.5 Influence of infrastructures and clubs

It became important to know the career paths that students intend to follow. The respondents were asked to reveal their desired career path. The results presented in Figure 4.6 revealed that a majority of 63.11% desired to be entrepreneurs. Regardless of results shown in Figure 4.1 where 44.54% respondents revealed that their current studies neither encourage nor influence them to be entrepreneurs. These results in Figure 4.6 may be influenced by students' perceptions presented on Table 4.3, where 59.3% believed that business ownership describes their achievement and 64.5% considered that entrepreneurship grants them independency from a monotonous work environment. These results concur with the views of Masi (2007) who emphasised that education is not the only factor that makes an entrepreneur but other elements like self-confidence and the ability to take risks makes an entrepreneur.

Do you aspire to be a graduate entrepreneur or employee?

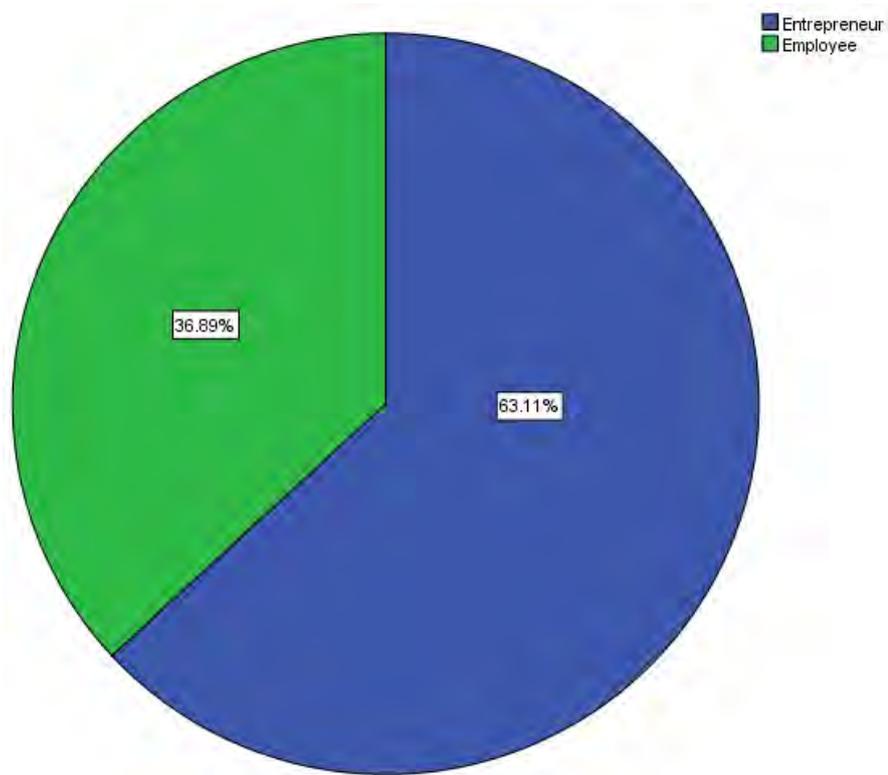


Figure 4.6 Desired postgraduate career choices

In view of the majority of respondents that aspire to be entrepreneurs, it became necessary to further analyse this so as to gain a deeper understanding as to whether gender is taken into consideration. Figure 4.7 discovered the following: in the 63.11% of respondents that aspire to be entrepreneurs, a majority of 123 are females. These results further clarified that out of 36.89% of respondents that are not interested in business ownership a majority of 76 were females. These findings are in line with Ghazali *et al* (2012) who revealed that female students have a higher entrepreneurial attitude. However it is noted that the results presented in Figure 4.7 are different to results found by Wongnaa and Seyram (2014) who found that a majority of male students at Kumasi Polytechnic in Ghana have a desire for business ownership. The outcome presented in Figure 4.7 confirmed that both genders have similar desires because the margin between the two groups is not very significant.

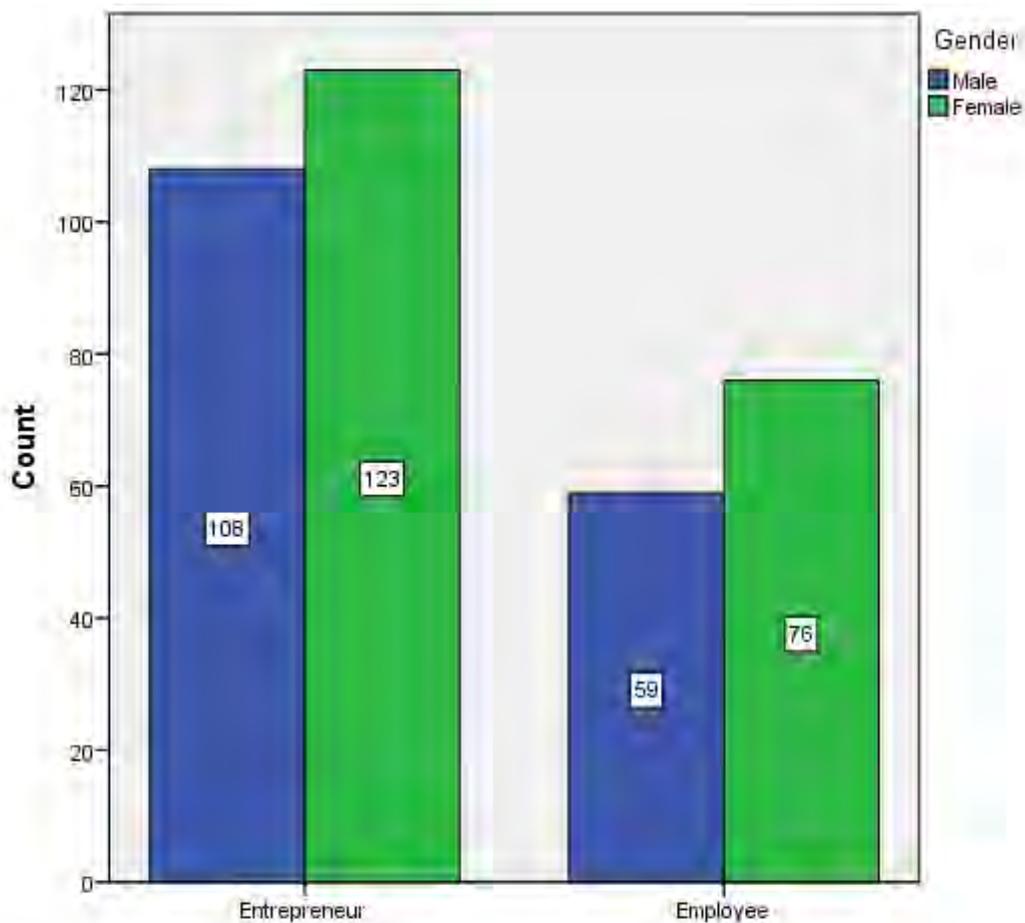


Figure 4.7 Desired postgraduate career choices in relation to gender

4.5 Summary

The analysis confirmed the various findings presented in the literature review. Entrepreneurship is an important source of economic growth for developing countries hence it was intended to identify the factors that encouraged students towards entrepreneurship by examining the impact of curriculum and the influence of university life on students. The findings of the study are that most students believed that entrepreneurship allows independency; unemployment was found to be the main factor that stimulates this desire and government support was the biggest factor perceived by students to facilitate youth business ownership. A normal number of students are afraid to start a business because they are scared to fail, while some disagreed that job creation stimulates entrepreneurship, others were not aware of government financial support. The findings revealed that Indian students were the most exposed to family businesses hence they have experiences than other ethnic groups and African students lack.

The results discovered that not a significant number of the students were not encouraged by their current studies and applied sciences was the most affected. The large proportion of students was shown to be unaware of the university's support infrastructures and as a result these infrastructures are ineffective. These findings were not discouraging because the majority of students were found to have a desire to become entrepreneurs despite the findings. It was also found that both male and female students possessed similar desires in terms of graduate entrepreneur or employee. Data analyses indicated that most participants were females, the age group was between 19-21 years, the majority of respondents were Africans and that those at 2nd level were the most active.

The result of this study reflects the need for promoting entrepreneurial education through effective curriculum and university life. The next chapter discusses the recommendations in relation to the findings.

Chapter Five

Conclusion and Recommendations

5.1 Introduction

In an effort to reduce the rate of unemployed graduates this study has been conducted to discover the impact of higher education on the entrepreneurial intentions of DUT students. The results show two categories in terms of students' perceptions about factors that stimulate or impede their entrepreneurship desires. The first category includes those students who believe that entrepreneurship allows independency. Unemployment stimulates their business ownership desire and government support facilitates youth business ownership. The second category is students who think business is risky and who are afraid to fail. Some students disagreed that job creation stimulates entrepreneurship, and others were not aware of government financial support. The findings revealed African students as being the least privileged to be exposed to family business experience. There was a strong conclusion that though current studies have a positive impact this impact is not enough to encourage entrepreneurship desires because the margin between 'yes' and 'no' answers was not very significant. Applied Sciences was the most affected. The results show a strong conclusion that DUT's support infrastructures are not sufficiently visible, are scare and are not sufficiently relevant to satisfy all faculties. A significant difference was not found between male and female students hence they possessed similar career desires. On the basis of these findings, this chapter discusses whether the problem has been solved, the implications of the study, the recommendations and proposals for future studies.

5.2 Has the problem been solved?

The problem originated from an observation of the high rate of unemployment faced by South African graduates. Countries that have practised entrepreneurial education have seen the development of youth businesses and experienced economic growth therefore in those cases, the problem was solved. DUT students at three faculties confirmed this because the findings of this study show that 55.46% of students are encouraged by their current studies to become entrepreneurs, though there is still a need for improvement because a positive answer of just over 50% is not satisfactory and the majority of DUT students, in particular, are not aware of the university's available support structures to promote an entrepreneurial learning culture.

5.3 Implications of this Research

The findings of this study may have significant implications for university design. A general university design may be structured in such a way as to facilitate entrepreneurial education focussed on solving this current, accumulating problem but with a longer term vision of making DUT a preferred polytechnic. This preference will increase DUT's competitive edge because it will be offering good value for money education. The increasing importance of entrepreneurship is emphasised in the literature because of its impact (Hussain 2015). The study highlights entrepreneurship as one of the most significant drivers of the economy in developing nations. This study also contributes to the fact that entrepreneurial learning processes play an important role in enhancing business ownership desires. The results found in this study can be used in a process of developing and upgrading DUT's strategies that stimulates entrepreneurship among students. The findings of this study have implications for the university because students perceive that entrepreneurship allows independency. It is also a second option in times of employment scarcity, and the availability of finances or capital facilitates their desires. These three findings are based on students' general knowledge and perceptions because the results revealed that current efforts are not effective enough to encourage at least 75% of the sample. Therefore, these students are not knowledgeable about the characteristics of an entrepreneur, the process of starting a business and the responsibility that comes with business ownership. If entrepreneurial education is not effective students will continue to make uninformed decisions by not associating themselves with entrepreneurship because they perceive business to be too risky and that entrepreneurship does not create jobs and there is no finance or capital to start a business. The students that do not have prior experience of family businesses will benefit from the university's support infrastructures and the effectiveness of those infrastructures. Other students may desire entrepreneurship based on perceived rewards but not actual realities.

Entrepreneurial education programs can expose graduate students to a business environment and real life situations. This may reinforce their self-confidence in following entrepreneurship as an alternative career choice.

5.4 Conclusion

Entrepreneurship is a factor that gives students a different way of looking at the world, irrespective of whether they choose to develop their own business or not. The main purpose of the study was to conduct a formal assessment of the impact of higher education on entrepreneurial intentions on DUT students. The study examined the impact of education and other external factors that contribute to shaping students' intentions. The analyses discovered that primarily social external factors have a positive influence more than education and university life. However, these social external influences are based on students' perceptions not on the actual reality of business education. The implication is that students should be nurtured to make sustainable decisions.

First Objective

The first objective was to identify the factors influencing students towards entrepreneurship and identifying which traits stimulate business ownership. In terms of this objective, personality and motivational and contextual factors were found to have influenced students' intentions. Personality traits were the highest determinants of students' intentions as the students were influenced by perceived opinions that business ownership will grant them independency and describe their achievement. Motivational factors showed to be the stimulus as the students believe that owning a business gives them a high social status, while they see creating jobs and serving society as the solution in times of unemployment. The students believed that when they do not land their desired jobs they will opt for a business venture to do what they are passionate about instead of taking any job for the sake of being employed. Contextualization may facilitate or impede students' desires because they are greatly influenced by social networks, as well as culture and government financial support. Social networking has taken over the lives of the youth therefore networks are effective tools to reach large numbers of the youth. Government is doing much to promote the youth but somehow the youth is not being informed of government initiatives therefore a barrier in communication is highlighted. The results of this study shows that culture plays an important role in shaping a character therefore culture may impede or promote business ownership.

Second Objective

The second objective was to examine the impact of curriculum on students' decisions towards entrepreneurship and evaluate how much impact a curriculum has on students' choices. In terms of objective two, the findings revealed that the current curriculum has not made a noticeable or quantifiable positive impact on students' decisions towards entrepreneurship. It was important to note that just over 50% were found to be influenced by current studies, which is not a sufficiently significant percentage to make a university proud of its influence on its students. The lower percentage of 33.61% revealed that the DUT curriculum is not making a substantial difference in steering students towards entrepreneurship careers. The students at the 1st level are enthusiastic about business but they lose interest as they proceed to the next levels of study. This may be because of the different influences experienced prior to attending DUT and the effect of university life. It is asserted that DUT has a responsibility to mould and shape unprepared minds as 45.90% of students revealed that they have no prior knowledge of business ownership and are not aware of postgraduate entrepreneurship. The study revealed that there is an association between prior knowledge and family business experience, therefore in terms of objective two it can be confirmed that DUT's current curriculum does not have much positive impact on students' choices.

Third Objective

The third objective was to investigate the influence of university life on student's desires towards entrepreneurship and assess the effectiveness of university life in promoting entrepreneurship. Objective three aimed to establish the influence of university life and if infrastructures are visible enough to students and the effectiveness of resources provided. A minority knew about on-campus infrastructures and is influenced by these support initiatives. The invisibility of current support structures defeats the purpose of the university's initiatives as entrepreneurial development is a procedure that enhances business knowledge. In view of objective three it can be established that at DUT, not much effort is made to ensure that students are aware of the available support. This outcome may be characteristic of poor communication and the scarcity of relevant support infrastructures. In terms of objective three the university clearly lacks entrepreneurial education and on-campus support but this does not seem to discourage students' intentions to become entrepreneurs.

5.5 Limitations of this study

During the process of this study these limitations were noted

5.5.1 The researcher is not in a position to initiate change.

5.5.2 The sample size limits generalization because the study focussed on three faculties of DUT students, therefore the results may neither be generalized across the entire university nor all of South Africa's polytechnics. However, the results found can form a basis for further studies to cover all faculties because the study has ascertained that there is a need for change and improvement.

5.5.3 Some questions were based on students' perceptions, and there is a difference between perception and reality therefore the answers for these questions might reflect perception rather than actual fact.

5.5.4 Administering of the questionnaires might cause weakness to the results: respondents are likely to have responded without giving their answer much thought due to time constraints as the questionnaires were distributed by the researcher who then waited for the respondents to complete the survey and then collected them. This limitation can be avoided by involving lecturers in the process of developing entrepreneurs hence they would be more tolerant and supportive and not seem impatient during the process of data collection.

5.6 Recommendations to solve the research problem

The following lists the findings and the recommendations

5.6.1 Reasons for effective education curriculum

Professional education support is an identified method to obtain knowledge about business ownership. Effective education teaches, nurtures, supports and enhances students' entrepreneurship desires because learning is a process (Williams 2011). DUT has to be practically oriented by intensifying entrepreneurial education. This can be achieved by executing the following:

5.6.1.1 To revise the curriculum and course delivery so that that it includes entrepreneurial modules across all faculties because the results indicated that students from business studies related courses are more encouraged by current studies to become business owners than those in other disciplines.

5.6.1.2 There is a need to develop curricula that develop the spirit and culture of business ownership in the youth from both lecturers and learners as some students disagree that entrepreneurship creates jobs and combats unemployment

5.6.1.3 DUT has to increase its partnership with employers because in-service programmes enhance students' awareness of entrepreneurial opportunities (Devonish *et al* 2010). Practical experience is likely to provide a fuller picture as the results show that personality, motivational and contextual factors have a positive impact on DUT students' decisions to become graduate entrepreneurs. Students will therefore be aware of the responsibility that comes with having their own business.

5.6.1 Roles and Responsibilities of university support structures

The previous studies show that graduates from a university that invests in supporting and training its students have greater entrepreneurial intent. The bulk of respondents revealed that they are afraid of risk and failure; however, the effectiveness of campus support is likely to overcome this view. Nabi and Holden (2006) mentioned that an individual's life experiences and learning allows him/her to gradually convert entrepreneurial intention to entrepreneurial activity. Higher education institutions are considered to be the facilitators of an entrepreneurial culture (Morries *et al.* 2013). By creating awareness campaigns about the existence of university support structures DUT can increase its effectiveness. The invisibility of these structures defeats the purpose of the university's good initiatives. This awareness can be enhanced by involving students' clubs during the promotion.

5.6.2 Importance of verifying

The university has to verify the efficiency of its initiatives as a tester to improvement. An assessment exercise should be performed regularly, by conducting feedback sessions inviting current students through to postgraduate level.

5.6.3 Effective alumni networking to stimulate growth of young entrepreneurs

The Alumni office should always be connected with past students because this will strengthen the relationship and collaboration between the private sector and DUT. An effective web page may form the basis of communication where currently registered students can interact with more experienced young entrepreneurs who are postgraduates.

5.6.4 Active communication channels

Students with access to financial resources tend to be enthusiastic about business compared to those with limited access (Wongnaa and Seyram 2014). Some students revealed that they are not keen to be business owners because they have limited start-up capital. Communication has been identified to be an obstacle since students are not aware of the available financial initiatives. It should be asserted that there is a barrier in communication. DUT should organise for government departments to make campus visits involving student clubs and the alumnus office. The existing university radio station could be a primary vehicle for communicating with students.

5.6.5 Balancing equation within all ethnics

Culture and family background play a vital role in influencing youth, and Varghese and Hassan (2012) have confirmed this by stating that primary socialization practices promote entrepreneurship while other cultures do not. In this study it has been noted that African students do not generally possess family business experience, therefore these students are less likely to graduate as entrepreneurs. This weakness calls for determination to set a biased policy within the institution. It is recommended that higher education institutions select a greater proportion of African students for in-service programmes and give them more support than other students (finance and experience).

5.7 Recommendations for future studies

This research gives an insight into factors that might influence students' entrepreneurial decisions, but the findings are interesting as the students are influenced by different factors. These findings require further research and it is suggested that the following specific areas should be considered for future research studies.

- Impact and importance of entrepreneurial education on African communities
- Success and failure of businesses of young entrepreneurs
- Measuring students entrepreneurial knowledge

5.8 Summary

The focus for this study was to look at the impact of university curricula and the effectiveness of university life. In terms of the objectives of the study, the evidence provided by the findings revealed that current efforts have a positive impact on students' decisions, although it is insufficient, and that university life does not have an influence since on-campus infrastructures are scarce and not visible. It is hoped that this initiative of entrepreneurial education will change the attitude of graduates from job seekers to job creators. The findings also indicated that students were more influenced by demographic, personality, motivational and contextual factors towards business ownership. These findings were discussed in detail. Recommendations were presented to assist DUT in making future effective and useful changes. The recommendations could reduce the rate of unemployed graduates, and at the same time create a competitive advantage for the university.

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APPENDIX 1



13 July 2015

Ms Nomthandazo Jwara (210540234)
Graduate School of Business & Leadership
Westville Campus

Dear Ms Jwara,

Protocol reference number: HSS/0868/015M

Project title: The impact of higher education on entrepreneurial intentions of polytechnic students in South Africa

Full Approval – Expedited Application

In response to your application received on 01 July 2015, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol have been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

.....
Dr Shenuka Singh (Chair)

/ms

Cc Supervisor: Dr Muhammad Hoque
Cc Academic Leader Research: Dr Muhammad Hoque
Cc School Administrator: Ms Zarina Bullyraj

Humanities & Social Sciences Research Ethics Committee

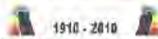
Dr Shenuka Singh (Chair)

Westville Campus, Govan Mbeki Building

Postal Address: Private Bag X54001, Durban 4000

Telephone: +27 (0) 31 260 3587/8350/4557 Facsimile: +27 (0) 31 260 4609 Email: yimbao@ukzn.ac.za / snymant@ukzn.ac.za / mohund@ukzn.ac.za

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