

**PERCEIVED GENDER-BASED BARRIERS TO BUSINESS START-UP AMONGST  
PROSPECTIVE FARMERS IN SOUTH AFRICA**

by

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# DECLARATION

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## **PERCEIVED GENDER-BASED BARRIERS TO BUSINESS START-UP AMONGST PROSPECTIVE FARMERS IN SOUTH AFRICA**

I declare that the above thesis is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

I further declare that I submitted the thesis to originality checking software and that it falls within the accepted requirements for originality.

I further declare that I have not previously submitted this work, or part of it, for examination at Unisa for another qualification or at any other higher education institution.

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**DATE**

## ABSTRACT

Few female farmers are participating in the sector due to various gender-based challenges that they face. The purpose of this study was to investigate prospective farmers' motivation and their personal attitude to starting their own businesses, as well as their perceptions of barriers to successful business start-ups in the sector. The Prospective Farmers Profile Questionnaire was distributed to 421 prospective farmers (agricultural students at six institutions of higher learning in South Africa). There was an estimated 3,486 students enrolled for various agriculture-related qualifications in the country when this cross-sectional, quantitative study was carried out. The aim of the study was to investigate perceived gender-based barriers to business start-up amongst prospective farmers in SA.

The study found perceived barriers to be either intrinsic, (such as, risk aversion, innovation and self efficacy) and extrinsic, examples being, social cultural, political skills and access to land among others factors. The study also intended to find out if (1) motivation to start a business (2) taking responsibility (entrepreneurial orientation) and (3) entrepreneurial intention, were predicted by a number of select business start up factors. The findings were that motivation was predicted by only one business start up factor, socio-cultural forces; while four key factors; motivation, proactiveness, creativity and socio-cultural forces did predict taking responsibility (EO). Entrepreneurial intention (EI) is predicted by three key factors, namely socio-cultural forces, motivation and creativity.

It is recommended that prospective farmers be introduced to the importance of social networking and socio-cultural forces in entrepreneurship. Furthermore, entrepreneurial education is required from government, institutions of higher learning and other organisations to educate prospective farmers on the influence of barriers to business start-up. The study was conducted on undergraduate agricultural students and should be extended to post-graduate farmers in South Africa, that is practising farming. A comparison between prospective farmers and prospective entrepreneurs from other disciplines should also be undertaken. This is a South African study and

the results cannot be generalised. Therefore, the study could be expanded to other regions and future comparative studies could be done.

## **KEY TERMS**

Agricultural sector, entrepreneurial intention and business start-up, entrepreneurial intention, entrepreneurial orientation, external (extrinsic) barriers to business start-up, gender and entrepreneurial orientation, gender and intention to self-employment, gender-based barriers, internal (intrinsic) barriers to business start-up, prospective farmers

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**APPENDIX I: SURVEY QUESTIONNAIRE**

**APPENDIX J: GRAMMARIAN CERTIFICATE**

## ACRONYMS AND ABBREVIATIONS

E/P	Entrepreneurial performance
ANC	African National Congress
ANOVA	Analysis of variance
B/S	Business skills
DAFF	Department of Agriculture, Forestry and Fisheries
E/S	Entrepreneurial skills
EAO	Entrepreneurial attitude orientation
EFA	Exploratory factor analysis
EFFSC	EFF Students Command
EI	Entrepreneurial intention
EO	Entrepreneurial orientation
ICT	Information and communications technology
IEI	Implementing Entrepreneurial Ideas
KMO	Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy
P/S	Personal skills,
PASMA	Pan Africanist Student Movement of Azania
PFPQ	Prospective Farmers Profile Questionnaire
SA	South Africa
SASCO	South African Students Congress



SEE	Shapero's model of the entrepreneurial event
SMEs	Small and medium-sized enterprises
SPSS	Statistical Package for Social Sciences
SSA	Statistics South Africa
T/S	Technical skills
TEA	Total early-stage entrepreneurial activity
TPB	Theory of Planned Behaviour
UNISA	University of South Africa
USA	United States of America

# CHAPTER 1

## CONTEXT OF THE STUDY

### 1.1 Introduction and background

Entrepreneurship is considered a vital mechanism in the economic performance of nations across the globe (Mustapha & Selvaraju, 2015:155). Hummel, Gujadhur and Ritsma (2013:370) indicate that economic growth and employment creation are products of entrepreneurship. Furthermore, Hummel *et al.* highlight the fact that entrepreneurship plays a significant role in poverty reduction through job creation. According to Frank, Lueger and Korunka (2007:227), the field of new business start-ups has been a subject of increasing interest to achieve macroeconomic goals of growth by means of enhancing start-up intentions, and business success. Machete, Reardon and Mead (1997:377) reported that the development of small businesses had great potential to increase employment and income for the poor in South Africa, a country facing high unemployment, skewed income distribution and poverty.

According to Marlow (2002:84) and Ahl (2007:674), the gendered nature of entrepreneurship has become a major topic of research in recent years and researchers are encouraged to investigate the factors and processes underpinning the differential rates of entrepreneurship activities among men and women. Goktan and Gupta (2015:109) found that gender identity and an individual's self-perception both play a notable role in men and women's orientation towards entrepreneurship. However, gender identity is considered a most important factor in explaining the entrepreneurial rate difference between the two. Goktan and Gupta further report that the complexity and various influences of gender identity on men and women's affinity for entrepreneurship is an area of concern.

Studies over the past years show a significant gap between men and women in the level of entrepreneurial activity, entrepreneurial orientation (EO) and motivation, desire, and intention to become an entrepreneur (Mueller & Dato-on, 2013:02). Studies of women's enterprises by Pfefferman and Frenkel (2015:536) confirmed that considerably fewer women established businesses than men did. Lim and Envick (2013:465) indicate that male entrepreneurs scored higher on the factors of EO (risk

taking, innovation and competitive aggressiveness) than their female counterparts scored. Numerous authors made similar findings between male and female entrepreneurs (Sexton & Bowman-Upton, 1990:29; Smith, Smits & Hoy, 1992:485; Gatewood, Shaver & Gartner, 1995:371; Brandstatter, 1997:157; Envick & Langford, 1998:106).

Many studies on gender and entrepreneurship exist, including gender and EO among university students in countries like the USA (96), Korea (114), Fiji (80), and Malaysia (99) (Lim & Envick, 2013:465). The findings identified a significant difference in most EO dimensions between genders among students of these nations, the role of biological sex and gender identity in relation to individual orientation (Goktan & Gupta, 2015:95) and factors shaping entrepreneurial attitude/orientations of women (Esnard-Flavius, 2010:17). In South Africa (SA), a number of government incentive schemes or funds have been initiated to promote females in agriculture, for example Isivande Women's Funds, National Development Agency and National Empowerment Fund (Department of Agriculture, Forestry and Fisheries [DAFF], 2016). However, the participation of women remains an area of concern and investigation is needed into the reasons for the limited participation of female entrepreneurs in establishing farming businesses.

The explanation for these disparities could be the barriers to entrepreneurship (BarNir, 2014:19). Establishing a new business is not free from barriers (Palacios-Marques, Soriano and Huarng 2015:78). Brewer and Gibson (2014:109) identify a number of barriers to entrepreneurship and business start-up that entrepreneurs might encounter. These include regulatory, culture and social, financial and economic barriers. Jurik (1998:08), Kim, Aldrich and Keister (2006:5), and Aristei and Gallo (2016: 67) identified access to capital as a major barrier to business start-up, while Pogue (2009:57), Sitkin and Weingart (1995:1573) and Cramer, Hartog, Jonker and Praag (2002:36) mentioned that business risk is a barrier that influences individuals' decisions to start a new business. Palacios-Marques *et al.* (2015:78) highlight that entrepreneurs face education, culture, social environment, economic, financing, innovation policies, objective and subjective security barriers when starting a new business. Most of these barriers are external but intrinsic barriers also exist. Dana (2008:393) found that 70% of small and medium-sized enterprises (SMEs) in Europe

felt affected by external barriers to entrepreneurship while more than 30% experienced no confrontation with internal barriers.

Raidimi (2014:13) and Grain South Africa (2015) indicate that participation of women in agriculture is a subject of concern in most developing countries (including SA) because their involvement level is very low compared to their male counterparts. Despite the fact that there is a limited supply of farming products in SA and products have to be imported from other countries (Grain South Africa, 2015), it is puzzling why female entrepreneurs show less interest in establishing businesses in farming.

## **1.2 Research problem**

Agricultural productivity is commonly low in SA because few female farmers participate in the sector due to being confronted by gender-based challenges (Dladla, 2014). Adeniyi (2010) found that women who farm are hindered by formal and informal rules that restrict their opportunities for productive job creation and income. Bandama (2016:6) reported that it is important to reduce gender prejudice in the agricultural sector to allow women to contribute more efficiently to farming. According to Assan (2014:272), glaring gender disparities in farming exist in most countries on the African continent, which is attributable to a range of multifaceted, often subtle and gender-based barriers. A country such as SA therefore suffers economically due to low levels of business start-ups in the sector. Agriculture only contributes 2.5% to the total gross domestic product (GDP), despite its great potential (Grain South Africa, 2015).

## **1.3 Primary aim of the research**

This study aims to investigate perceived gender-based barriers to business start-up amongst prospective farmers in SA.

The secondary aims of this study are to:

- Establish whether business start-up is moderated by gender;
- Determine the influence of gender on barriers to business start-up by prospective farmers;
- Determining the influence of field of study, area raised and family business status on barriers to business start-up by prospective farmers.

- Identify external and internal barriers facing prospective farmers;
- Establish the dependencies between business start-factors; and
- Determine the correlation between EO and EI, and business start-up factors.

The following hypotheses were postulated:

- The hypothesis (H1) states:  
There is no statistically significant difference between the mean values of males and females with regard to the following barriers to business start-up: H1:1 taking responsibility, H1:2 motivation, H1:3 proactiveness, H1:4 creativity, H1:5 personal attitude, H1:6 social networking, H1:7 access to resources, H1:8 socio-cultural forces, H1:9 human capital and skills, H1:10 access to land, H1:11 political skills.
- The hypothesis (H2) states:  
There is no statistically significant difference between the mean values of prospective farmers' field of study with regard to the following barriers to business start-up: H2:1 taking responsibility, H2:2 motivation, H2:3 proactiveness, H2:4 creativity, H2:5 personal attitude, H2:6 social networking, H2:7 access to resources, H2:8 socio-cultural forces, H2:9 human capital and skills, H2:10 access to land, H2:11 political skills.
- The hypothesis (H3) states:  
There is no statistically significant difference between the mean values of where prospective farmers were raised and the following barriers to business start-up: H3:1 taking responsibility, H3:2 motivation, H3:3 proactiveness, H3:4 creativity, H3:5 personal attitude, H3:6 social networking, H3:7 access to resources, H3:8 socio-cultural forces, H3:9 human capital and skills, H3:10 access to land, H3:11 political skills.
- The hypothesis (H4) states:  
There is no statistically significant difference between the mean values of prospective farmers who belong to a family owning a business or not own a business, and the following barriers to business start-up: H4:1 taking responsibility, H4:2 motivation, H4:3 proactiveness, H4:4 creativity, H4:5 personal attitude, H4:6 social networking, H4:7 access to resources, H4:8 socio-cultural forces, H4:9 human capital and skills, H4:10 access to land, H4:11 political skills.
- The hypothesis (H5) states:  
Personal attitude to start a business is predicted by the following business start-up factors: H5:1 taking responsibility, H5:2 motivation, H5:3

proactiveness, H5:4 creativity, H5:5 social networking, H5:6 access to resources, H5:8 socio-cultural forces, H5:9 human capital and skills, H5:10 access to land, H5:11 political skills.

- The hypothesis (H6) states:  
Taking responsibility to start a business is predicted by the following business start-up factors: H6:1 motivation, H6:2 proactiveness, H6:3 creativity, H6:4 social networking, H6:5 socio-cultural forces, H6:6 human capital and skills, H6:7 access to land, H6:8 political skills.
- The hypothesis (H7) states:  
Motivation to start a business is predicted by the following business start-up factors: H7:1 creativity, H7:2 socio-cultural forces, H7:3 human capital and skills.
- The study hypothesis (H8:1) states:  
There is no significant positive relationship between personal attitude and taking responsibility to start a business among prospective farmers.
- The hypothesis (H8:2) states:  
There is no significant positive relationship between personal attitude and motivation to start a farming business among prospective farmers.
- The hypothesis (H8:3) states:  
There is no significant positive relationship between personal attitude and proactiveness of prospective farmers to start a business.
- The hypothesis (H8:4) states:  
There is no significant relationship between personal attitude and creativity of prospective farmers to start a business.
- The hypothesis (H8:5) states:  
There is no significant positive relationship between personal attitude and social networking of prospective farmers.
- The hypothesis (H8:6) states:  
There is no significant positive relationship between personal attitude and socio-cultural forces of prospective farmers.
- The hypothesis (H8:7) states:  
There is a no significant positive relationship between personal attitude and access to resources of prospective farmers.
- The hypothesis (H8:8) states:  
There is no significant positive relationship between personal attitude and human capital and skills of prospective farmers.

- The hypothesis (H8:9) states:  
There is no significant positive relationship between personal attitude and access to land.
- The hypothesis (H8:10) states:  
There is no significant positive relationship between personal attitude and political skills.
- The hypothesis (H9:1) states:  
There is no significant positive relationship between taking responsibility and motivation of prospective farmers to start a business.
- The hypothesis (H9:2) states:  
There is a no significant positive relationship between taking responsibility and proactiveness of prospective farmers.
- The hypothesis (H9:3) states:  
There is no significant positive relationship between taking responsibility and creativity of prospective farmers.
- The hypothesis (H9:4) states:  
There is no significant positive relationship between taking responsibility and social networking of prospective farmers.
- The hypothesis (H9:5) states:  
There is no significant positive relationship between taking responsibility and access to resources of prospective farmers.
- The hypothesis (H9:6) states:  
There is no significant positive relationship between taking responsibility and socio-cultural forces of prospective farmers.
- The hypothesis (H9:7) states:  
There is no significant positive relationship between taking responsibility and human capital and skills of prospective farmers.

#### **1.4 Significance of the research**

This research will inform policy makers of the value that gender balance in farming could add in building an efficient and internationally competitive agricultural sector. Furthermore, the research will enlighten them on how they can support the emergence of a more diverse structure of production with a large increase in the numbers of successful farming organisations.

This study will help the agricultural sector to understand the relationship between gender and barriers of business start-up of prospective farmers.

## **1.5 Outline of the thesis**

The study is structured as follows:

**Chapter 1** outlines the context of the study that includes the background, research problem, aim and the significance of the study.

**Chapter 2** focuses on EO and potential barriers to business start-up.

**Chapter 3** focuses on the agricultural sector in the South African context.

**Chapter 4** details the research methodology and describes the population and sample, the instrument used, how the data were collected, the method of analysing data collected and the ethical issues relating to the study.

**Chapter 5** discusses the presentation, analysis and interpretation of the findings and integrates the findings with the theory discussed in Chapter 2.

**Chapter 6** concludes the study. The objectives of the study are summarised. Recommendations are made, limitations of the study are noted and suggestions are offered for further research in the area.



## CHAPTER 2

### GENDER AND BARRIERS TO BUSINESS START-UP

#### 2.1 Introduction

The relationship between gender and business start-up is problematic across the globe. It is generally accepted by many scholars that men are more involved in new business creation than are women (Shinnar, Giacomini & Janssen, 2012:486). The critical limited number of female entrepreneurs is a painful reality. Other countries such as the USA faced the same challenges prior to 1960 when women were underrepresented in mathematically intensive science until their participation later changed (Hill & Rogers, 2012:198). According to Shinnar *et al.* (2012:486), gender is vital when it comes to perceptions of barriers to new business start-up. The internal (intrinsic) and external (extrinsic) barriers were found relevant in addressing the investigation in question. EO reflects individual behaviour such as risk taking, innovation, proactiveness, autonomy and competitive aggressiveness, which are some of the internal (intrinsic) barriers to business start-up (Lumpkin & Dess, 1996:140).

This study investigated perceived gender-based barriers to business start-up amongst prospective farmers in SA. The sample selected was male and female students studying agriculture at universities in SA and this sample represented “prospective farmers”. Participants were considered a suitable representation of prospective farmers because as final year students they face having to make an important career decision after completing their studies, which could include starting their own farming businesses. The adoption of final year students is in line with studies of Krueger, Reilly and Carsrud (2000:420), Liñán, Urbano and Guerrero (2007:5), Liñán (2008:263), and Liñán and Chen (2009:602). Liñán and Chen (2006:14) and Liñán and Chen (2009:610) reported that the same exercise provided the benefit of similar age and qualifications, resulting in a more homogeneous group. Although some of these students may not end up as farmers, most are expected to be involved in farming-related activities. However, the majority are expected to be farmers. An overview of the South African agricultural sector will be covered in detail in the next section of the literature review. The researcher found it necessary to split the literature review into two sections because the field of agriculture is a sector on its own.

The intention by different genders to become self-employed was relevant to the study because the perceptions of male and female students were important in drawing the conclusion to the study. The external (extrinsic) barriers were also identified as important aspects for the study because external environmental forces may have a positive or negative influence in deciding whether to establish a business start-up.

This chapter discusses the aspects of EO, internal (intrinsic) barriers (risk-aversion, innovation, proactiveness, motivation, competitive aggressiveness, creativity, self-efficacy and locus of control), and business, gender and EO. Entrepreneurial intention (EI) considers intention-based models and antecedent EI, as well as individual barriers (attitude towards the behaviour, subjective norm and perceived behavioural control) to entrepreneurship. Also discussed are gender and levels of intention to self-employment and external (extrinsic) barriers to business start-up (socio-cultural forces, social networking, political skills, human capital and skills and access to resources). Furthermore, entrepreneurial orientation and intrapreneurship and the relationship between entrepreneurship, business start-up and performance are addressed. Comparison of demographics on EO and EI factors will be the second last concept to be discussed. Lastly, the relationship between EO and EI will be addressed.

The following section addresses the EO concept. EO, according to Runyan, Huddleston and Swinney (2006:459), refers to the “processes, practices and decision activities leading to new entry or opportunity for an individual or firm”. Brouthers, Nakos and Dimitratos (2015:1164) highlight that EO was initially established to elucidate entrepreneurial behaviour in a local setting and is considered as vital for small and medium enterprises because they possess limited technical and managerial resources.

## **2.2 Entrepreneurial orientation**

EO is important to the general population of countries across the globe because it is considered one of the major engines of economic growth since it is a fundamental element for new business development and job creation (Lumpkin & Dess, 1996:135). EO is also vital because it enables individuals and organisations to discover and exploit market opportunities to enable them to be more competitive in the industry in which they operate (Wiklund & Shepherd, 2003:1307). It is paramount that persons

should be entrepreneurially orientated to have the drive to participate in entrepreneurial-related activities. Independent and autonomous action are the key variables of EO (Callaghan & Venter, 2011:31). Lumpkin and Dess (1996:136) define EO as “the processes, practices, and decision-making activities that lead to new entry”. Reijonen, Hirvonen, Nagy, Laukkanen and Gabrielsson (2015:36) define EO as a “strategic orientation that reflects the way persons are organised to discover and exploit market opportunities in a particular field”. Furthermore, Quaye, Acheampong and Asiedu (2015:129) describe EO as the way persons respond to future and potential market needs.

Ferreira, Marques, Bento, Ferreira and Jalali (2015:2692) state that an individual or firm with an EO has the ability to determine and exploit new market opportunities. Reijonen *et al.* (2015:37) highlight that EO consists of three dimensions, being innovativeness, proactiveness and risk taking and that these dimensions are critical for the success of entrepreneurship practice. Koe (2016:4) identifies the same dimensions as individual EO elements. Gedik, Miman and Kesici (2015:1087) opine that EO is a by-product of entrepreneurship, while entrepreneurship is a process of establishing a business by discovery and exploitation of profitable opportunities. According to Bruce, Liu and Murray (2015:803), innovative entrepreneurial activities do not only generate revenues for successful businesses and persons but also create positive future projection to envisage how to respond to internal and external environmental forces that may hinder efficiency and effectiveness in a business operation.

Table 2.1 below highlights EO dimensions and definitions identified by different scholars in the field of entrepreneurship.

**Table 2.1: Entrepreneurial orientation dimensions and definitions**

Dimension	Definition
Autonomy	<p>Independent action of an individual or a team in bringing forth an idea or a vision and carrying through completion.</p> <p>Independent action undertaken by entrepreneurial leaders or teams directed at bringing about a new venture and seeing it fruition.</p>
Innovativeness	<p>A firm's tendency to engage in and support new ideas, novelty, experimentation, and creative process that may result in new products, services or technological processes.</p> <p>Pursuit of creative or novel solutions to challenges confronting the firm, including the development or enhancement of products and services, as well as administrative techniques and technologies for performing organisational functions.</p> <p>Predisposition to creativity and experimentation through introduction of new products and services as well as technological leadership via R and D in new process.</p>
Risk taking	<p>A sense of uncertainty...probability of loss or negative outcome...high leverage from borrowing and heavy commitment of resources.</p> <p>Taking bold action by venturing into the unknown, borrowing heavily and/or committing significant resources to venture in uncertain environments.</p>
Proactiveness	<p>Taking initiative by anticipating and pursuing new opportunities and by participating in emerging markets.</p> <p>A firm's tendency to engage in and support new ideas, novelty, experimentation, and creative process that may result in new products, services or technological processes.</p> <p>An opportunity seeking, forward looking perspective characterised by new products and services ahead of the competition and acting in anticipation of future demand.</p>
Competitive aggressiveness	<p>Prosperity to directly and intensely challenge its competitors to achieve entry or improve position.</p> <p>Intensity of a firm's effort to outperform rivals.</p>

*Adapted from: Lumpkin and Dess (1996), Knight (1997), Bolton and Lane (2012)*

It is clear from the literature above, as confirmed by Bolton and Lane (2012:220), that innovation, proactiveness and risk-taking may give reliable results to determine EO, while autonomy and competitive aggressiveness are seen as a learned behaviour that may develop as individuals reach the maturity stage, or when confronted with a challenging environment that requires them to act in a particular manner to overcome the situation at hand. In addition, most researchers report that EO has the significant attributes of proactiveness, innovation, and risk-taking (Miller, 1983:770).

In conclusion, based on the above EO dimensions definition by different scholars, the concept of EO can be defined as a process of identifying business opportunity and investing resources through business start-up with the intention to accrue return on investment.

The following section addresses individual EO measurement criteria.

### **2.2.1 Individual entrepreneurial orientation measurement criteria**

According to Ferreira *et al.* (2015:2692), a number of scales were developed with the aim of measuring individual EO and the most often used is the Entrepreneurial Attitude Orientation (EAO) scale. The EAO was developed by Robinson, Stimpson, Huefner, and Hunt (1991:14) and based on an attitude model that diagnoses cognition, affect and conation. The scale further comprises four business subscales related to achievement, innovation, perceived personal control and perceived self-esteem, which successfully distinguishes entrepreneurs from non-entrepreneurs (Huefner, Hunt & Robinson, 1996:58). Bolton and Lane (2012:220) developed a similar scale, based on Lumpkin and Dess (1996), which consisted of three subscales with the elements of innovativeness, risk taking, and proactiveness. Ferreira *et al.* (2015:2692) further reported that other scales that can be used to measure individual EO are Myers-Briggs Type Inventory, the Human Brain Dominance Instrument, and Entrepreneurial Quotient (EQ), which were developed to identify the extent of entrepreneurial characteristics in individuals. Identified scales echo growing participation of research in individual EO with the aim of understanding personality traits, demographic variables, attitudes, intentions or contextual factors (Ajzen, 1991:181; Zhao & Seibert, 2006:260).

According to Ferreira *et al.* (2015:2695), there are three dimensions of individual EO, namely personality traits (which include attitude towards risk, ethical principles, propensity to innovate, factors of competitiveness and leadership traits), qualifications (which include qualifications and practical experience) and complementary aspects (which include other driving forces, such as motivation drivers and a degree of integration). These individual EO measurements were found relevant by Goktan and Gupta (2015:95) in measuring individual EO of undergraduate business students from the US, Hong Kong, India and Turkey, where males scored higher on individual EO than their female counterparts did. Robinson and Stubberud (2014:9) found that Norwegian students rated risk taking the lowest and concluded that risk taking was a problem to some prospective entrepreneurs in Norway. Norwegian students were found to be less individualistic than students from the US were (Robinson & Stubberud, 2014:9). Taatila and Down (2012:757) found that students with entrepreneurial experience scored higher in all elements of EO than those without entrepreneurial experience. Figure 2.1 presents a tree of criteria for individual EO measurement. Each dimension includes different key evaluation criteria or fundamental points of view.



**Figure 2.1: Tree of criteria for individual entrepreneurial orientation measurement**

Source: Ferreira *et al.* (2015)

Ferreira *et al.* (2015:2695) explain each dimension, including different key evaluation criteria or fundamental points of view, as follows:

- Attitude toward risk: concerns an individual's tolerance for risk. Based on a continuous axis with different degrees of risk tolerance, a person can be labelled risk averse, risk neutral or risk seeking. A good entrepreneur tends to have a high level of risk tolerance.
- Ethical principles: addresses issues related to an individual's ethical stance. It seeks to introduce evaluation references such as honesty, respect for others, tolerance of mistakes and environmental concern.
- Propensity to innovate: is associated with the predisposition to support new ideas and favour change. Factors related to intuition, creativity, wit and discernment are introduced in the evaluation system through this criterion.
- Factors of competitiveness: addresses concerns related to discipline, adaptation, dynamism and objectivity.
- Leadership traits: underline the importance of leadership factors, such as autonomy, competence, flexibility, degree of socialization and lifestyle.
- Qualifications and practical experience: addresses issues related to academic qualifications, professional experience and know-how.
- Other “driving forces”: underline the importance of issues related to motivation drivers (for example passion for the entrepreneurial activity) and degree of integration (that is networking and sense of integration).

Lumpkin and Dess (1996:138), Knight (1997:214) and Bolton and Lane (2012:221) identified EO dimensions, which are instruments that may be used to measure individual orientation (risk taking, innovation, competitive aggressiveness and autonomy). These dimensions are similar to the dimensions in Figure 2.1 by Ferreira *et al.* (2015:2695).

Ferreira *et al.* (2015:2695) classify these dimensions as personality traits, ethical principles and other driving forces, which measure individual EO. Ethical principles is a new dimension or measurement that did not feature in the studies of Lumpkin and Dess (1996), Knight (1997) and Bolton and Lane (2012).

According to Baron and Tang (2009:282) and Bolton and Lane (2012:219), qualification and practical experience, as well as other driving forces (for example networking) are considered as external barriers to business start-up. It is indeed crucial to include qualification and practical experience as further dimensions for measuring individual EO because both are associated with human capital and skills, while other driving forces are allied to social networking. According to Bolton and Lane (2012:219), educational and training programmes are the cornerstone of enhancing entrepreneurial skills and expertise, which can have a positive impact on new business performance, profitability, growth and innovation. Giacomini, Janssen, Pruett, Shinnar, Llopis and Toney (2011:233) confirmed that American and Indian students view the absence of knowledge and experience as a barrier to business start-up. Batjargal (2010:139) opine that entrepreneurs' networking skills are vital because they have a positive effect on the structural changes of entrepreneur networks over time. Baron and Tang (2009:282) further indicate that there is a significant relationship between entrepreneurs' social skills and new business performance, hence, it is important for entrepreneurs to possess the same. Batjargal (2007:397) defined social capital as "relationships and resources embedded in social networks". Institutions and networks may influence and have a positive impact on entrepreneurial development in many countries across the globe (Aidis, Estrin & Mickiewicz, 2008:656).

Individual EO measurements identified by Ferreira *et al.* (2015:2695) are important drivers to determine individuals' choices of whether or not to engage in entrepreneurial activities. These individual EO measurements were deemed relevant to this study. The adoption of construct measurement criteria was ideal because they include both internal and external business start-up factors that may influence individual intention to start a business. In addition, the model of the Theory of Planned Behaviour, which is considered by Ajzen and Cote (2008:293) as the most influential and popular framework to predict human behaviour, was applied.

EO dimensions (autonomy, innovativeness, risk taking, proactiveness, competitive aggressiveness, self-efficacy, locus of control, creativity and motivation) should be considered (Lumpkin & Dess, 1996:136; Knight, 1997:214; Weiler, 2005:47; Bolton & Lane, 2012:220; Jain & Ali, 2013:128; Marx, Simonsen & Kitchel, 2014:214; Phipps &



Prieto, 2015b:34). Therefore, a hybrid of the different measures was applicable for this study.

The next section addresses internal or intrinsic (general public) barriers to business start-up, which include risk-aversion, innovation, proactiveness, motivation, competitive aggressiveness, creativity, self-efficacy and locus of control.

### **2.3 Internal (intrinsic) barriers to business start-up**

A number of internal barriers were examined by numerous authors and found to be impediments to entrepreneurship activities (Shinnar, Pruett & Toney, 2009:151). Entrepreneurs need capabilities such as innovation, creativity, motivation and risk taking, amongst others, to be successful in their entrepreneurial endeavours (Sandhu, Sidique & Riaz, 2011:428). Absence of such capacities acts as a serious barrier to the choice of an entrepreneurial activity career and a business start-up

#### **2.3.1 Risk aversion**

Risk taking is an inevitable aspect of entrepreneurial activity (Chatterjee & Das, 2015:110) and it is important to note that entrepreneurs have different attitudes to risk. Several scholars observed risk taking as one of the prominent behavioural components of an entrepreneur (Bouchard & Basso, 2011:219; Franco, 2013:680; Galindo, 2013:501; Quaye & Acheampong, 2013:37). Lumpkin and Dess (1996:144) and Bolton and Lane (2012:221) identified risk taking as a sense of uncertainty and taking bold action by venturing into uncertain environments with the probability of loss and negative outcomes. Based on their definition, risk taking can be described as a process of uncertainty in which decisions are taken to establish a new business with scarce resources that has the potential for a high degree of loss and negative outcomes.

According to Pogue (2009:57), there are three types of persons when it comes to dealing with risk (risk seeking, risk averse and risk neutral entrepreneurs), and the decision-making criteria used by different persons is determined by their attitude to risk. Sitkin and Weingart (1995:1574) define risk “as the probability of incurring a loss”. From this, one might realise that risk often has negative connotations in terms of potential loss but Pogue (2009:54) elaborates that the potential for greater than

expected returns also exists. It is crucial to note that although entrepreneurs invest in business with the primary objective of getting their return on investment, they also bear the full financial burden of failed business ideas.

It is clear that risk is a key variable in every instance of entrepreneurial decision-making and entrepreneurs who ignore this do so at their own risk. The concept and theory of risk is vital to EO because risk tolerance and risk averse are the conceptual bridge that links opportunity recognition and entrepreneurial enactment (Marlow & Swail, 2014:84). According to Gorzeń-Mitka (2015:5), enterprise risk management is a forefront concept in today's approaches to deal with business risks ultimately because it is seen as a crucial tool in enhancing goal achievement. In the effective management context, Barber, Saadatmand and Kavoori (2016:16) affirm that handling risk well is one of the qualities of a good leader. KPMG (2012) states that business leaders today increasingly consider risk management as significant to the dynamic business world and there is a positive and significant relationship between effective risk management and business performance. Kermisch (2010:102) highlights that several forms of responsibility such as liability-responsibility, causal-responsibility, capacity-responsibility, role-responsibility and virtue-responsibility, should be integrated into the concept of risk. The findings of Giacomini *et al.* (2011:234) confirm that American, Belgian and Indian students rated risk-aversion higher as a barrier to business start-up than Chinese and Spanish students did. This current study sought to find out how South African students rate risk as a barrier and if there was a difference between the genders.

Cramer *et al.* (2002:36) found that entrepreneurship could indeed be discouraged by an individual degree of risk aversion. Apart from gender, people's attitudes to risk may be influenced by certain demographic characteristics. For example, age was found to be inversely related to risk taking behaviour (Pålsson, 1996:772), while males and females were found measuring risk differently, with females being, on average, more risk-averse than men because of factors such as discrepancies in confidence levels and emotional response (Byrnes, Miller & Schafer 1999:367). Therefore, factors such as confidence level and emotional response determine one's courage to participate in risk-related activities.

According to Sapienza, Zingales and Maestriperi (2009:15268), women are more risk averse than men in situations where financial decisions have to be made. Harris, Jenkins and Glaser (2006:49) found that after risk assessment, gender differences between men and women resided in the domains of financial, health and safety, recreational, ethics, and social decisions. Shneur, Camgoz and Karapinar (2013:786) found that females are less willing to take risks when compared to their male counterparts and females exhibit higher levels of anxiety about possible failure than males do. Risk aversion is a barrier to business start-up. Therefore, it was expected that risk aversion would be associated with a low intention to business start-up. There should be a statistically significant difference between the degree of risk aversion in male and female students.

### **2.3.2 Innovation**

According to Shukla, Guelich and Arntzen (2014:1), innovation can provide the backbone for a sustainable and competitive economy by means of fostering new business start-up models. Chatterjee and Das (2015:110) affirm that innovativeness is a primary element that every entrepreneur should possess because an entrepreneur should be able to transform ideas into practical application. Lumpkin and Dess (1996:142), Knight (1997:214) and Bolton and Lane (2012:221) reported that innovation is a creative process that results in new products or services. Based on their description, innovation can be defined as the process of creative thinking that may result in new products and services introduced in the market to satisfy certain needs or wants. According to Reijonen *et al.* (2015:37), innovativeness reflects an individual's preparedness to change the status quo and embrace new ideas that will benefit the organisation in the long term. Innovative individuals are critical for the success of any entrepreneurship endeavour because they would be able to identify opportunities where ordinary people could not. It is therefore evident that lower levels of innovativeness may hinder transformation of ideas into practical application so this dimension may be considered as a barrier to new business start-ups. According to Bruce *et al.* (2015), innovative entrepreneurial activities do not only generate revenue for successful businesses and persons but also create positive solutions to internal and external environmental forces that may hinder efficiency and effectiveness in business operation. Singh, Mathiassen and Mishra (2015:643) found that innovation

is one of the key drivers of economic progress, productivity enhancement, and long-term survival of business operation. Reijonen *et al.* (2015:37) report that innovativeness manifests in individuals' abilities to find new opportunities and solutions. Furthermore, it encompasses creativity, experimentation, technological leadership, novelty, as well as research and development, which bring about new or improved products, services and processes that enhance efficiency and effectiveness.

Gedik *et al.* (2015:1089) suggests that innovation can be described in five different ways:

- a) Developing a new product or changing an existing product qualitatively;
- b) Developing a new methodology for an existing industry area;
- c) Opening a new market;
- d) Developing new supplies for raw materials and inputs; and
- e) Bringing about changes in industrial organisations.

Innovative persons introduce new economically profitable modes of action and are seen as a key factor in determining the competitive advantages of industries and individual businesses (Cimdina, 2014:81). Innovation means engaging in and supporting new ideas that may lead to the development of new products, services or processes (Lim & Envick, 2013:479). According to Gedik *et al.* (2015:1089), an innovator should possess the following characteristics:

- The ability to analyse the market environment, customers' needs and wants.
- The ability to inspire and empower employees from the top down in innovative thinking.
- The capacity to implement a responsive, strategic plan and position innovation at the centre of the entire business process.
- Be able to connect with employees and customers, thereby creating an environment of information exchange about improving processes, services and products.

- Be able to seek advice from leaders in innovation.

According to Zhang, Edgar, Geare and O'Kane (2016:01), functioning in changing settings requires persons to explore new knowledge and the resources required for radical innovation while at the same time exploiting existing knowledge and resources to enable incremental innovation. Quaye *et al.* (2015:130) opine that higher environmental dynamism and aggression require higher levels of innovation and there is a relationship between the degree of innovativeness and the hostility and dynamism of the environment. Innovation could play a vital role because it can foster new business models by defining new or improved services, products or processes and it can provide a pillar of strength for a sustainable and competitive economy (Shukla *et al.*, 2014:1). Innovative entrepreneurs enter the marketplace with significantly different processes, methods and competences compared to non-entrepreneurs who do not add new, innovative ideas to existing markets (Shukla *et al.*, 2014:3). According to Yu and Chen (2016:679), innovation is important to a business' competitive advantage and long-term survival.

One of the reasons for individuals' limited interest in innovation is the lack of financial resources to implement innovative ideas (Shukla *et al.*, 2014:3). Yu and Chen (2016:679) indicate that key factors that influence innovation include the external environment, such as market demand and industry sector, as well as organizational characteristics, such as business size and ownership structure. However, individual factors can also have an effect on innovation (Chen, Bu, Wu & Liang, 2015:1128). Innovation is associated with uncertainty and risk, which as a result may deter persons from introducing their innovative ideas to the marketplace (Thébaud, 2015:66). It is evident that innovativeness is one of the key characteristics required by female agricultural students for them to bring new ideas that can assist in the establishment of farming businesses, thereby bringing gender balance to the sector.

Shukla *et al.* (2014:11) confirm that gender differences exist in innovativeness demonstrated by either prospective or fully established entrepreneurs. Ruiz-Jimenez, Fuentes-Fuentes and Ruiz-Arroyo (2014:513) indicate that gender diversity increases the likelihood of combining and exchanging knowledge to generate new and innovative ideas. According to Yu and Chen (2016:679), self-efficacy and risk propensity are

positively associated with innovation, however, gender acts as a moderator in the relationship and both are strengthened when entrepreneurs are male. Karataş-Özkan and Chell (2015:109) highlight the fact that there is a gendered nature to science and entrepreneurship in male and females' level of innovation. Gender status prevents most women from becoming entrepreneurs because they do not start businesses that require innovation (Thébaud, 2015:83).

Alsos, Hytti and Ljunggren (2013:242) opine that there is a complex relationship between gender and industry innovation. Women are not perceived as innovators because their ideas are often deemed inferior to their male counterparts and they never get to the implementation phase. Blake and Hanson (2005:686) report that gender is implicated in questioning why and how certain geographic contexts encourage innovation to emerge and advance while discouraging or preventing others. Marvel and Lee (2011:290) indicate that male entrepreneurs consistently achieve higher levels of innovation compared to female entrepreneurs in multiple innovation-related measures, such as submitting a higher number of intellectual property rights, for example patents, utility models, designs, and trademarks. However, lack of competitiveness may result in multiple failures and in circumstances of this nature innovation is required to provide the pillar for a sustainable and competitive economy (Shukla *et al.*, 2014:1). The same findings were reported in Fiji by Lim and Envic (2013:479) where males scored higher than females on the innovativeness construct. Innovation is one of the barriers to business start-up and is associated with a low intention to business start-up. The prediction is that there should be a statistically significant difference between genders' level of innovation among male and female students.

### **2.3.3 Proactiveness**

Reijonen *et al.* (2015:37) describe proactiveness as an individual's ability to take the initiative to actively seek and pursue market opportunities, to acquire first-mover advantages and nurture the direction of the setting. Proactive entrepreneurs are those individuals that have the will to lead and seize new opportunities (Shan, Song & Ju, 2016:685). The descriptions of proactiveness by Knight (1997:214), Bolton and Lane (2012:221) and Lumpkin and Dess (1996:146) include taking the initiative in seeking and pursuing new opportunities, engaging in and supporting new ideas, and seeking

forward-looking perspective characterised by new products and services ahead of competition. Proactiveness can be defined as the ability to generate new initiatives by anticipating and taking advantage of opportunities available to fill a gap in the market. Callaghan and Venter (2011:31) opine that proactiveness is associated with leadership because leaders should be able to show initiative by anticipating and pursuing new business opportunities. Dai, Maksimov, Gilbert and Fernhaber (2014:514) found that persons who lack intention and the knowledge required to identify market opportunities have a moderate level of proactiveness. Therefore, proactiveness is an important attribute that entrepreneurs should possess because its absence can prevent the pursuit of new market opportunities and taking a leadership stance. The findings of Quaye *et al.* (2015:130) show that proactiveness has a direct influence on business success.

Masona, Floreana, Miania, Beltramea and Cappelletto (2015:1657) found that greater entrepreneurial proactiveness leads to competitive business performance. Proactive persons ensure that their businesses perform better than rival businesses because they respond positively to market changes (Zehira, Canb & Karaboga, 2015:360). Another role that proactive entrepreneur can play in a business is to anticipate future consumer demands and business opportunities in the market, shaping the environment, and introducing new products or services and brands before their rivals in the sector (Venkatraman, 1989:943). Lumpkin and Dess (1996:146) highlight that proactiveness may be vital to EO since it proposes a progressive perspective that is accompanied by new business start-ups. Therefore, lack of proactiveness could discourage persons to start businesses in the farming industry.

With regard to proactivity, Quaye *et al.* (2015:130) found that proactivity is a common behavioural characteristic of business owners in the African continent, even though such business owners were risk averse, and not innovative. According to Riley *et al.* (2016:2), some studies show no effect of gender on proactive-related activities while others suggest that men have greater vigilance than women, and that women are less impulsive, slower and more variable than men. These results are in line with the findings of Riley, Okebe, Germine, Wilmer, Esterman and DeGutis (2016:2) who found that gender has a significant effect on proactiveness because women are less impulsive, slower and more variable than men.

Civelek, Rahman and Kozubikova (2016:76) are of the opinion that there is no difference in the dimension of proactiveness between men and women. Proactiveness is a barrier to business start-up and it was expected that proactiveness would be associated with a low intention to business start-up. Therefore, the study hypothesises that there should be a statistically significant difference between genders in terms of how proactiveness acts as a barrier to business start up.

#### **2.3.4 Motivation**

Building the motivation and self-esteem of persons to become entrepreneurs is vital to enable them to develop self-empowerment and to promote positive attitudes towards the risks inherent in starting a business (Mavhungu, 2011). According to Sikhwari (2007:520), confidence and positive self-concept are the building blocks of motivation. Thapa, Thulaseedharan, Joshi and Goswami (2008:86) found that independence is one the motivational factors that leads to successful entrepreneurial activities. Rugutt and Chemosit (2009:17) report that the motivation theory has a role to play because of the influence it has on human success in any trade. According to Hellriegel, Jackson, Slocum, Staude, Amos, Klopper, Louw and Oosthuizen (2006:44), motivation is a tool for entrepreneurs to encourage a positive attitude towards goal achievement. Jones and George (2008:464) further argue that motivation is a psychological force that influences the behaviour of entrepreneurs during their long-term career development.

The need for achievement is one of the critical elements of motivation and is defined by Jones and George (2008:474) as “the extent to which an individual has a strong desire to perform challenging tasks well and to meet personal standards for excellence”. Weiler (2005:47) considers the need for achievement as an important human motivational attribute, which is a desire for success or achieving one’s set goal or objective. Rauch and Frese (2000:102) pointed out that for the entrepreneur to establish a business start-up, a strong desire for achievement is necessary. Chaudhary (2017:181) reports that the need for achievement relates significantly to entrepreneurial inclination. Therefore, lack of motivation may deter potential entrepreneurs from establishing farming business in the agricultural sector.



Lauderdale, Yli-Piipari, Irwin and Layne (2015:164) affirm that gender influences people's motivation status and it is important to note that males are driven by extrinsic motivation to become entrepreneurs while females are driven by intrinsic motivation. The role of entrepreneurship in economic performance varies across frameworks of rural or urban/metro or non-metro, and gender and motivation (Figueroa-Armijos & Johnson, 2013:29). Civelek *et al.* (2016:76) further found that men are more motivated to become entrepreneurs than women are because of their high levels of individual orientation. Karimi, Biemans, Lans, Chizari, Mulder and Mahdei (2013:211) indicate that females are motivated by social factors while males are driven by instrumental factors to pursue a career in a particular field of their choice. Based on the findings of Karimi *et al.*, it is evident that persons may be motivated by either intrinsic or extrinsic factors to become entrepreneurs. Lack of motivation is a barrier to business start-up. It was expected that low motivation would be associated with a low intention to business start-up. It is thus predicted that there is a statistically significant difference in the degree of motivation to business start-up between male and female students.

### **2.3.5 Competitive aggressiveness**

Lumpkin and Dess (1996:148) and Bolton and Lane (2012:221) identify correlation with regard to the definition of competitive aggressiveness, which includes challenging rivals to achieve market entry and outperform them. With the above definition in mind, competitive aggressiveness can be defined as the ability of an individual or firm to introduce a business idea that can outperform its rivals. Zehira *et al.* (2015:360) affirm that competitive aggressiveness is considered as one of the components of EO. Enjoying competition and striving for victory are some of the concepts that entrepreneurial business owners like to assert (Krauss, Frese, Friedrich & Unger, 2005:320). The way in which a business responds to trends and demands that already exist in the marketplace is referred to as competitive aggressiveness (Callaghan & Venter, 2011:31). Competitive aggressive orientation is identified by EO literature as one of the characteristics of successful entrepreneurial business activity (Krauss *et al.*, 2005:320). Menesini, Tassi and Nocentini (2018:240) report that two types of competitive attitudes exist, namely hyper-competitiveness and personal development competitiveness. Hyper-competitiveness is described by Horney (1937) as an indiscriminate need by individuals to compete and win (and to avoid losing) at any cost

as a means of maintaining or enhancing feelings of self-worth, with an attendant orientation of manipulation, aggressiveness, exploitation and denigration of others across a myriad of situations. According to Menesini *et al.* (2018:240), personal development competitiveness is defined as “an attitude in which the primary focus is not the outcome (that is on winning) but rather the enjoyment and mastery of the task”. Houston, Edge, Anderson, Lesmana and Suryani (2012:164) report that persons high in healthy competitiveness consider competition as a prospect for personal development and growth. It is important to note that since this study focused on individuals and not firms, this construct would represent competitive aggressiveness of the individual.

Masona *et al.* (2015:1657) found that entrepreneurs with high competitive energy contribute positively to business performance. Competitive aggressiveness is considered as one of the crucial personality traits that entrepreneurs should possess because this trait will enable them to directly and intensely challenge their rivals to break into the market with reactive actions (Lumpkin & Dess, 1996:148). Gupta, Turban, Wasti and Sikdar (2009:399) found that males are more highly associated with aggressiveness than females are. Staniloiu and Markowitsch (2012:1033) report the same findings as Goktan and Gupta (2015:110), Lim and Envick (2013:480) and Ayub, Razzaq, Aslam and Iftekhhar (2013:88). Lack of competitive aggressiveness can be a barrier to business start-up. It was anticipated that a lack of competitive aggressiveness would be associated with a low intention to business start-up. Therefore, it was expected that there would be a statistically significant difference in the level of personal aggressiveness between male and female students.

### **2.3.6 Creativity**

According to Phipps and Prieto (2015b:34), creativity is positively allied to EI and is an ability that is associated with entrepreneurial success. The findings are consistent with the Theory of Planned Behaviour, perceived behavioural control and self-efficacy (Hamidi, Wennberg & Berglund 2008:304), which are seen as key instruments to enhance EI. Cheung and Lau (2013:463) deem creativity as a basic element for the growth of a society. Da Costa, Paez, Sanchez, Garaigordobil and Gondim (2015:165) consider creativity as a human skill that persons can use to deal with challenges of life, supporting psychological and social adaptation. Da Costa *et al.* (2015:171) found

that high level of energy, concentration and willpower are the cornerstone of creative performance, which means that high levels of intrinsic and extrinsic motivation will lead to creative effort. Blašková (2014:424) found that individuals with high level of responsibility, motivation and creativity are determined to achieve their set objectives. High responsibility and creativity also increase individual competences to perform their duties (Blašková, 2014:424). Whitbeck (2003:95) mentioned that persons are required to be creative in order for them to be able to exercise responsibility in what they do. Lack of creativity is therefore a barrier to business start-up. It was expected that perceived low or absence of creativity would be associated with a low intention to business start-up. It was predicted that there should be a statistically significant difference in the level of creativity between male and female students. Zampetakis and Moustakis (2006:413) and Douglas and Shepherd (2000:231) consider creativity and political skills as other dimensions that directly affect EI. Fatoki (2010:88) established that creativity is one of five motivators of EI.

### **2.3.7 Self-efficacy**

According to Marx *et al.* (2014:214), perceived self-efficacy is a fundamental element in career choice and development. Bandura, Barbaranelli, Caprara and Patorelli (2001:188) indicate that awareness of self leads to self-efficacy around career decisions and choices setting of the stage for success. Esters (2007:130) reports that there are several primary factors that increase the complexity of making career decisions, namely ever-evolving technology, changes in the job market, and the transition to a global economy.

Entrepreneurial self-efficacy is frequently contained in EI models to explain the reasons why some persons are more likely to participate in entrepreneurship activities than others are (Mueller & Dato-On, 2008:3). Entrepreneurial self-efficacy, according to BarNir, Watson and Hutchins (2011:276), is certainly associated with new business start-up intention and with persons interested in entrepreneurship. Chatterjee and Das (2015:110) indicate that a higher level of self-efficacy will lead to greater success and entrepreneurship performance. Mueller and Dato-On (2008:16) affirms that gender role orientation does affect self-efficacy of entrepreneurial tasks and Farashah (2015:470) reports that gender is related to self-efficacy beliefs.

According to Wilson, Kickul and Marlino (2007:390), gender is a significant factor in understanding differences in career self-efficacy and women were found to have lower expectations than men for success in most careers, especially those that were historically perceived as “non-traditional” for females. In countries like the US, Wilson *et al.* (2007:390) found crucial gender differences in key areas where females reported lower confidence levels than males, especially in areas such as maths, finance, decision-making, and problem-solving. Kickul, Wilson and Marlino (2004) found that entrepreneurial self-efficacy or self-confidence undoubtedly contributed to the disparity between men and women in entrepreneurial career interests and behaviours. Kickul *et al.* (2004) further reported that entrepreneurial self-efficacy has a stronger effect on the entrepreneurial career interest of teenage girls than for boys. Lent and Hackett (1987:347) indicate that gender is a significant variable in understanding differences in career self-efficacy. It was therefore projected that there would be a statistically significant difference in level of self-efficacy between male and female students. Lack of self-efficacy is a barrier to business start-up. It was therefore expected that low self-efficacy would be associated with a low intention to business start-up. It was anticipated that there would be a statistically significant difference in the level of self-efficacy between male and female students.

### **2.3.8 Locus of control**

The internal (meaning those entrepreneurs who believe they can control their life) and external (meaning those entrepreneurs who believe that their decisions and life are controlled by environmental factors that they cannot influence) locus of control are acknowledged as elements of entrepreneurs’ personality and critical for new business start-up (Antoncic, Antoncic, Gantar, Li & Kakkonen, 2015a:1; Waghmare 2016:458). The predictor of entrepreneurial success is more often associated with internal locus of control than the external locus of control (Jain & Ali, 2013:128). If there is a belief by an individual that the outcome of an event is well understood and can be controlled, the situation constitutes internal locus of control and is in contrast to the external locus of control whereby the outcome is believed to be beyond an individual’s control (Antoncic *et al.*, 2015a:3).

Rotter (1966:3) found that the need for achievement was allied to the certainty in internal locus of control. Jain and Ali (2013:128) and Chaudhary (2017:173) highlight

that internal locus of control is vital for entrepreneurial behaviour, therefore the person with the higher level of internal control is more likely to establish a new business start-up. The findings of Antoncic *et al.* (2015a:3) confirm that the locus of control of entrepreneurs can have a significant impact on EI.

A study done by Waghmare (2016:460) on college students at Godawari College in India confirms that female students' internal locus of control is significantly higher than those of male students. An external locus of control is a barrier to business start-up. It was therefore expected that an external locus of control would be associated with a low intention to business start-up. It was predicted that there would be a statistically significant difference in locus of control between prospective male and female farmers.

The entrepreneurial dimensions discussed above are critical in determining individual orientation in the intention to establish a business start-up. All are adopted in the study as internal barriers to business start-up. It is evident from the above literature that there is a significant difference in the degree of all identified internal (intrinsic) barriers between male and female students. The issue of gender (difference) and EO is further analysed in the next discussion.

## **2.4 Gender and entrepreneurial orientation**

Factors such as gender, male domination, low pay, prejudice and discrimination frustrate women when trying to advance in their careers. According to Assan (2014:127):

The glaring gender disparities in entrepreneurial orientation are mainly attributable to a range of multifaceted, though often subtle communal and societal challenges women routinely face that cut across institutional, social, and cultural dimensions.

The findings of Quaye *et al.* (2015:137) show that there is gender difference in EO and females were rated lower in EO than their male counterparts were. Table 2.2 below shows total early-stage entrepreneurial activity (TEA) rates by gender in SA from 2001 to 2016 (% of adult population for each gender involved in TEA). Table 2.2 is in line with the findings of Quaye *et al.* (2015:137) regarding EO rate between males and females in SA. As shown in Table 2.2, efficiency-driven economies average by gender in 2016 is 16% of males and 12% of females.

The World Economic Forum (WEF) (2016) highlights the following statistics:

- With an average remaining gender gap of 32%, the sub-Saharan Africa region scores in the lower middle range of the Global Gender Gap Index, ahead of South Asia and behind Eastern Europe, Central Asia, Latin America and the Caribbean.
- It displays a wider range of gender gap outcomes than practically any other region: one top 10 country, Rwanda. Three countries, Burundi, Namibia and SA, score in the top 20 and have closed 76% to 77% of their gender gaps, as well as many of the lowest-ranked countries in the index, such as Côte d'Ivoire, Mali and Chad that have not yet closed 60% of their overall gender gap.

Goktan and Gupta (2015:99) opine that there are different distinctive personal factors that influence male and females' orientation to entrepreneurship.

**Table 2.2: TEA rates by gender in South Africa, 2001 – 2016**

(% of adult population for each gender involved in TEA)

	2001	2005	2009	2013	2014	2105	2016	Africa region 2016 (average)	Efficiency-driven economies 2016 (average)
Male TEA rate	7.3*	5.9	7.2	12.3	7.7	11.6	8.0	20.4	16.0
Female TEA rate	5.8	4.5	4.7	9.0	6.3	7.0	5.9	14.9	12.0
Ratio female to male	0.79	0.76	0.65	0.73	0.8	0.6	0.74	0.73	0.75

Note: \*Read as 7.3% of the adult male population in 2001 were engaged in TEA activity

Source: *Global Entrepreneurship Monitor [GEM] (2017)*

Assan (2014:127) indicates that farming in general has been utilised mainly as an entry point for promoting gender balance. This would apply to non-efficient economies, such as Africa, where more women need to be involved in agriculture. Ali, Erenstein and Rahut (2014:936) show that globally, rural females are enthusiastically taking part in farming activities, which include crop and livestock production and management,

fish farming and forest management. Aguilar, Carranza, Goldstein, Kilic and Oseni (2015:311) report that agricultural productivity is commonly low in sub-Saharan African countries because most farmers are smallholders, and fewer female farmers are participating in the sector than their male counterparts are. According to de la O Campos, Covarrubias and Patron (2015:17), entrepreneurs' efficiency and productivity is often hindered by their limited access to productive resources and opportunities. Aguilar *et al.* (2014:311) state that several studies identified unequal access to resources and differences in individual characteristics as the main drivers that explain the gender gap in entrepreneurial activity. It was therefore anticipated that there would be a statistically significant difference in EO between male and female students.

The following section addresses EI as one of the key elements in determining the willingness of individuals to perform entrepreneurial behaviour or to establish business start-ups. This concept was found to be relevant to this study because intention leads to action (Ajzen, 1991:179). EI is a state of mind that directs an individual's attention to establishing a new business and it begins with the individual's personal needs, values, wants, habits and beliefs (Kumara, 2012:108).

## **2.5 Entrepreneurial intention**

Debarliev, Janeska-Iliev, Bozhinovska and Ilieva (2015:145) found that entrepreneurial research acknowledges the intention of entrepreneurial behaviour extensively and is considered as the proximal predictor of the choice to participate in entrepreneurship. According to the GEM (2017:22), potential entrepreneurs identify opportunities first and believe that they have the necessary skills and expertise to start a business before they act. The stronger the level of EI, the higher the likelihood that a focal behaviour will actually be performed (Ajzen, 1991:179). In essence, people choose or plan to engage in entrepreneurship. New business start-ups do not emerge by accident, nor are they passive products or services of environmental conditions (Shaver & Scott, 1991:24).

EI functions as a mediator for action and is regarded as the sunshade of social cognitive theory (Hejazinia 2015:247). Thompson (2009:669) defines EI as the "self-acknowledged conviction of an individual mind in the possibility of starting a new business with a sincere and dedicated plan to do so at certain point of time." According

to Mueller, Zapkau and Schwens (2014:251), EI is linked to commitment to new business start-up. A good predictor of the action to be executed is associated with EI (Soria, Honores & Gutierrez, 2016:67). According to Ajzen (2005), a person develops the intention to perform a certain behaviour and this intention remains an intention until when the appropriate time and opportunity arise, the intention is transformed into action.

Chatterjee and Das (2015:105) identified a direct relationship between need for achievement and EI. McClelland (1965:321) stated that entrepreneurial activity in society would be accelerated if there was a higher level of achievement in that society. EI is considered as the best predictor of planned behaviour for new business start-up (Mueller *et al.*, 2014:251). Krueger *et al.* (2000:413) found that the behaviour to establish a new business is often only weakly predicted by attitudes or exogenous factors that are either situational or individual in nature. Bird (1988:443) maintained that EI forms the initial strategic template for new business start-ups.

Previous research on EI revealed that it is significantly affected by a person's individual attraction to entrepreneurship and the social norm among micro and macro environments that outline beliefs and attitudes to entrepreneurship (Bach, Skok & Susa, 2016:37). Various factors, variables and characteristics have been identified to assist in determining individuals' perceptions of their EI status (Gaddam, 2008:37). It is important to note that openness, extraversion and agreeableness are personality traits that can potentially predict entrepreneurial start-ups and EI (Antoncic, Kregar, Singh & DeNoble, 2015b:832).

Establishing a new business is an intentional act (Hirschi & Fischer 2012:228). Douglas and Shepherd (2002:83) reported that attitude influences entrepreneurship through intentions and entrepreneurship should increase when EI is high. Behavioural intentions influence actions, hence the Theory of Reasoned Action and Theory of Planned behaviour. Both theories embrace behavioural intention as the immediate antecedent to behaviour (Phipps, Prieto & Kungu, 2015:180). Kumara (2012:107) indicates that persons with a more positive attitude to risk and independence have stronger intentions to become entrepreneurs than those with a negative attitude towards the same elements.



Krueger *et al.* (2000:418) point out that:

...behind entrepreneurial action are entrepreneurial intentions; behind entrepreneurial intentions are known entrepreneurial attitudes; behind entrepreneurial attitudes are deep cognitive structures and behind deep cognitive structures are deep beliefs.

In the following section, intention-based models are discussed with the aim to explore EI as the best predictor of planned behaviour. Antecedents of EI, which includes attitude towards the behaviour, subjective norm and perceived behavioural control are addressed because they are factors that influence individual EI to start a business.

### **2.5.1 Intention-based models**

Do Paço, Ferreira, Raposo, Rodrigues and Dinis (2011:24) identified six main models for EI in the field of entrepreneurship and explained these as follows:

- Entrepreneurial event model (Shapero, 1982) that considers the business creation as an event that can be explained with the interaction between initiatives, abilities, management, relative autonomy and risk;
- Theory of Planned Behaviour (Ajzen, 1991) with the premise that any behaviour requires a certain amount of planning and can be predicted by the intention to adopt that behaviour;
- Entrepreneurial attitude orientation (EAO) (Robinson *et al.*, 1991) that explains the attitude prediction through four different sub-scales (achievement, self-esteem, personal control, and innovation) and three of reactions (affective, cognitive or conative);
- Intentional basic model (Krueger & Carsrud, 1993) that examines the relationship between attitudes and EI using a scale which permits greater flexibility in the analysis of exogenous influences, attitudes and intentions;
- Entrepreneurial potential model (Krueger & Brazeal, 1994), based on the previous models of Shapero and Ajzen, supporting their evidence from the corporate venture and enterprise development perspectives; and

- Davidsson model (Davidsson, 1995) that states that intention can be influenced by the conviction defined by general attitudes, domain attitudes and the current situation.

According to Shook, Priem and McGee (2003:379), intention-based models contend that new business start-ups must be preceded by the development of intentions to create a new business and by understanding intentions, persons can better predict business start-up. De Leeuw, Valois, Morin and Schmidt (2014:487) maintain that human social behaviour can be predicted by the Theory of Planned Behaviour, which has become one of the most influential psycho-social models. Debarliev *et al.* (2015:146) stated that after the formation of EI, the search for ultimate opportunities begins. Subsequent to cognitive approach of social learning theory, Ajzen (1987:3) built his Theory of Planned Behaviour, highlighting that intentions capture the motivational factors that influence behaviour. Shook *et al.* (2003:380) found three models suitable to guide the understanding of the role of psychological variables in the development of EI, namely Bird's (1988) model of Implementing Entrepreneurial Ideas (IEI), Shapero and Sakol's (1982) model of the Entrepreneurial Event (SEE), and Ajzen's (1987) Theory of Planned Behaviour (TPB).

Debarliev *et al.* (2015:146) established that:

Bird's model of implementing entrepreneurial ideas, personal and societal contexts interact with rational and intuitive thinking during the formation of entrepreneurial intentions concerning new business start-up or creating new values for business.

Social context includes the individual's social, political and economic context while personal context includes the individual's history, personality and abilities (Kolvereid & Isaksen, 2012). Debarliev *et al.* (2015:146) reports that:

Shapero's entrepreneurial event model, developed by Shapero and Sokol, defines the interaction of cultural and social factors that can lead to a firm creation by influencing individual's perceptions.

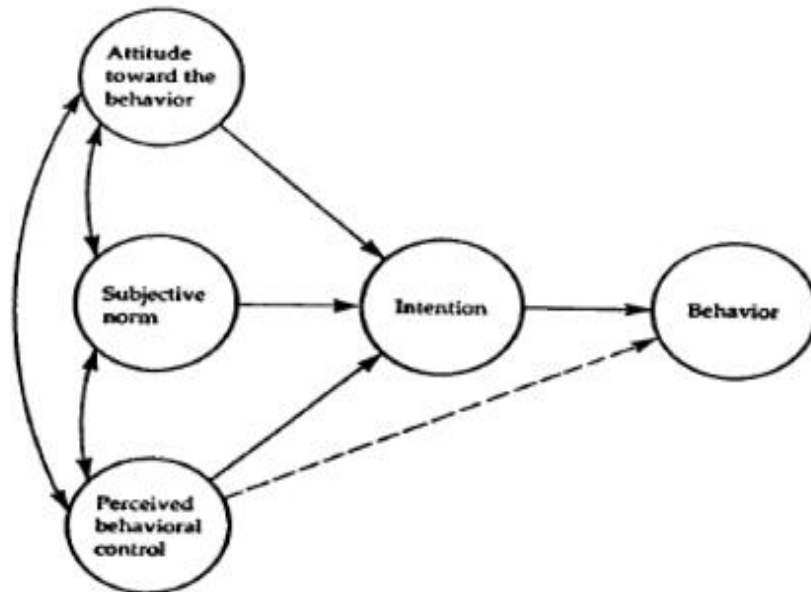
This model reflects entrepreneurship as an alternative option that takes place as a result of external change (Miralles, Riverola & Giones, 2012). In this model, EI depends on the elements of the perception of the desirability, the propensity to act and the perception of feasibility. Shapero's entrepreneurial event model was developed specifically to explain the impact of intentions on new business start-ups and the

Theory of Planned Behaviour model was developed to explain individual behaviour in general and was then adapted by entrepreneurship scholars (Debarliev *et al.*, 2015:146). Although these models are sometimes regarded as competing, they overlap to a large degree and intentions are described by enthusiasm and competence of individual entrepreneurs. Antecedents of EI and its aspects are discussed in the next section.

### **2.5.2 Antecedents of entrepreneurial intention**

Antecedents of EI of prospective farmers in a tertiary institution in SA can be determined using the Theory of Planned Behaviour control. Agolla, Monametsi and Phera (2019:2398) established that Ajzen's Theory of Planned Behaviour could be partially applied to determine EI in developing economy countries, of which SA is one. Phipps *et al.* (2015:181) state that the Theory of Planned Behaviour is considered as an extension of the Theory of Reasoned Action, which articulates volitional behaviour, explains intentions and behaviour of which people have control.

Furdas and Kohn (2010:2) report that personal attributes determine if a potential entrepreneur can recognise and exploit available business opportunities. Gird and Bagraim (2008:711) confirmed that the Theory of Planned Behaviour significantly explained the variance in persons' EI. The Theory of Planned Behaviour is relevant to entrepreneurship and its rationale supports the fact that the behaviour would be preceded by EI and ultimately preceded by a favourable attitude to entrepreneurship (Phipps *et al.*, 2015:181). Do Paço *et al.* (2011:20) indicate that the Theory of Planned Behaviour is a desired instrument to model the development of EI by means of pedagogical process and learning context. Creativity and political skills were identified by Phipps *et al.* (2015:181) as elements of perceived behavioural control because they contribute to potential entrepreneurs' perceptions to engage in entrepreneurial activity. Figure 2.2 depicts the model of the Theory of Planned Behaviour which is considered by Ajzen and Cote (2008:293) as the most influential and popular framework applied by most researchers to predict human behaviour.



**Figure 2.2: Model of Theory of Planned Behaviour**

Source: Ajzen (1991:182)

Personal attitude or attitude, subjective norm and perceived behavioural control, according to Rachmawan, Lizar and Mangundjaya (2015:420), are considered the sense of capacity regarding the fulfilment of new business start-up behaviour. The Theory of Planned Behaviour of Ajzen is discussed further in the next section.

### **2.5.2.1 Attitude towards the behaviour**

According to the Theory of Planned Behaviour, personal attitude is the degree to which an individual holds a positive or negative personal valuation of becoming an entrepreneur (Autio, Keeley, Klofsten, Parker & Hay 2001:146). Debarliev *et al.* (2015:147) state that attitude to the act reflects the person's valuation of the individual desirability of establishing a new business. Liñán and Chen (2009:594) report that beliefs are antecedents of attitudes because beliefs explain attitude, while attitude explains intention. Canizares and Garcia (2010:768) emphasise that psychological and non-psychological factors (demographic, training and experience) are pertinent in clarifying the existence of entrepreneurial attitudes. The findings of Malebana (2014:138) confirm that attitude to becoming an entrepreneur, perceived behavioural control and subjective norms predict the intention to establish new business start-up among rural university students in the Limpopo province of SA. Non-psychological factors such as demographic, training and experience and other psychological factors

have an influence on prosperity for business start-up. Personal attitude is a significant barrier to business start-up. It was therefore predicted that personal attitude would be associated with a low or high intention to start a business. It was expected that there would be a statistically significant difference in the degree of personal attitude between male and female students.

Debarliev *et al.* (2015:147) argue that attitude to the act, favourable social norms and entrepreneurial self-efficacy influence the intention to establish a new business. Phipps *et al.* (2015:181) report that the basic assumption of Ajzen's Theory of Planned Behaviour are that behavioural intentions are the function of three latent factors, being attitude to the act (that is the favourability of the person's evaluation of behaviour), social norm (that is perceived social demands to perform the behaviour), and perceived behavioural control (that is the ease or difficulty of performing the behaviour). Phipps *et al.* further indicate that Ajzen's theory explores the interaction of social norm, individual attitude and subjective perception that entail the intention of a person, which influences individual decisions and actions.

### **2.5.2.2 Subjective norm**

Perceived social pressure to decide whether to carry out entrepreneurial behaviours is measured by subjective norm (Rachmawan *et al.*, 2015:419). Ajzen (2001:27) defined subjective norm as "the perception to approve the decision to become an entrepreneur or not". Karimi *et al.* (2013:204) found subjective norm to be a stronger predictor of EI for females than for males. Robledo, Aran, Martin-Sanchez and Molina (2015:92) argue that the moderating effect of gender has a positive influence for females in the relationship between subjective norms. The subjective norms were identified as an important barrier to creativity and innovation, and norms could influence social values and attitudes of both males and females (Robledo *et al.*, 2015:99). Females who have supportive subjective norms about entrepreneurship are expected to display high EI, while on the other hand gender moderates the effect of perceived norms about entrepreneurship on EI (Yordanova & Tarrazon, 2010:256). Subjective norms are a significant barrier to business start-up. It was therefore predicted that subjective norms would be associated with a low intention to start a business. Soria *et al.* (2016:75) found that the gender effect of personal attitude to entrepreneurship was weaker in women than in men, and that subjective norm was a

stronger predictor of EI in women than in men. It was therefore expected that there would be a statistically significant difference between male and female students regarding the influence of subjective norm on their intention to start a business. Liñán, Urbano and Guerro (2008:66), detailed that perceived desirability is equal with the attitude of certain behaviour and subjective norms.

### **2.5.2.3 Perceived behavioural control**

Perceived behavioural control is defined by Rachmawan *et al.* (2015:420) as “the perception of the ease or difficulty of becoming an entrepreneur”. According to Liñán *et al.* (2008:65), the concept of perceived behavioural control is similar to self-efficacy and perceived feasibility. Perceived behavioural control is viewed by Bandura (1977:191), Ajzen (1991:180) and Bandura (1982:122) as a concept of perceived self-efficacy because it is concerned with how well a person can complete a particular course of action. The findings of Rachmawan *et al.* (2015:427) affirm that self-efficacy has a positive and significant influence on EI. Shneor *et al.* (2013:786) argues that males have higher self-efficacy and self-confidence in their skill set and abilities in forming EI than their female counterparts. Regarding perceived behavioural control, Maes, Leroy and Sels (2014:791) found that females attribute more significance to having appropriate knowledge and competences than their male counterparts. However, Soria *et al.* (2016:74) found that men have higher levels of EI related to perceived behavioural control than females do. Maes *et al.* (2014:791) state that internal feelings of control dominate perceived control over external events in estimation of EI. It was therefore expected that there would be no significant difference between male and female students regarding their perception to start businesses. Additionally, perceived feasibility from Shapero (1982) was similar to the findings on perceived behavioural control by Liñán *et al.* (2008:65). A person can be influenced by close environment valuation and social valuation and the sources of close environment valuation can be parents and/or close friends (Rachmawan *et al.*, 2015:419). Perceived behavioural control can be a significant barrier to business start-up. It was therefore predicted that low perceived behavioural control would be associated with low intention to start a business. It was therefore expected that there would be a statistically significant difference in the level of perceived behavioural control between male and female students.

EI and business start-up in SA is addressed in the next section.

## 2.6 Entrepreneurial intention and business start-up in SA

According to Soria *et al.* (2016:68), EI is considered crucial to understanding the process of creating a new business, for example a role player who mobilises persons to initiate their own business or those who consider initiating their own business start-up. The GEM (2017) survey (the 16<sup>th</sup> in which SA has participated) confirms that SA has persistently low levels of entrepreneurial activity relative to other countries participating in GEM. Table 2.3A presents EI in SA from 2003 to 2016. In 2003, 12.2% of South African adults had an EI but in 2005, the intention dropped to 10.7%. In 2008, the intention went up to 16.9% and in 2010 grew to 19.6%. In 2012, the intention dropped to 14.0% and increased again in 2013 to 15.4%. 2014, 2015 and 2016 show an EI rate of 11.8%, 10.9% and 10.1% respectively. In 2016, an average of 41.6% of African adults had an EI with efficiency-driven economies of 26% on average. Based on statistics, it is clear that the EI of adult South Africans and Africans in general, is not high.

**Table 2.3A: EI in South Africa (percentage of the population aged 18–64 years), 2003–2016**

	2003	2005	2008	2010	2012	2013	2014	2015	2016	Africa region 2016 (average)	Efficiency- driven economies 2016 (average)
Entrepreneurial intention	*12.2	10.7	16.9	19.6	14.0	15.4	11.8	10.9	10.1	41.6	26.0

Note: \*Read as 12.2% of South African adults in 2003 had EI

Source: GEM (2017)

Table 2.3B depicts self-perception of entrepreneurship in SA. EI in SA in 2017/2018 was 11.7% and ranked 39 out of 54 countries, which is very low. Opportunities are available with perceived value of 43.2%, which are not utilised. Therefore, more

participation in agricultural entrepreneurship may boost its ranking against the best in Africa and across the globe.

**Table 2.3B: Self-perception about entrepreneurship in South Africa**

	Value %	Rank/54
Perceived opportunities	43.2	30
Perceived capabilities	39.9	45
Fear of failure	31.3	38
Entrepreneurial intention	11.7	39

*Source: GEM (2018)*

Table 2.4 shows SA's performance in terms of relative position, that is how many positions above or below the median (the middle of a distribution) SA ranked for the years 2002 to 2015. It is clear that in 2016 SA's overall ranking is significantly below the median for the GEM sample, and considerably worse than in 2015. Since 2014, TEA activity in SA (relative to the GEM sample as a whole) has demonstrated a persistent downward trend that is cause for considerable concern.



**Table 2.4: South Africa's relative rankings, GEM 2002 – 2016**

<b>Year</b>	<b>SA's TEA ranking</b>	<b>SA's TEA rate</b>	<b>Median</b>	<b>Number of positions above/below median</b>
2002	20 <sup>th</sup> out of 37 countries	6.3	19	1 below
2003	22 <sup>nd</sup> out of 31 countries	4.3	16	6 below
2004	20 <sup>th</sup> out of 34 countries	5.4	17	3 below
2005	25 <sup>th</sup> out of 34 countries	5.2	17	8 below
2006	30 <sup>th</sup> out of 42 countries	5.3	21	9 below
2008	23 <sup>rd</sup> out of 43 countries	7.8	22	1 below
2009	35 <sup>th</sup> out of 54 countries	5.9	27	8 below
2010	27 <sup>th</sup> out of 59 countries	8.9	30	3 above
2011	29 <sup>th</sup> out of 54 countries	9.1	27	2 below
2012	22 <sup>nd</sup> out of 69 countries	7.3	35	13 above
2013	35 <sup>th</sup> out of 67 countries	10.6	34	1 below
2014	53 <sup>rd</sup> out of 70 countries	7.0	35	18 below
2015	38 <sup>th</sup> out of 60 countries	9.2	30	8 below
2016	46 <sup>th</sup> out of 65 countries	6.9	33	13 below

Source: GEM (2017)

EI in SA is significantly lower than for the African region as a whole, hence the regional average is four times higher than for SA, while the average for the efficiency-driven economies is more than double SA's score (GEM, 2017). Table 2.5 shows the entrepreneurial activity frequency rates in SA, together with phases of the lifecycle of a business, for the period of the country's involvement in GEM. A disappointing sign is that the rates of all levels of early-stage entrepreneurial activity have dropped considerably, compared to 2015. The nascent entrepreneurial rate is down by 30%, while the TEA rate has dropped by 25%. In terms of TEA, there is a wide gap between South Africans and their African counterparts. TEA rates in the Africa region as a whole are 2.5 times higher than for SA.

**Table 2.5: Prevalence rates (%) of entrepreneurial activity among the adult population, in South Africa, 2001–2016**

(average)	2001	2005	2009	2013	2014	2015	2016	Africa region 2016
Nascent entrepreneurial rate	*5.3	3.6	3.6	6.6	3.9	5.5	3.9	10.5
New business ownership rate	1.4	1.7	2.5	4.1	3.2	3.8	3.3	7.7
TEA	6.5	5.2	5.9	10.6	7.0	9.2	6.9	17.6
Established business ownership rate	-	1.3	1.4	2.9	2.7	3.4	2.5	11.9
Business discontinuance	-	2.9	3.5	3.9	3.9	4.8	4.5	7.3

\*Read as 5.3% of entrepreneurs in 2001 were engaged in nascent entrepreneurial activity

Source: GEM (2017)

Table 2.6 presents a detailed distribution of early stage entrepreneurial activity in SA per sector. Half of all early-stage entrepreneurs are involved in the wholesale/retail sector, the same as the average for Africa as well as for the efficiency-driven economies. With low levels of skills and education in the South African population, it is not surprising that the majority of TEA business entities in this sector as barriers to entry, in terms of both skills and capital required, are low. As a result, however, this is an over-traded sector populated by low profit margin businesses. The high level of competition for limited markets can threaten the sustainability of these businesses. SA

already has a disturbingly low rate of established firm activity relative to other economies in the GEM sample. The fact that a high proportion of TEA entities are concentrated in such a vulnerable sector is likely to exacerbate the poor sustainability of start-ups in SA. Only 2.9% of all early-stage entrepreneurs in 2016 were involved in the agricultural sector, which is a drop from 7.2% in 2015. This participation is not satisfactory, therefore it is important to reduce gender differences in the agricultural sector to allow more persons, irrespective of gender, to contribute more efficiently to farming and efficiency-driven economies.

**Table 2.6: Distribution of TEA by sector in South Africa, 2015–2016**

	2015	2016	Africa region 2016 (average)
Agriculture	7.2	2.9	12.9
Mining	6.3	6.6	4.2
Manufacturing	3.6	5.8	12.0
Transportation	5.1	9.7	4.3
Wholesale/retail	50.4	50.6	50.9
Information/communication technology	1.0	1.6	1.0
Finance	2.5	4.2	1.3
Professional services	3.1	2.7	1.6
Administrative services	2.5	6.1	2.4
Health, education, government and social services	16.8	8.5	8.4
Personal/consumer services	1.6	1.4	1.0

Source: GEM (2017)

Based on the information above, it is clear that SA's level of EI activity is below average. To enhance the country's economic growth, business development and job creation should be strengthened. It is imperative to enhance the EI of South African citizens through identification of barriers that hinder EO, such as assessment, response development and response control.

The following section addresses gender and levels of intention to self-employment. Sánchez (2011:239) points out that gender has an influence on the individual intention to start a business because men were found to be more efficient and oriented towards

establishing new businesses than women were. This assertion by Sánchez (2011) and other scholars is further analysed below.

## **2.7 Gender and levels of intention to self-employment**

Wagner (2005:1) reported a gender gap in the propensity to become self-employed and in self-employment performance. Hammond and Gurley-Calvez (2014:348) point out that natural amenities, demographics and the enterprise mix on self-employment growth differ by gender. Gupta, Turban and Bhawe (2008:1053) further established that gender stereotypes directly influence both males and females' intentions to establish new business start-ups and achievement-oriented career domain. The independence of gender as well as openness to change significantly predicts the level of EI (Hirschi & Fischer, 2012:225). Sasu and Sasu (2015:581) found that individual intention to become an entrepreneur was much higher in males than in females. Persons who have a high male gender identification (more masculine) have a greater intention to establish new business start-ups compared to those with low male gender identification (less masculine) (Gupta *et al.*, 2009:410). Wilson *et al.* (2007:388) pointed out significant gender differences between males and female with regard to EI. Joensuu, Viljamaa, Varamäki and Tornikoski (2013:791) found that females have lower levels of initial intention compared to their male counterparts.

Douglas and Shepherd (2002:83) found that attitude influenced entrepreneurship via intentions, while Canizares and Garcia (2010:779) affirmed that attributes associated with EI to establish a new business start-up differ between genders. De Leeuw *et al.* (2014:488) confirmed that gender tends to influence intentions and behaviour of persons indirectly through Theory of Planned Behaviour constructs. To explore gender differences in drivers of EI it is crucial to look at both the structural part and measurement part of the Theory of Planned Behaviour model and ultimately hypothesise the role of gender therein (Maes *et al.*, 2014:791).

There are significant characteristic and behavioural differences among male and female that affect business ownership such as education level and family structure in particular (Conroy & Weiler, 2015:1872; Magidimisha & Gordon, 2015:275). Numerous studies have shown that women are more risk-averse than men are, with a lower inflow of females into self-employment than males (Verheul, Thurik & Grilo,

2008). Men and women have different views regarding their actions towards EI and attitudes to entrepreneurship (Chipeta, Koloba & Surujlal, 2016:6892). Women are inclined to create new business start-ups only if they believe that their immediate environment appears positive to entrepreneurial activity (Caro-Gonzalez, Romero-Benabent & Sanchez-Torne, 2017:445).

Zampetakis, Bakatsaki, Litos, Kafetsios and Moustakis (2017:6) and Yordanova and Tarrazon (2010:248) reported similar findings regarding EI between males and females. Their findings support Phipps *et al.* (2015:182) who indicate that full-time male undergraduate students in Kenya have a higher EI than full-time female undergraduate students. Gupta *et al.* (2009:412) found that gender characterisation in the form of gender-role stereotypes and gender identification is linked to perceptions and intentions to become an entrepreneur. Male and female's EI is extremely influenced by gender stereotypes in a modern society (Gupta *et al.* 2009:413). The perceptions that women have of entrepreneurial activity directly and indirectly affect the intention to establish a new business start-up (Caro-Gonzalez *et al.*, 2017:445).

Afandi and Kermani (2015:1) point out that once women take a decision to get involved in business establishment, they have an equal likelihood to succeed in businesses as compared to men. In India, women have shown great confidence in their skills, abilities and expertise to build their businesses, possibly more than men have (Singh & Chauhan, 2016:115). Attitudes to new business start-up positively influence EI (Robledo *et al.* 2015:106) and attitudes are considered to be the best predictor of entrepreneurial behaviour (Chipeta *et al.*, 2016:6896). However, Santos, Roomi and Linan (2016:62) found that both men and women have the same level of EI to establish new businesses. Wang and Wong (2004:163) postulated that gender effect on entrepreneurial interest is moderately arbitrated by non-existence of entrepreneurial knowledge. This study sought to determine the EI of students in agricultural institutions in SA.

Caliendo and Uhlendorff (2007) believe that most individuals use self-employment as a tool to escape unemployment and economic inactivity. Hummel *et al.* (2013:370) indicate that economic growth and employment creation are products of job creation. Furthermore, Hummel *et al.* highlight that entrepreneurship plays a significant role in poverty reduction because jobs are created to ease the unemployment gap. SA is one

of the African countries experiencing the challenge of job creation in an environment where unemployment is very high (Statistics South Africa [SSA], 2017). Rybczynski (2015:28) indicates that self-employment rates in many countries around the globe are substantively lower for women than for men, while Obschonka, Schmitt-Rodermund and Terracciano (2014:1) report that self-employment is more common among men than in women. According to Wellington (2006:357), women and men usually have different self-employment rates, with women choosing self-employment less often than men do. Hundley (2001:817) states that housework and childrearing are two crucial factors that limit the scope of women in self-employment and the intensity of work effort.

Self-employment is related to autonomy. The notion is substantiated by Van Gelderen and Jansen (2006:24) who found that autonomy is considered as a start-up motive of new business establishment that drives entrepreneurs to engage in entrepreneurial activities. Therefore, autonomous persons are highly motivated to realise their own ideas and visions (Motloba, 2018:418). Motloba established that autonomy is associated with persons that value making their own decisions and are averse to receiving orders from others. Independent spirit is required in entrepreneurship, hence autonomy is all about taking independent actions to bring forth ideas, visions, concepts and taking decisive decisions (Callaghan & Venter, 2011:31). Entrepreneurs are viewed by Zehira *et al.* (2015:360) as strong leaders because they take decisive and risky action, therefore autonomy is related to freedom, taking free actions and making independent decisions. Lumpkin and Dess (1996:140) highlight that an “independent spirit” is vital for the entrepreneurship element and autonomy refers to “independent action in terms of bringing forth an idea or a vision and carrying it through to completion”. These include the concept of free and self-determined action and resolutions taken. Maes *et al.* (2014:791) confirm that there are gender differences in motives for an entrepreneurial career of both males and females because males value an entrepreneurial career as a means to achieve wealth, while females value it as a means of retaining autonomy and balancing work and family demands. Gupta *et al.* (2009:399) found that males are more highly associated with autonomy, independence, instrumentality and courage than females are. The Gupta *et al.* finding supports McBride, Bacchiochi and Bagby (2005:129), whose findings were similar regarding male and female autonomy orientation. It was therefore anticipated that

there would be a statistically significant difference in EI between male and female prospective farmers.

The following section addresses the second set of barriers, namely the external (extrinsic) barriers to business start-up. These include socio-cultural forces, social networking, political skills, human capital and skills, access to resources and access to land.

## **2.8 External (extrinsic) barriers to business start-up**

This section discusses external (extrinsic) barriers that can limit business start-up. Presbitero, Rabelotti and Piras (2014:1430) report that external barriers to business start-up are key factors that strongly influence entrepreneurial initiative. Fatoki and Chindoga (2011:163) in their study on final year students of University of Fort Hare and Walter Sisulu University in the Eastern Cape, indicate that there are barriers that youth encounter when trying to engage in EI such as lack of access to capital, lack of business skills, government support, risk and weak market opportunities. The findings of Fatoki (2010:92) also highlight that EI is very low in SA due to lack of access to capital, lack of competency, government support, risk and the macro-economy.

Each of these barriers is explored further, starting with social cultural forces.

### **2.8.1 Sociocultural forces**

Begley and Tan (2001:538) show that socio-cultural factors can influence the personality, attributes and lifestyle of an individual. Herrington *et al.* (2009) argue that the career choice of an individual is normally influenced by his or her social environment, with most believing that looking for a paid employment is a better option than being a job-creator. Culture is considered a vital element in the study of entrepreneurship. Socially, the structure, social development and culture of a country are some of the important factors that affect entrepreneurial decision to start new businesses (Castaño, Méndez & Galindo, 2015:1497). According to Jones and George (2008:200), socio-cultural forces are pressures that originate from the social structure of the country or society or from the national culture. Spigel (2013:804) states that culture is an important element of entrepreneurship because it assists in

highlighting the differences in the entrepreneurship process observed between regions, industries and socio-cultural groups.

Hopp and Stephan (2012:918) argue that strongly motivated entrepreneurs with high self-efficacy are indeed likely to flourish in performance-based socio-cultural environments. Hopp and Stephan continue, that a socially supportive institutional environment may facilitate emerging entrepreneurs to access the vital resources required to establish their own businesses. Urbano, Toledano and Ribeiro-Soriano (2011:125) identified two key socio-economic factors that are crucial in the emergence of an entrepreneurial-orientated society, namely the existence of role models within the entrepreneurial context, and their entrepreneurial attitudes and values.

Family support can play a critical role in inspiring entrepreneurs not only at the preparation stage but also at the business creation stage. According to Greve and Salaff (2003:02), family members are an important resource to entrepreneurs who lack access to other networks of support or have inadequate support during the venture development process. Authors such as Aldrich and Cliff (2003:574) and Dyer and Handler (1994:71) argue that without family support entrepreneurs will experience difficulties in securing external funding sources or using the family's financial assets. As a result, persons are discouraged from starting their own businesses because their families are not supportive of the career path, which they choose. Jafarnejad, Abbaszadeh, Ebrahimi and Abtahi (2013:210) further confirm that relation-based distribution of inputs and credits, rules of brokers and intermediaries, as well as lack of moral and material support from family are some of the barriers to entrepreneurial activity. Greve and Saleff (2003:20) confirmed that family business background might minimise barriers to EI because persons can take advantage of their networks and available social capital.

Nieman and Nieuwenhuizen (2009:43) found that there is less chance of persons coming from backgrounds where nobody in their family owns a business, to start their own business. Lindquist, Sol and van Praag (2015:269) highlight that children whose parents are entrepreneurial are more likely to become entrepreneurs because they will have a positive relationship and ultimately get support, including financial support. However, Kim *et al.* (2006:17) argued that levels of entrepreneurial involvement among family is not associated with being a nascent entrepreneur, while Tanveer,



Gillani, Rizvi, Latif, Maqbooi and Rizwan (2011:74) found that the existence of social-cultural constraints are liable to influence the participation of persons in entrepreneurial activities. According to van Auken, Stephens, Fry and Silva-Castan (2006), there are differences in how males and females were influenced by their parents. Van Auken *et al.* further reported that a higher percentage of females than males expressed a constructive parental influence on their entrepreneurial activity. Negative socio-cultural forces are considered as barriers to business start-up. It was therefore predicted that family support would be associated with a high intention to start a business. Having family members with businesses has a negative influence on one's intention to start one because of the challenges observed during business operation. It was expected that there would be a statistically significant gender difference in the influence of family support on the intention to start a business.

### **2.8.2 Social networking**

Social networking is viewed by Hoang and Antoncic (2003:165) as the channel through which an entrepreneur gains access to a variety of resources held by other entrepreneurs. By being part of a social network, entrepreneurs can learn new skills, techniques, share past experiences, and gain free entrepreneurial advice on how to solve problems they encounter (Johannisson, Alexanderson, Nowick & Senneseth, 1994:329; Jenssen & Greve, 2002; Hoang & Antoncic, 2003:166). Furthermore, Greve (1995:2) and Mushtaq, Hunjra, Niazi, Rehman and Azam (2011:438) argue that without extensive social networks it becomes difficult for persons to access information and develop relationships with other people who are in business. Milanov and Fernhaber (2009:27) indicate that businesses with larger alliance networks benefit from the initiative but surprisingly relatively few studies exist on how new businesses build and grow their networks. According to Batjargal (2010:140), Chinese entrepreneurs use social networking to their advantage because strategically they manage to access resources, technology, markets, information and political protection through relationships.

Batjargal (2010:139) indicates that entrepreneurs' networking skills are essential because they have a positive effect on the structural changes of entrepreneur networks over time. Baron and Tang (2009:282) argue that there is a significant relationship between entrepreneurs' social skills and new business performance and

therefore it is important for entrepreneurs to possess social skills. Batjargal (2007:397) defined social capital as “relationships and resources embedded in social networks”. Institutions and networks may influence and have a positive impact on entrepreneurial development in many countries across the globe (Aidis *et al.*, 2008:656).

According to Milanov and Fernhaber (2009:27), research on networks indicate that the importance of social networking has surfaced as a vital new area of interest in the field of entrepreneurship, especially its role in new businesses establishment and support. Milanov and Fernhaber further report that for a new business to succeed in its operations, alliance networks have proved to be important in overcoming difficulties commonly associated with the liabilities of newness. Semrau and Sigmund (2012:335) argue that entrepreneurial success relies on the network that new businesses should embed. Semrau and Sigmund further state that new business network characteristics, such as size and quality of network relationships, are contributing factors to new business success.

According to Griffin-EI (2015:80), networking has a crucial role to play in entrepreneurial practice because it provides a range of means to entrepreneurial experience. An individual entrepreneur requires a network of supporters while entrepreneurship involves mobilising community support (Westlund, Larson & Olsson, 2014:975). Social networking is viewed by Hoang and Antocic (2003:166) and Griffin-EI (2015:80) as the channel through which an entrepreneur gains access to various resources held by other entrepreneurs, such as the flow of knowledge, access to new markets and finance, enabled by relationships. One of the most important entrepreneurial activities is the mobilisation of financial resources, which can be achieved by establishing a network of supportive relationships (Steier & Greenwood, 2000:163). Steier and Greenwood further highlight that networking is the final arbiter of competitive success

Greve (1995:2) and Mushtaq *et al.* (2011:437) argued that without extensive social networks it becomes difficult for persons to access information and develop relationships with other people who are in business. Griffin-EI (2015:79) found that relationships and social activity are the driving forces of innovation. Sorenson, Folker and Brigham (2008:615) found that women prefer to organise themselves in networks that include a broad range of people with the aim of creating collaborative and co-

operative relationships that will enable them to acquire resources to meet their business needs. According to Yang, Liu, Zhang, Zhao and Wang (2015:405), women are viewed as less influential than men and are not well integrated into men's networks, especially in powerful business coalitions, and women are in a disadvantageous position when forming networks. Yang *et al.* (2015:406) further highlight that gender plays a crucial role in how persons develop their individual networks because others might have extensive and utilitarian network expertise (use of SMS, particularly in the case of Twitter and sponsored content) while others possess expressive networks. However, social networking can be a barrier to business start-up. Expressive networks include social relationships that transfer resources using components such as social support, friendship, and advice about personal matters, which are not directly relevant to achieving the goals of the organization (Moolenaar, Slegers & Daly, 2012:253). It was therefore expected that low or lack of social networking would be associated with low intention to business start-up because without extensive social networks it becomes difficult for persons to access information and develop relationships with other people who are in business. There should be a statistically significant difference between genders in terms of how they value the importance of social networking in entrepreneurship.

There is gender difference in profile-building associated with males and females networking for career success (Yang *et al.*, 2015:406). Shepherd (2016:14) found that there is a gender difference in the way men and women use Web 2.0 technologies such as Facebook, Twitter, Instagram and Pinterest. Women spend more time on Facebook than men do, while they both spend the same amount of time online but women tend to email and men tend to surf (Shepherd, 2016:15).

### **2.8.3 Political skills**

An additional aspect significant to entrepreneurial success is political skill. Political skills play a central role in organisations and they provide entrepreneurs with the ability to manage complex situations and organisational members for personal ends (Shaughnessy, Treadway, Breland, Williams & Brouer, 2010:588). Baron and Markman (2000:106) found that there are certain social skills that are relevant to entrepreneurs' tasks and success, and have similarities to dimensions of the political skills construct. Political skill is defined by Ahearn, Ferris, Hochwarter, Douglas and

Ammeter (2004:311) as “the ability to effectively understand others at work and to use such knowledge to influence others to act in ways that enhance one’s personal and/or organisational objective”. These skills are presented in Table 2.7 with their description and potential relevance to entrepreneurial success.

**Table 2.7: Social skills potentially relevant to entrepreneurs’ success**

<b>Social Skills</b>	<b>Description</b>	<b>Examples of Potential Relevance to Entrepreneurial Success</b>
Social perception	Ability to perceive accurately the emotions, traits, motives, and intentions of others	Making presentations to investors and customers, attracting and selecting partners and employees, conducting negotiations
Impression management	Ability to use tactics designed to induce liking and a favourable impression by others	Obtaining financing, attracting key employees, dealing with customers and suppliers
Persuasion and social influence	Ability to change others' attitudes and/or their behaviour in desired directions	Obtaining financing, recruiting key employees, dealing with customers and suppliers, conducting negotiations
Social adaptability	Ability to adapt to, or feel comfortable in, a wide range of social situations	Establishing business relationships with strangers (that is, cold calls), and working with people from diverse backgrounds

*Source: Baron and Markman (2000)*

Harris, Kacmar, Zivnuska and Shaw (2007:279) confirm that political skills afford individuals the capacity to understand others and use that knowledge to influence situations effectively for their own benefit. Political skill is conceptualised by Ferris, Treadway, Perrewé, Brouer, and Douglas (2007:292) as a distinct type of social skill relevant to entrepreneurial tasks. Political skill consists of four key dimensions that were found to correlate positively with EI, namely social astuteness, interpersonal

influence, networking ability and apparent sincerity (Ferris, Treadway, Kolodinsky, Hochwarter, Kacmar, Douglas & Frink, 2005:127; Chen & Lin, 2013:34).

According to Phipps and Prieto (2015a:76), entrepreneurs with higher EI possess political skills to successfully facilitate entrepreneurial behaviour and introduce new business start-ups to serve a particular need. A person's intention to become an entrepreneur is influenced by skills and the higher the skills of an individual in entrepreneurship will then yield EI. Phipps and Prieto (2015a:83) found that women have higher political skill perception than their male counterparts do, however, the associations between each dimension and EI were found stronger in males than in females. Westbrook, Veale and Karnes (2013:6) report that political skill is a vital element of a leader's success and politically skilled persons are able to proficiently interpret their environment with social norms and adjust their behaviour to match such norms (Shaughnessy *et al.*, 2010:588).

Watkins and Smith (2014:219) argue that women with high political skill are likely to avoid the challenges of being in charge in a male-dominated organisation and be adept in using management strategies that involve the decisive manipulation of one's image. Political skill is an important tool for women in attempting to access male-dominated careers; it would enable them to network and influence others in a genuine manner, thus reducing any possible presumption of disingenuousness (Watkins & Smith, 2014:218).

Westbrook *et al.* (2013:15) report that males and females perceive themselves as equal in political skills. Phipps *et al.* (2015:183) reports a statistically positive relationship between political skill and EI amongst males and females. Persons with strong EI value being politically savvy (Brice & Spencer, 2007:49).

Table 2.8 summarises politically savvy skill sets and their key descriptors, namely internal/character (integrity), internal/awareness, external/proactive, and external/protective skills. Lack of political skills is one of the barriers to business start-up. It was anticipated that there would be a statistically significant gender difference in the influence of political skills on the intention to start a farming business.

**Table 2.8: Politically savvy skills sets and key descriptors**

Internal Strategies	
<b>Character Strategies</b>	
Personal integrity	Uses ethical means to achieve what is good for one's organization. Advances one's career and maintains high moral standards.
Performance integrity	Takes ongoing feedback to maintain the attitude of a learner, avoids task shortcuts, demands quality, and is careful about the time spent on nontask-related, results-driven matters.
<b>Awareness Strategies</b>	
Savvy attitudes	Adopts a constructive mind-set to see the realities of power, politics, and perceptions in one's organization.
Studies politics	Studies organizational power and politics and learns about the culture in which they operate.
Knows corporate buzz	Possesses accurate self-awareness gained by systematically monitoring how they and their team are perceived and by understanding the standards by which they are being evaluated.
External Strategies	
<b>Proactive Strategies</b>	
Manages perceptions	Upon discovering legitimate skill, trait, or competency gaps, creates targeted development plans to improve themselves and eventually alter perceptions.
Essential networking	Places a high priority on creating and maintaining a network in an ongoing fashion.
Balanced self-promotion	Avoids extremes and finds the right level and kind of self-promotion for their organization.
Enhances power image	Builds true power base, enhances their personal power image, and strives for a strong impact when they speak and attend meetings.
Savvy communication	Pursues what is best for the organization but also protects themselves by exercising verbal discipline, employing savvy influence vocabulary, factoring in proper timing, and picking their battles.
Ethical lobbying	Works behind the scenes but is not unscrupulous. Plays aboveboard, directly asking people to support causes that help the company.
<b>Protective Strategies</b>	
Handles sabotage	Anticipates sabotage efforts and has skills to respond and protect themselves.
Detects deception	Able to detect patterns of deception, screen for self-serving information, and identify whom to trust and whom not to trust.

Source: Westbrook *et al.* (2013:10)

#### 2.8.4 Human capital and skills

More than any other business prerequisite, having technical and practical skills is essential. An entrepreneurship educational programme is a desired platform that could play a crucial role in the development of competences related to entrepreneurship, social and civic skills, and cultural awareness (Do Paço *et al.*, 2011:20). Erikson (2002:275) found that entrepreneurial capital is important for entrepreneurial success and is considered a multiplicative function of entrepreneurial competence and commitment. Mueller *et al.* (2014:261) confirm that persons who are confident in their knowledge, skills and expertise of new business start-up will believe that they have what it takes to start an entrepreneurial career. Entrepreneurial competences are

identified by Erikson (2002:280) as feasibility, creativity, self-efficacy and being enterprising, that is taking the initiative to start a business.

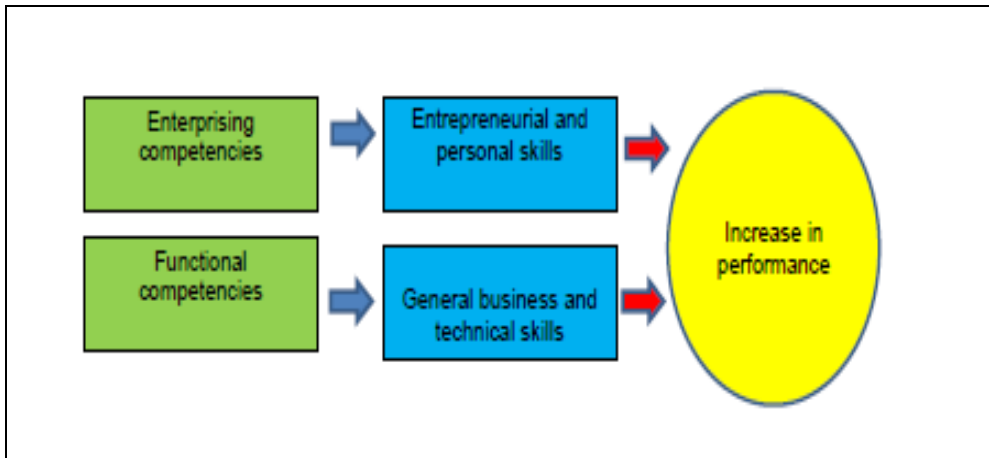
Semrau and Sigmund (2012:335) identified factors that made some entrepreneurs more successful than others, being their personality traits, skills and prior experience linked to other entrepreneurs. Having entrepreneurial knowledge and skills, in many cases, will convince persons to pursue a business venture, hence a lack of business skill and information hinders persons from venturing into entrepreneurial activities. Fatoki (2010:88) includes communication and organizing skills and states that these are lacking when it comes to business development initiatives.

Botha, van Vuuren and Kunene (2015:55) report that the challenge of using only start-up entrepreneurs as a sample is that they are newcomers to the business and might be inexperienced in operating a successful business. Sarasvathy, Menon and Kuechle (2013:417) opine that the problem of using prospective farmers as a sample is that they have not started a business and are exposed to the theoretical foundation of business operation only, not the practical part of it. Morris, Webb, Fu and Singhal (2013:353) indicate that determining competences that support new business start-up in entrepreneurs remains elusive and is further complicated by a failure among scholars to distinguish business skills from entrepreneurial skills.

According to Bolton and Lane (2012:219), educational and training programmes are the cornerstone of enhancing entrepreneurial skills and expertise that can have a positive impact on new business performance, profitability, growth and innovation. Botha *et al.* (2015:56) found a constructive relationship between human capital and entrepreneurial performance, which is supported by progressive and efficient running of established businesses, including those that are considered complex. Botha *et al.* further state that human capital includes but is not limited to attitudes, commitment, values, knowledge, experience, education, capability, and skills and abilities that will assist entrepreneurs and their teams in starting a new initiative, or running/growing a business.

According to Botha *et al.* (2015:59), there is a relationship between the competences and skills that an entrepreneur possesses because they contribute positively to high

performance, which ultimately leads to the achievement of set goals and objectives. The link is illustrated in Figure 2.3.



**Figure 2.3: The link between competences and skills**

*Source: Botha et al. (2015:59)*

According to Botha *et al.* (2015:59), the integrated model for increasing entrepreneurial performance is best represented by the equation below.

$\uparrow E/P = (a.P/S \times b.E/S) \times (c.B/S \times d.T/S)$ , where:

- $\uparrow E/P$  is defined as entrepreneurial performance, which is based on starting a business, utilizing an opportunity and growing the business idea.
- P/S is personal skills, which include problem solving, numeracy and literacy, motivation (need for achievement), and communication.
- E/S is entrepreneurial skills, which cover the ability to turn business ideas into feasible business opportunities, to start and to grow a business enterprise. Entrepreneurial skills include creativity, innovation, opportunity recognition, role model interpretation, ability to gather and control resources and calculated risk taking.
- B/S is business skills, which cover all the conventional management areas in a business. B/S includes financial, business systems management, general management, human resources, ICT skills, legal skills, marketing, networking,



operational, planning, research and development, and supplier management skills.

- T/S is technical skills, including vocational and specialised expertise that enables the business to develop and produce products and services of an acceptable quality.
- a, b, c and d are constant coefficients.

According to Botha *et al.* (2015:59), entrepreneurs should possess the following:

- Functional competences and key skills
  - marketing
  - financial
  - operational and legal
- Supportive skills
  - general management
  - ICT
  - human resources
  - networking
  - planning
  - research and development
  - business system management
  - value chain management
  - technical
  - numeracy and literacy
  - communication

It is evident that a lack of necessary functional and enterprise competences may hinder individuals from pursuing new business start-up initiatives. According to Giacomini *et al.* (2011:233), American and Indian students view the absence of knowledge and experience as the most vital barrier to EI.

Botha *et al.* (2015:59) believe that the performance of entrepreneurs can be enhanced if they possess the key and supportive skills listed in Table 2.9.

**Table 2.9: List of functional and enterprising competences required by SMEs**

<b>FUNCTIONAL COMPETENCES</b>	
<b>Identification in model</b>	<b>Key skills</b>
BM	Marketing management
BF	Financial management
BO	Operational
BL	Legal skills
BM	Marketing management
<b>Identification in model</b>	<b>Supportive skills</b>
BG	General management
BI	ICT skills
BH	Human resources management
BN	Networking
BP	Planning
BR	Research and development
BS	Business Systems management
BV	Value chain management
<b>ENTERPRISING COMPETENCES</b>	
<b>Identification in model</b>	<b>Key skills</b>
EG	Ability to Gather & control resources
PM	Motivation (need for achievement)
EG	Ability to Gather & control resources
<b>Identification in model</b>	<b>Key skills</b>
EC	Creativity
EI	Innovation
EM	Role Model interpretation
EO	Opportunity recognition
ER	Calculated Risk taking

- **PLS** - Personal life skills including adaptability to change, decision-making, negotiating skill learning abilities, problem solving, time management skills

Source: Botha et al. (2015:59)

Women entrepreneurs frequently lack key business skills and competences, for example negotiation efficacy, which is considered a vital competency necessary to establish and sustain a new business (Guerrero & Richards, 2015:17). According to Guerrero and Richards, females face more challenges than males do in securing human capital resources for business set-up initiatives. Papulova and Makros (2007) found that the education level of most women is far lower than men and as a result, women lack the necessary soft and hard business skills such as planning, decision-making, marketing and accounting skills. Human capital and skills are a barrier to business establishment. It was therefore predicted that low human capital and skills

would be associated with low intention to start a business. A statistically significant gender difference in accessing human capital and skills for business start-up was expected between male and female prospective farmers.

### **2.8.5 Access to resources**

Ullah, Ahmad and Manzoor (2013:4099) opine that access to resources enables an entrepreneur to exploit opportunities more aggressively than competitors, due to environmental pressures. Lack of access to capital is a global problem for many entrepreneurs (Pretorius & Shaw, 2004:222; Maas & Herrington, 2006; Antieno, 2009:34; Young Upstarts, 2011). Kim *et al.* (2006:5) report that entrepreneurship contributes to business dynamics in all economies of the United States of America (USA). However, access to business start-up may not be available to all persons because of resource constraints. Kim *et al.* (2006:7) advocate that if personal financial resources are insufficient, entrepreneurs need to approach credit markets to capitalise their new business ventures. Jurik (1998:8) argued that obtaining business finance through bank loans or investors could be difficult because of the high risk associated with new businesses. Often, many would give up on their dreams to start businesses due to these challenges. According to Kim *et al.* (2006:19), the prospects for entrepreneurial entry into business do not appear to be concentrated among those that are financially advantaged.

Raising capital is crucial for any business, either existing or new. Hormiga, Batista-Canino and Sánchez-Medina (2011:617) aver that establishing a new business initiative is a complex process that requires many resources before starting to trade or any other activity in the business transaction process. Capital is required to acquire these resources. Lack of access to capital is seen as a global challenge for many entrepreneurs in starting a business (Pretorius & Shaw, 2004:222; Antieno, 2009:34; Young Upstarts, 2011). This problem is most severe at the initial phases of new business set-up. Often, entrepreneurs that are inspired to start a new business use their own saved capital or take a loan that they need to repay with interest (Staniewski, Szopiński & Awruk, 2015:138). Dhochak and Sharma (2015:465) suggest that venture capitalists can play a role by identifying innovative businesses with success potential and fund them for investment purposes. Bravo, Maldonado and Weber (2013:358) report that countries around the globe have introduced a system of granting and

managing loans for micro-entrepreneurs, as a mechanism to promote new business developments. However, Montgomery, Johnson and Faisal (2005:103) argued that human capital, not financial, is considered as the primary resource in starting a business. The finding of Giacomini *et al.* (2011:234) on Indian students is that fiscal and administrative costs are the most important barrier to them when engaging in entrepreneurial related activities.

Aristei and Gallo (2016:67) indicate that gender-based discrimination in access to finance is a cause for concern because it limits growth and profitability of women-led business. Derera, Chitakunye and O'Neill (2014:313) report that women entrepreneurs are subjected to gendered-biased practices by financial institutions in many countries, which therefore discourages them from entering into non-traditional industries. Even though financial providers are well-informed about their products, the majority of emerging women entrepreneurs in SA may find it challenging and costly to access information on available financial products from which they could benefit (Derera *et al.*, 2014:313). According to Shneor *et al.* (2013:787), females experience greater challenges than men do in accessing finance and credit to establish business start-ups in many countries across the globe. Derera *et al.* (2014:313) recommended that countries should consider establishing financial institutions that specifically cater to the needs of women entrepreneurs. Access to resources is considered as a barrier to business start-up. It was therefore predicted that limited access to resources would be associated with low intention to start a business. A statistically significant gender difference in access to resources for business start-up between male and female prospective farmers was expected.

#### **2.8.6 Access to land**

Access to land is considered the most significant facet of production, especially agricultural production, but the availability of arable land remains a contentious issue in many parts of the world. Mowlds, Nicol and Cleirigh (2012) opine that major global food security challenges can be remedied by the provision of land for agriculture. According to Ngotho (2017), countries on the African continent, such as Kenya, are introducing land lease models to attract the youth to participate in agricultural-related activities. Oluwatayo, Timothy and Ojo (2018) report that in remote villages across Nigeria at least one million hectare of state-owned land is available for farming and

these farmlands are leased to local and foreign investors at very affordable rates. In SA, one of the three distinct components of land reform is agricultural development, which entails making land available to people for agricultural purposes.

According to the National Development Agency (2011), the Land Redistribution for Agricultural Development sub-programme has two distinct parts:

- Firstly, it deals with the transfer of agricultural land to specific individuals or groups.
- Secondly, it deals with commonage projects, which aim to improve people's access to municipal and tribal land primarily for grazing purposes.
- Both these parts of the sub-programme deal with agricultural land redistribution. However, they operate according to different financial mechanisms, different target groups, and different delivery systems.

According to Modise and Mtshiselwa (2013:1), the Native Land Act in 1913 engineered poverty of black South Africans because the legacy of socio-economic injustice was inherited by the same Act. The Act is considered as a predecessor to apartheid regime laws because more hectares of arable land were allocated to whites and only a few reserved for blacks (Maylam, 1986:8). The Act saw the lives of black people turned upside down because at the same time their land was again pugnaciously seized from them (Carter & May, 2001:1991). Abrahamsson (2013) found that women experience gender discrimination in accessing land in most countries on the African continent. Doss, Kovarik, Peterman, Quisumbing and van den Bold (2013) reported that SA experiences great gender inequity in access to land. The difference between men and women is structural and is the result of unequal access to resources, which has given men more power and influence than women have. Abrahamsson (2013) further established that access to land could play a crucial role in strengthening women's economic independence and give them the opportunity to control the income and investment generated in the agriculture sector. Pheko (2014) found that access to natural resources, especially land, is a critical factor for women to improve their food security and the economic welfare of the country. The United Nations (2009) reports

that female economic empowerment can be achieved by giving women equal access to economic resources (including access to land) and eliminating gender inequalities.

On 27 February 2018, the National Assembly made a revolutionary pronouncement to review Section 25 of the Constitution of the Republic of South Africa to address the principle of land expropriation without compensation (South Africa. Government Gazette, 2018). The decision was based on the resolution of the ruling party, the African National Congress (ANC), at its December 2017 conference, where it stated that it would commence the process to amend Section 25 of the Constitution to deal with possible land expropriation without compensation, provided that it is sustainable and does not harm the agricultural sector or the economy. Access to land is one of the challenges to business start-up. It was therefore anticipated that lack of access to land would be associated with low intention to start a business. Expectations were that there was a statistically significant gender difference in access to land for business start-up by male and female students.

In the following section, EO and intrapreneurial aspects are discussed. Business performance, growth and development may also depend on entrepreneurship in existing businesses (called intrapreneurs) and intrapreneurship employee-related antecedents (Antoncic & Antoncic, 2011:589).

## **2.9 Entrepreneurial orientation and intrapreneurs**

Entrepreneurs have an important role to play as employees within organisations. It was expected that some of the graduates would be employed in existing organisations, in which they would be intrapreneurs. Corporate entrepreneurship can be described as where an individual is working in an organisation and the same individual is expected to start a business within the existing business. The existence of entrepreneurship and intrapreneurship employee-related antecedents in existing organisations may positively influence organisational performance, growth and development (Antoncic & Antoncic, 2011:589). High levels of job satisfaction are vital for organisational growth because satisfied and motivated intrapreneurial employees will use their skills and expertise to the benefit of the organisation. The concept of EO incorporates organisational processes, practices and the decision-making approaches of innovative organisations (Lumpkin & Dess, 1996:151). General work satisfaction,

employee relationships and the relationship between employees and remuneration and benefits, as well as employee loyalty, are important elements because they are directly associated with a business' operation (Antoncic & Antoncic, 2011:589).

Maier and Pop Zenovia (2011:972) describe intrapreneurship as:

...the initiation and implementation of innovative systems and practices within an organization, by some of its staff under the supervision of a manager who takes the role of an intrapreneur, in order to improve the economic performance of the organization, by using a part of its resources, namely those that previously have not been used in an appropriate manner.

Intrapreneurship is a competitive factor for organisational excellence (European Commission, 2011). Antoncic and Antoncic (2011:591) define intrapreneurship as “an entrepreneurship activity undertaken by an employee who is entrepreneurially-oriented within the existing business”. Antoncic and Antoncic further indicate that intrapreneurship can be divided into four dimensions, which incorporate the following entrepreneurial activities in the existing business:

- New business venturing: this dimension refers to the creation of new businesses related to existing products or markets and the creation of new units without regard to the level of autonomy or size.
- Product/service innovativeness: this dimension refers to product and service innovation.
- Process/technology innovativeness: this dimension refers to innovations in production processes, procedures and techniques, as well as in technologies.
- Self-renewal: this dimension reflects the transformation of organizations through a renewal of the key ideas on which they are built.

Therefore, graduates employed within existing organisations are expected to play a crucial role in incorporating some of the dimensions as identified above by Antoncic and Antoncic (2011:591). Intrapreneurship is vital for business survival because intrapreneurs can add value to the business operations through the enhancement of growth, innovation, leadership, change and engagement. Intrapreneurs are involved with new “business start-ups” within existing organisations. Therefore, the study of

prospective entrepreneurs, orientation & EI, becomes relevant. It is imperative for business owners to invest in intrapreneurship because it is one of the key instruments for business growth.

The following section addresses the relationship between EO, business start-up and performance.

## **2.10 Entrepreneurial orientation, skill sets and performance**

EO is considered by many scholars as an important competency required to establish a business start-up and managing its performance (Zainol & Ayadurai, 2011:59). The study done by Koe (2016:3) on Taiwanese franchisees' individual EO found that EO is positively related to business performance. Bolton and Lane (2012:222) confirm the relationship between individual EO and business success. The relationship between EO, business start-up and performance is critical because it was found relevant to this study. It is important for an entrepreneur to have the necessary skills and expertise in the field to be able to adapt well to changing environmental conditions (both internal and external) and the demands in the market.

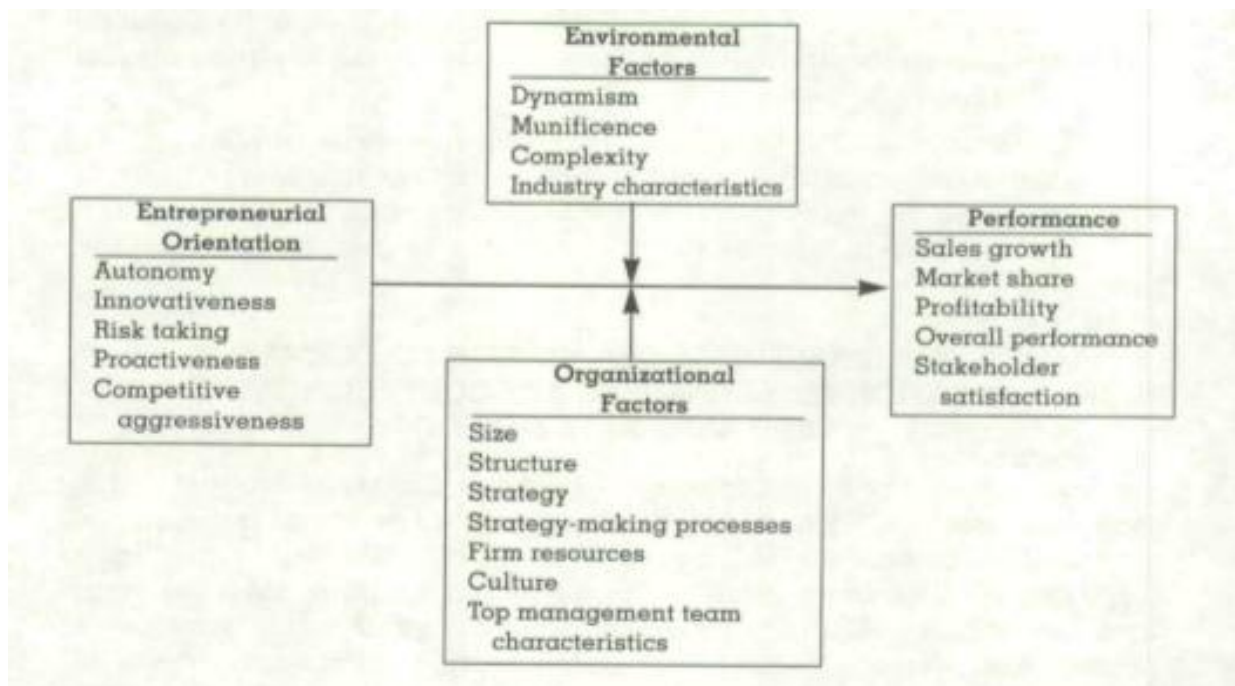
### **2.10.1 EO and performance**

The attitude and interest that persons have in a particular activity or task has a direct impact on their performance (Sikhwari, 2007:522). Koh, Wang, Tan, Liu and Ee (2009:334) and Cameron and Pierce (2005:67) argued that persons should have the drive to participate in entrepreneurial activities by exposing themselves to entrepreneurship trade. Pintrich (2003:668) reported that persons are motivated by means of adapting to self-efficacy regarding the belief that they can and will do well by applying effort and persistence. Hellriegel *et al.* (2006:45) found that it was the responsibility of individuals themselves to be self-motivated to pursue and achieve their goals and objectives. According to Rugutt and Chemosit (2009:17), for persons to have the drive, they should have energy, enthusiasm and the innate desire for goal achievement. Fielden, Davidson and Makin (2006:295) argued that the success or failure of new business mostly depended on overcoming a number of potential barriers, for example finance and training. Staniewski *et al.* (2015:135) ascertained that entrepreneurship plays a vital role in the development of the economy and society in general, and it gives sustained superior performance to businesses.



Keh, Nguyen and Ping Ng (2006:594) maintained that EO had a positive influence on business performance, while Lumpkin and Dess (1996:153) argued that there are different measures of performance used, depending on the organisation size, type and ownership. However, Ucbasaran, Westhead and Wright (2007:155) found that entrepreneurs with human capital input are positively associated with favourable output. Entrepreneurship is an important element of the strategic management processes of a business (Lumpkin & Dess, 1996:151). The findings of Krauss *et al.* (2005:340) confirmed that EO and its components (innovation, risk taking, personal initiative and autonomy) are valuable predictors for business success.

EO is perceived as a driving force and construct associated with new business success (Eggers, Kraus, Hughes, Laraway & Snycerski, 2013:527). According to Lim and Envick (2013:465), EO is an essential attribute of high performing businesses. Zahra (1993:320) confirmed that for the new entry organisation to have high performance in its operation, strong EO is required. It is vital for entrepreneurs to ensure that key variables such as environment, business structure and strategy work together if the business is to perform at optimal levels (Miller, 1988:280). A relationship exists between EO and its determinants, including business size and its structure, strategic decision-making processes, resources and its culture (Ullah *et al.*, 2013:4098). The framework suggested by Lumpkin and Dess (1996:152) seen in Figure 2.4 highlights factors that may affect the relationship between EO and performance.



**Figure 2.4: Conceptual framework of entrepreneurial orientation**

Source: Lumpkin and Dess (1996:152)

Ucbasaran *et al.* (2007:155) reported that gained outputs are related to the identification and taking advantage of available opportunities, while Unger, Rauch, Frese and Rosenbusch (2011:341) affirmed that human capital increases entrepreneurs' abilities of discovering and taking advantage of business opportunities.

Scott and Bruce (1987:45) and Majumdar (2008:157) revealed that the attitudes of entrepreneurs and the nature of the industry influence their goals and ambitions regarding growth of the organisations. The findings of Miller and Toulouse (1986:1448) and Davidsson (2002:103) indicate that the personality and abilities of the entrepreneur influence growth and performance of the business. Growth strategy in small entrepreneurial organisations is associated with entrepreneurial vision of enterprise and attitude to growth, early search on strategic fit in the market and the environment, and continuous learning and search the entrepreneurial way (Majumdar, 2008:161). Krueger and Carsrud (1993:316) found that entrepreneurial behaviour such as starting a new business is intentional and it is predicted by intentions towards the behaviour. Kolvereid and Isaksen (2006:868) reported that behavioural intentions

were determined by the attitude to the behaviour and perceived social pressure to perform or not to perform.

### **2.10.2 Skill sets and performance**

To be successful, it is important for businesses to link skills to business performance, which will enable the organisation to utilise its resources effectively and to monitor its investments. Several models have been developed to investigate this notion. Prospective farmers need skills and expertise in agriculture for them to be successful in their entrepreneurial endeavours in farming. Botha *et al.* (2015:57) argue that the eight entrepreneurial models in Table 2.10 below highlight the important elements of entrepreneurial success. The skills and competences identified in Table 2.10 are further examined in Table 2.11, giving a detailed analysis of the eight different models.

**Table 2.10: Equations of the entrepreneurial performance models**

<b>Authors</b>	<b>Equations</b>	<b>Skills and competences</b>
Glancey (1998)	Increase in performance = G (traits, motivation, management) x h(market)	Entrepreneurial characteristics Managerial practices Entrepreneur's motivations
Van Vuuren and Nieman (1999)	$\uparrow E/P = aM \times b E/S \times c B/S$	Motivation Entrepreneurial skills Business skills
Wickham (2001)	$\uparrow \text{Performance} = W$ (industry, management, interpersonal, motivation)	General management skills Industry knowledge Personal motivation Interpersonal skills
Erikson (2002)	$\uparrow \text{Performance} = E$ (competence and commitment) x M x (B/S+ opportunity x resources)	Entrepreneurial competence Entrepreneurial commitment Motivation Opportunity Resources
Man <i>et al.</i> (2002)	$\uparrow \text{Performance} = M$ (competitive scope, B/S, E/S)	Competitive scope Organisational competences (business skills) Entrepreneurial competences (entrepreneurial skills)
Ucbasaran <i>et al.</i> (2002)	Success = U(E/S, B/S, Technical)	Entrepreneurial role Managerial role Technical role
Darroch and Clover (2005)	Success = D(motivation, E/S, B/S)	Motivation Entrepreneurial skills Business skills
Perks and Struwig (2005)	Success = P(personal, opportunity, B/S, technical)	Personal skills Technical skills Business opportunity Management skills

Source: Botha *et al.* (2015:57)

**Table 2.11: An analysis of the skills constructs as per the eight models reviewed**

Skills	Glancey1998	Van Vuuren and Nieman 1999	Wickham 2001	Erikson 2002	Man et al. 2002	Ucbasaran et al. 2002	Darroch and Clover 2005	Perks and Struwig 2005
<b>Business skills</b>	X	X	X	X			X	X
Strategy and business plans		X			X	X		
Operations		X				X		
Financial		X			X	X		
Marketing		X			X	X		
Human resources		X			X	X		
Legal skills		X						
Communication		X			X			X
<b>Entrepreneurial skills</b>		X		X		X	X	
Industry/market opportunity	X	X	X	X	X	X		X
Risk		X			X			
Creativity		X						
Innovation		X			X			
Role models		X						
Gathering of resources				X				
<b>Personal skills</b>			X		X			X
Decision-making		X			X			
Achievement motivation & commitment	X	X	X	X	X		X	X
Inner control		X						
Persistence		X						
Leadership		X			X			
Problem solving		X						X
Ability to learn		X				X		
Networking					X			
Literacy and numeracy								X
<b>Technical skills</b>					X	X		X
Product/service development						X		
Product/service production						X		

Source: Botha *et al.* (2015:58)

According to Botha *et al.* (2015:58), an integrated model was developed, based on Tables 2.8 and 2.9, and the following variations were incorporated:

- Following Erikson's (2002) model, the ability to gather resources is included as one of the skills within the entrepreneurial skills construct.
- The integrated model broadens the motivation skills to include all personal skills identified by Wickham (2001), Man, Lau, and Chan (2002), Perks and Struwig (2005). Therefore, the new construct, called 'Personal skills (P/S)', is described as including motivation (need for achievement), problem solving, numeracy and literacy, and communication skills. This integrated model acknowledges that motivation is the dominating factor in the personal skills construct.
- 'Technical skills (T/S)' is identified separately from business skills, following the models of Man *et al.* (2002) and Ucbasaran, Westhead and Wright (2002). It is important for an entrepreneur to have certain technical skills (Cornwall & Naughton, 2003). Perks and Struwig (2005) point out that technical skills should be a precondition for starting any business (because the entrepreneur must create things well). In an entrepreneurial team, one person might possess technical skills and the other might have business skills; one person seldom has all the skills required. Therefore, technical skills can be considered a multiplicative construct, instead of an additive construct, as part of the portfolio in business skills.

It is clear that entrepreneurial performance equates to business start-up. According to Naldi, Nordqvist, Sjoberg and Wiklund (2007:36), the risk taking dimension is positively related to organisation performance. From the literature above, it is evident that both internal (intrinsic) and external (extrinsic) barriers have an influence on business performance (business start-up). Skill shortages and gaps may prevent prospective farmers from pursuing a career in farming or cause them to be unsuccessful in establishing a business.

It can be noted from the above literature that EO and intention to start a new business is a measure of expected performance.

In the following section, demographic determinants of EO and intention are addressed.

## **2.11 Selected demographics and business start-up**

Demographic factors play a crucial role in informing the EO of individuals who are willing to engage in entrepreneurial activities (Singh, 2014:20). Uddin, Mohammad and Hammani (2016:215) found that demographic factors influence EO. Singh and Chauhan (2016:115) established that individual motivation, family structure, education, demography, unemployment, and social and economic environments were the main contributing elements that influenced women entrepreneurship. Kristiansen and Indarti (2004:55) confirm that demographic variables such as individual background (education and experience) influence individual entrepreneurial behaviour. According to Kiggundu (2002:256), these variables help in distinguishing successful entrepreneurs from less successful ones. Gaddam (2008:39) reported that when researching entrepreneurial behaviour of individuals, their personal characteristics such as role models, education level and family background are critical. For example, Penpece (2014:150) states that educational status has a significant effect on proactiveness, risk taking and innovation. According to Krauss *et al.* (2005:315), individual personal characteristics influence EO. Individuals from families that own businesses exhibit strong manifestations of autonomy, risk taking and drive. Several demographic variables were identified by Singh (2014:21) that may influence EI, namely age, family business background, socio-economic status, gender and parents occupation. Demographic factors identified in this study are gender, field of study, area raised and family business status.

Singh (2014:23) postulates that EI is strongly influenced by family business background. Talas, Celik and Oral (2013:23) confirm that there is a statistical relationship between entrepreneurial family and EI. Hsu, Roberts and Eesley (2007:768) found that economic status of the family has an impact on a student's decision to establish a business; the parents will be able to offer financial support, which will encourage EI. Sasu and Sasu (2015:581) report that parents who own a business tend to become mentors to their children who decide to start a business. Bygrave and Zacharakis (2004) found that individuals might be inspired to pursue similar business interests through identification with role models.

Uddin *et al.* (2016:86) argue that experiential learning together with educational programmes can influence an individual's intention to establish a business. Wu and Wu (2008:752) found that the differences in individual EI could be explained by the diversity of educational background. The environment in which an individual is, either an urban or a rural environment, can influence their intention to start a business. It was therefore expected that prospective farmers' field of study, the area in which they were raised and family business status would be associated with intention to business start-up. Predictions were that statistical difference would not exist between demographic variables (field of study, area raised and family business status) and EI as measured by personal attitude, subjective norm, perceived behavioural control and locus of control.

The relationship between EO and EI is discussed in the next section.

## **2.12 Relationship between entrepreneurial orientation and entrepreneurial intention**

Entrepreneurs play a vital role in the creation of wealth through job creation, (Debarliev *et al.*, 2015:145). It is crucial to note that EO also involves intentions and actions of key role-players operating in a dynamic process designed for the establishment of new business start-up (Lumpkin & Dess, 1996:136). Koe (2016:4) established a correlation between each of the elements of individual EO (risk taking, innovativeness and proactiveness) and EI of University of Teknologi students in Malaysia. According to Soria *et al.* (2016:67), EI is connected to the creation of business start-up, economic environment and availability of resources. The concept of EO is defined by Bird (1988:442) as "the mind-sets that direct, guide, co-ordinate and control the basic concepts (action) of new business development, implementation and evaluation". EI is seen by Obschonka, Gothner, Silbereises and Cantner (2012:137) as an entrepreneurial process of transforming knowledge into economic outcome.

The researcher found it necessary to introduce EI in this study because of its correlation with EO, which was proven by other scholars. Based on definitions of EO and EI, the researcher found similarities between the two. Therefore, these concepts are perceived to be related by the researcher because of their relationship as established by Koe (2016:4). This is supported by the fact that dimensions of EI (attitude to the behaviour, subjective norm, perceived behavioural control, and locus



of control) and dimensions of EO (risk taking, innovation, proactiveness, competitive aggressiveness, creativity and autonomy) are categorised as internal (intrinsic) barriers to business start-up. According to the Theory of Planned Behaviour, personal attitude is the degree to which an individual holds a positive or negative personal valuation about becoming an entrepreneur (Autio *et al.*, 2001:146). Debarliev *et al.* (2015:147) report that attitude to the act reflects the person's valuation of the individual desirability of establishing a new business start-up. Liñán and Chen (2009:594) reported that beliefs are antecedents of attitudes because beliefs explain attitude, while attitude explains intention. According to Robledo *et al.* (2015:106), attitudes to new business start-up exert positive influences on EI and attitudes are considered as the best predictor of entrepreneurial behaviour (Chipeta *et al.*, 2016:6896). Based on the constructs and definitions of EI by different scholars, the researcher therefore decided to use personal attitude instead of EI in this study. The researcher concluded that personal attitude drives the intention to pursue a decision to establish a business. In this study, the researcher associated EI with business start-up as a reflection of an attitude that drives the intention to opt for a particular behaviour.

This study investigated the perceived gender-based barriers to business start-up amongst final year agricultural students at institutions of higher learning in SA. To achieve the aims of the study, the following hypotheses were advanced.

### **2.13 Hypotheses**

- Hypothesis (H1) states that:  
There is no statistically significant difference between the mean values of males and females with regard to the following barriers to business start-up: H1:1 taking responsibility, H1:2 motivation, H1:3 proactiveness, H1:4 creativity, H1:5 personal attitude, H1:6 social networking, H1:7 access to resources, H1:8 socio-cultural forces, H1:9 human capital and skills, H1:10 access to land, H1:11 political skills.
- Hypothesis (H2) states that:  
There is no statistically significant difference between the mean values of prospective farmers' field of study with regard to the following barriers to business start-up: H2:1 taking responsibility, H2:2 motivation, H2:3 proactiveness, H2:4 creativity, H2:5 personal attitude, H2:6 social networking, H2:7 access to resources, H2:8 socio-cultural forces, H2:9 human capital and skills, H2:10 access to land, H2:11 political skills.

- Hypothesis (H3) states that:  
There is no statistically significant difference between the mean values of where prospective farmers were raised and the following barriers to business start-up: H3:1 taking responsibility, H3:2 motivation, H3:3 proactiveness, H3:4 creativity, H3:5 personal attitude, H3:6 social networking, H3:7 access to resources, H3:8 socio-cultural forces, H3:9 human capital and skills, H3:10 access to land, H3:11 political skills.
- Hypothesis (H4) states that:  
There is no statistically significant difference between the mean values of prospective farmers who either belong to a family owning a business or not and the following barriers to business start-up: H4:1 taking responsibility, H4:2 motivation, H4:3 proactiveness, H4:4 creativity, H4:5 personal attitude, H4:6 social networking, H4:7 access to resources, H4:8 socio-cultural forces, H4:9 human capital and skills, H4:10 access to land, H4:11 political skills.
- Hypothesis (H5) states that:  
Personal attitude to start a business is predicted by the following business start-up factors: H5:1 taking responsibility, H5:2 motivation, H5:3 proactiveness, H5:4 creativity, H5:5 social networking, H5:6 access to resources, H5:8 socio-cultural forces, H5:9 human capital and skills, H5:10 access to land, H5:11 political skills.
- Hypothesis (H6) states that:  
Taking responsibility to start a business is predicted by the following business start-up factors: H6:1 motivation, H6:2 proactiveness, H6:3 creativity, H6:4 social networking, H6:5 socio-cultural forces, H6:6 human capital and skills, H6:7 access to land, H6:8 political skills.
- Hypothesis (H7) states that:  
Motivation to start a business is predicted by the following business start-up factors: H7:1 creativity, H7:2 socio-cultural forces, H7:3 human capital and skills.
- Hypothesis (H8:1) states that:  
There is no significant positive relationship between personal attitude and taking responsibility to start a business among prospective farmers.
- Hypothesis (H8:2) states that:  
There is no significant positive relationship between personal attitude and motivation to start a farming business among prospective farmers.
- Hypothesis (H8:3) states that:  
There is no significant positive relationship between personal attitude and proactiveness of prospective farmers to start a business.

- Hypothesis (H8:4) that applies to testing the correlationship between the two barriers states that:  
There is no significant correlationship between personal attitude and creativity of prospective farmers to start a business.
- Hypothesis (H8:5) states that:  
There is no significant positive correlationship between personal attitude and social networking of prospective farmers.
- Hypothesis (H8:6) that applies to testing this correlationship states that:  
There is no significant positive correlationship between personal attitude and socio-cultural forces of prospective farmers.
- Hypothesis (H8:7) that applies to testing this correlationship states that:  
There is a no significant positive correlationship between personal attitude and access to resources of prospective farmers.
- Hypothesis (H8:8) that applies to testing this correlationship states that:  
There is no significant positive correlationship between personal attitude and human capital and skills of prospective farmers.
- Hypothesis (H8:9) that applies to testing this correlationship states that:  
There is no significant positive correlationship between personal attitude and access to land.
- Hypothesis (H8:10) states that:  
There is no significant positive correlationship between personal attitude and political skills.
- Hypothesis (H9:1) states that:  
There is no significant positive correlationship between taking responsibility and motivation of prospective farmers to start a business.
- Hypothesis (H9:2) states that:  
There is a no significant positive correlationship between taking responsibility and proactiveness of prospective farmers.
- Hypothesis (H9:3) states that:  
There is no significant positive correlationship between taking responsibility and creativity of prospective farmers.
- Hypothesis (H9:4) that applies to testing this correlationship states that:  
There is no significant positive correlationship between taking responsibility and social networking of prospective farmers.

- The hypothesis (H9:5) that applies to testing this relationship states that:  
There is no significant positive relationship between taking responsibility and access to resources of prospective farmers.
- Hypothesis (H9:6) that applies to testing this relationship states that:  
There is no significant positive relationship between taking responsibility and socio-cultural forces of prospective farmers.
- Hypothesis (H9:7) that applies to testing this relationship states that:  
There is no significant positive relationship between taking responsibility and human capital and skills of prospective farmers.

## **2.14 Conclusion**

Barriers (internal and external) to business start-up were discussed and the comparison between gender and these barriers were detailed. Gender and levels of intention to self-employment, EO and intrapreneurs, EO skill sets and performance, selected demographics and business start-up, and the relationship between EO and EI, were also discussed.

The following chapter discusses the agricultural sector and its role in SA. The importance of the agricultural sector is also addressed.

## **CHAPTER 3**

### **AN OVERVIEW OF THE SOUTH AFRICAN AGRICULTURAL SECTOR**

#### **3.1 Introduction**

According to Gupta, Mahajan, Kumar and Shanti (2013:318), agriculture is the main source of livelihood of many people across the globe because they rely directly on livestock and crops for survival. Livestock and crops are the key components of mixed farming and are the main source of national income for most developing countries (Mupangwa & Thierfelder, 2014:426). Mupangwa and Thierfelder (2014:425) add that in developed countries, livestock and crop farming contribute only a small percentage to the national income. It is important to note that agricultural systems, including land, water, plant and animal genetic resources, are only sustainable if they are economically viable, environmentally safe and socially fair (Mnisi & Dlamini, 2012:4339). This chapter discusses the different elements of agricultural farming in which prospective farmers may participate, namely livestock, field crop and horticulture. The importance of agricultural sector is also emphasised.

#### **3.2 Farming**

Agriculture is considered as the key instrument for economic growth and job creation in many countries across the globe. Establishing a farming business in the sector will assist countries to achieve such objectives. In SA, there are government incentive schemes and funds allocated to promote females in agriculture, for example Isivande Women's Fund, National Development Agency and National Empowerment Fund (DAFF, 2012). These agencies contribute to balancing the gender-discrimination between males and females in farming, because females are unequally represented in the sector. It is important to note the three key pillars (social-environmental, environmental-economic and economic-social) in sustainable agricultural development, which farmers should take into account when establishing agricultural businesses (van Niekerk, Mahlobogoane & Tirivanhu, 2015:69).

Agricultural farming is classified into three groups, namely livestock, field crops and horticulture. The focus of this investigation is on farming in general.

The following section discusses the above-mentioned three farming groups in detail.

### **3.2.1 Livestock**

Livestock farming encompasses cattle, hides and skins, pigs, sheep, goats, wool, meat, eggs and milk and dairy products (DAFF, 2016). Meissner, Scholtz and Palmer (2013:282) report that livestock production in SA is a major provider to food security and clothing, and also the provider of several social and economic benefits to the country. According to Chenoweth (2012:52), livestock production does not only contribute to the national economy but also to sustainability and cost-effectiveness of agriculture, and to the fabric of domestic societies in manufacturing. Chenoweth adds that efficient and viable animal production systems rely upon efficiency and effectiveness of management of the animal reproduction process. According to DAFF (2015), livestock is the largest agricultural sector in SA, with approximately 13.8 million cattle and 28.8 million sheep. Stock breeders focus on the development of breeds that can adapt to various climatic and environmental conditions (DAFF, 2015). Stock farming is classified into different categories, namely dairy, beef, sheep and goat, poultry, pig and game.

According to Hansen and Jervell (2014:23), the dairy sector is the most comprehensively capitalized and firmly regulated when compared to other food-producing industries. Esterhuizen, Fossey and Potgieter (2014:194) report that dairy farming is the fourth largest agricultural sector in SA, which represents 6% of the gross value of total agricultural production. The dairy industry is a major role player in the South African economy through job creation, with more than 4,000 milk producers, 60,000 farm workers and indirectly providing jobs to some 40, 000 people (DAFF, 2016). Dairy farming is concentrated in seven provinces in SA, being the Eastern and Northern Free State, North West, the KwaZulu-Natal midlands, the Eastern and Western Cape, Gauteng and the southern parts of Mpumalanga (DAFF, 2016). The four major dairy breeds in SA are Holstein, Jersey, Guernsey and Ayrshire.

Cattle ranches are found mainly in the Eastern Cape, parts of the Free State and KwaZulu-Natal, Limpopo and the Northern Cape (DAFF, 2016). Popular beef breeds include the indigenous Afrikaner and Nguni, and locally developed Bonsmara and Drakensberger. The following breeds are maintained as pure or sometimes used in

cross-breeding: European and American breeds such as Charolais, Hereford, Angus, Simmentaler, Sussex, Brahman and Santa Gertrudis (DAFF, 2016). According to Dalie, Wantasen, Anis and Pangemanan (2015), the success or failure of livestock farming business is mostly measured on a benefit-cost ratio. Like any other enterprise, profit is the main objective in the farming business (Dalie *et al.*, 2015).

Sheep farming in SA is concentrated in the provinces of the Northern and Eastern Cape, Western Cape, Free State and Mpumalanga, where Ermelo in Mpumalanga is considered as the largest wool-producing district (DAFF, 2016). About 50% of the country's sheep are fine-wooled Merinos and other breeds include the domestically developed Afrino, which is a woolled mutton breed adapted to arid conditions, the South African mutton Merino, the Dohne and the Merino Landrace (DAFF, 2016). According to DAFF (2016), SA's mutton is produced from the Dorper, which is a highly productive and domestically developed mutton breed for arid regions, and the woolled Merino, while Karakul sheep are farmed in the more arid areas. The local meat-producing Boer goat accounts for about 30% of all commercial goats, while the purpose of the Angora goat is primarily mohair production (DAFF, 2015). Braga Lobo (2019:313) reports that in the South and East regions of Brazil, the demand for goat meat and mutton is very high.

SA's poultry and pig farms are located close to the metropolitan areas of Johannesburg and Pretoria in Gauteng Province, Durban and Pietermaritzburg in Kwa-Zulu-Natal, Port Elizabeth in the Eastern Cape and lastly, Cape Town in the Western Cape (DAFF, 2016). These types of farming are more intensive than the extensive sheep and cattle production. According to DAFF (2016), the predominant types of pig breeds in SA are Landrace, Large White, Duroc and Pietrain. Fualefac, Raphae, Bime, Ndebo, Yemele, Zoli, Manjeli, Tegua and Tchoumboue (2014:12) show that pigs are the most productive and fast-growing livestock species that can transform food waste to valuable products. The Danish Agriculture & Food Council, Copenhagen (2017) indicates that primary pig production includes sub-stages such as breeding, multiplying, as well as finishing.

According to Kamuti (2014:191), conversion from crop to game farming is gaining momentum, especially on privately owned farms in SA. Kamuti further reported that the change in conversation contributed to the fast growing and high demand of wildlife

ranching. SA has a wider variety of game species than most countries in the world (DAFF, 2016). According to Rossouw and Cloete (2014:389), game farming has grown over the years and is considered as a viable industry with great economic potential. According to DAFF (2016), the main game areas in the country are in Limpopo, North West, Mpumalanga, Free State, Eastern Cape, Karoo and Kalahari in the Northern Cape and lastly, the thorn scrub of KwaZulu-Natal.

The livestock literature detailed above highlights the various types of livestock farming in SA, in which entrepreneurs may participate. This includes cattle, goats, sheep, pigs, poultry and game farming. With so few female farmers engaging in the sector, opportunities for them to establish farming businesses in the sector do exist. In so doing, they will play a crucial role in fighting poverty through job creation and economic development through the export of livestock farming products.

### **3.2.2 Field crops**

Agronomy is the science and practice of growing field crops such as maize, wheat, grain and sorghum, groundnuts, sunflower, soya beans, oats, barley, canola, dry beans, cowpeas, dry peas and lentils, sugar cane, chicory, cotton, wattle bark, lucerne and other hay, and tobacco (DAFF, 2016). The establishment of farming business start-ups in this field will play a significant role in eradicating poverty through employment creation and economic growth in a SA challenged by high unemployment. The section below addresses in detail some of the field crops that females may pursue in a farming career.

#### **3.2.2.1 *Maize, wheat and rice***

Human diets rely strongly on wheat, maize and rice and continuous demand is expected to increase across the globe (Neumann, Verburg, Stehfest & Muller, 2010:316). Maize is ranked as the third most important grain in the world, after wheat and rice (Shiferaw, Prasanna, Hellin & Bänziger, 2011). Maize, especially white maize, is one of SA's most important agricultural products (du Plessis, 2013) as it is the staple food of millions of people in eastern, central and southern Africa. On the other hand, yellow maize is the most important ingredient in feed rations for dairy, beef, poultry and egg production. Maize is one of the genetically modified crops grown in SA (Viljoen, Dajee & Botha, 2006:73). The major areas of commercial production are the



Free State, North West and Mpumalanga Provinces (DAFF, 2016). Maize is planted primarily between October and December.

Wheat is the second most important field crop produced in SA and is commercially grown in the Free State, Western Cape, North West, Northern Cape, Mpumalanga, Limpopo and Eastern Cape (DAFF, 2015). Wheat contributes approximately 15% to the gross value of field crops.

Wheat is planted mainly between mid-April and mid-June in the winter rainfall area and between mid-May and the end of July in the summer rainfall area.

### **3.2.2.2 Sunflower seed**

Sunflower seed is one of a limited crop species that originated in North America. Currently in SA, almost 90% of the product is produced in the Free State, North West, Limpopo and Mpumalanga provinces (Food and Agriculture Organization of the United Nations Rome, 2005). Local annual production of sunflower seed contributes approximately 5.4% to the gross value of field crops and the average annual estimated gross value of sunflower seed for the past five years amounts to R1.247 million (DAFF, 2015). During the first nine months of 2015, the production of sunflower seed could not meet the country's demand and seed was imported from Bulgaria, Malawi and India (DAFF, 2016). Table 3.1 illustrates the area planted and production of commercial sunflower seed in SA for 2018. Sunflower is an approved crop for biodiesel production in SA (Blanchard, Richardson, O'Farrell & von Maltitz, 2011:3).

**Table 3.1: Summary of final area planted and crop production figures of commercial summer crops for 2018**

Crop	Final area planted	Final crop	CEC area planted	CEC final estimate	Final crop vs final estimate
	2018	2018	Sept 2018	Sept 2018	
	Ha	Tons	Ha	Tons	%
	(A)	(B)	(C)	(D)	(B) ÷ (D)
White maize	1 268 100	6 540 000	1 268 100	6 801 560	-3.85
Yellow maize	1 050 750	5 970 000	1 050 750	6 129 650	-2.60
Total Maize	2 318 850	12 510 000	2 318 850	12 931 210	-3.26
Sunflower seed	601 500	862 000	601 500	858 605	+0.40
Soybeans	787 200	1 540 000	787 200	1 550 800	-0.70
Groundnuts	56 300	57 000	56 300	53 750	+6.05
Sorghum	28 800	115 000	28 800	109 855	+4.68

Source: Protein Research Foundation (2018)

### 3.2.2.3 Sorghum

Sorghum is the fifth most important grain crop after wheat, maize, rice and barley (DAFF, 2016) and is one of the most important crops in Africa (Dicko, Gruppen, Traore, Voragen & van Berkel, 2006:384). Sorghum is mainly cultivated on low-potential, shallow soils with a high percentage of clay content, which are not suitable for maize cultivation. Sorghum is planted mainly between mid-October and mid-December. For commercial purposes, it is produced in the Free State, Mpumalanga, North West and Limpopo Province (DAFF, 2016). Sorghum is mainly for human consumption and is a staple food grain in many semi-arid and tropical areas across the globe. Other uses are malt (beer manufacturing), sorghum meal and sorghum rice (Dicko *et al.*, 2006:384). Sorghum meal competes directly with maize-meal and is used as a breakfast cereal, while sorghum rice or corn rice is served instead of rice (DAFF, 2016).

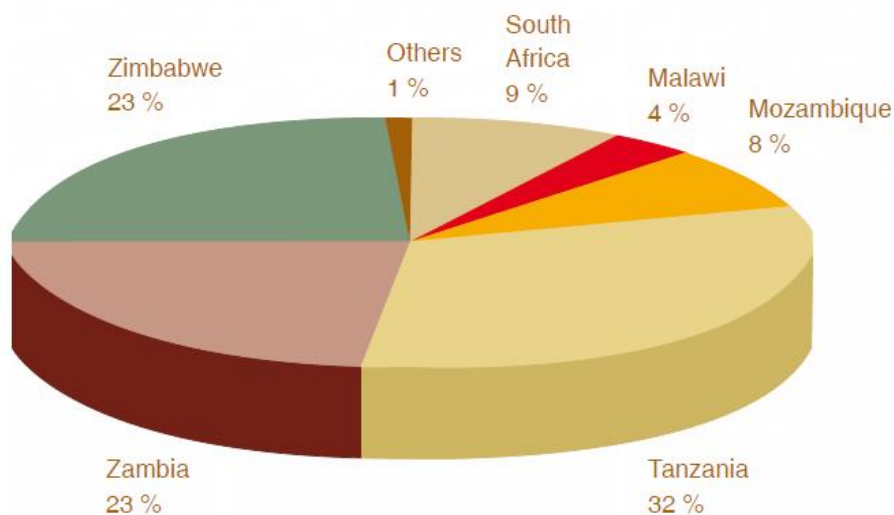
### 3.2.2.4 Soybeans

South African conditions are ideal for growing soybeans. The crop is considered important for protein meal and vegetable oil, as well as being a rich source of

nutraceuticals, including bioflavonoids, lecithins, oligosaccharides, phytosterols, saponins and tocopherols (Hartman, West & Herman, 2011:5). Soybean is one of the genetically modified crops in SA and the only country in Africa to commercially grow genetically modified crops (Viljoen *et al.*, 2006:73). These type of crops are mainly cultivated under dry land conditions and grown primarily in Mpumalanga, KwaZulu-Natal, Limpopo and Free State provinces, while other provinces like Gauteng and North West grow small quantities of soybeans and its production ranges from 450,000 to 500,000 tons per annum at the average yield of 2.5 to 3 t/ha in dry-land conditions (DAFF, 2016). Soybean is an approved crop for biodiesel production in SA (Blanchard *et al.*, 2011:2).

### 3.2.2.5 Cotton

Cotton production is a fundamental source of material for the cotton-gin industry, processing it for textile fibres, oil and the feed industry for seed (Yilmaz, Akcaoz & Ozkan, 2005:145). The primary production areas for cotton are Limpopo, Mpumalanga, Northern Cape, North West and KwaZulu-Natal provinces (DAFF, 2016). The cotton industry is labour intensive and provides work for roughly one labourer per hectare of cotton planted. Figure 3.1 depicts latest cotton production figures for the SADC region, with SA contributing only 9% of the total production.



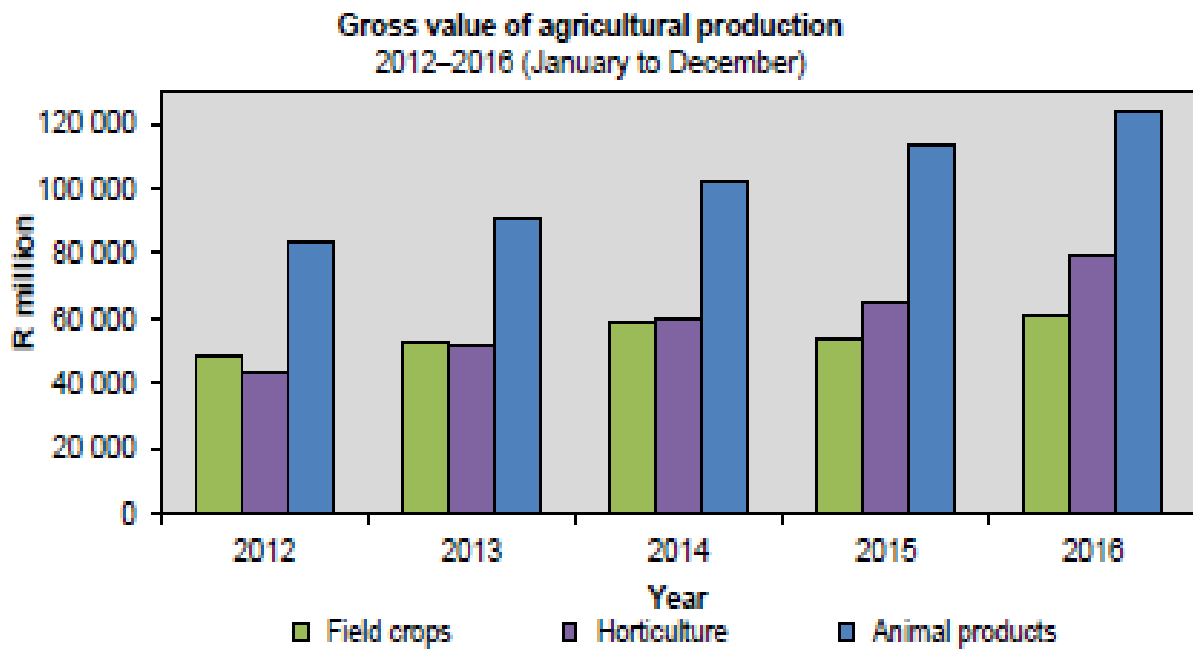
**Figure 3.1: Cotton lint production in the SADC region**

Source: Cotton South Africa (2018:57)

Field crops provide food, feed grain, oil, and fibre for domestic consumption and are a major export component. The importance of field crops includes providing shelter for farmers, they are used in clothing production, they are a source of food for humans and animals, a source of income for farmers, a source of raw materials for industries and also a source of revenue for the government through taxation.

### **3.2.3 Horticulture**

Horticulture is the science and practice of growing, processing and marketing vegetables, ornamental plants and fruit such as apples, apricots, grapes, pears, peaches, plums, prunes, figs, strawberries and other berries, watermelons, melons and other summer fruits, dried fruit, wine, avocados and bananas, granadillas and litchis, guavas and loquats, mangos, and papayas, pineapples, oranges, lemons and limes, grapefruit, naartjies and vegetables (DAFF, 2016). Barrientos and Visser (2012:2) state that horticulture is a vital sector within South African agriculture and its production rate increased from 18% in 1980 to 26% in 2007. Figure 3.2 reflects that in 2016 horticulture products contributed 30% to the gross value of agricultural production (DAFF, 2016). According to Adams and Early (2004:1) and Odhav, Beekrum, Akula and Baijnath (2007:430), horticulture is a practice whereby persons grow plants in a relatively intensive manner and these plants are used for consumption by persons and animals worldwide. Therefore, horticulture is another farming area in which female farmers can partake. By establishing businesses in this field, poverty will be eliminated through job creation, an increase in gross domestic product and the economy of the country will grow. If products produced in the sector exceed domestic demand, international trade and foreign exchange will emerge which is also vital for



**Figure 3.2: Gross value of agricultural products**

Source: DAFF (2016)

The following section discusses the importance of the agricultural sector and how SA can benefit from it.

### 3.3 The importance of agriculture

The agricultural sector plays an important role within international trade and foreign exchange resources, marketable surplus, which includes factors influencing market surplus and infrastructure, food security and source of raw material, transport, rural development, employment opportunities and lastly economic development.

#### 3.3.1 Significance to international trade and foreign exchange resources

According to Khan and Lodhi (2014:629), the fundamental target of underdeveloped countries is competent economic growth as fuel for economic expansion. Export is one of the strategies that provides businesses with the opportunity to expand sales, generate higher returns and hire more people to meet the demand (Konya, 2006:978). Export is a critical economic driver that lends significant support to the overall economies of many countries across the globe (Jordan & Eita, 2007:540). The nation’s

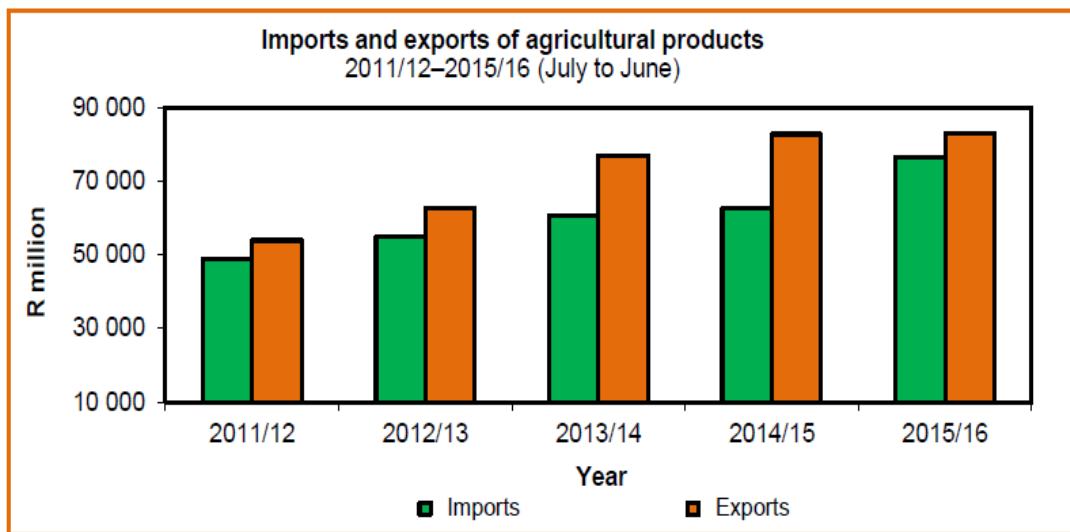
export trade depends largely on the agricultural sector. In SA, agricultural products like sugar, tea, rice, spices, tobacco and coffee contribute approximately 18% to the entire value of exports of the country, while there are other agricultural products that constitute major items of exports that depend on agriculture for economic growth (Agricultural Goods, 2013). Hence, agriculture products are an important source of SA's foreign exchange earnings.

According to DAFF (2016), the 2015/16 export value of the most important agricultural export products was citrus fruit R12.565 million, wine R8.036 million, grapes R6.584 million, apples, pears and quinces R6.255 million, and maize R3.467 million. It is therefore important that the number of female farmers increases in the sector to contribute towards expanding the production of agricultural products, thereby boosting international trade and foreign exchange. DAFF (2016) confirmed that:

...during 2015/16, the Netherlands, with imports to the value of R8.615 million, the UK (R7.714 million), Mozambique (R6.021 million), Zimbabwe (R5.116 million) and China (R3.946 million) were the five largest trading partners of South Africa in terms of export destinations for agricultural products.

About 19.7% of the total value of agricultural exports from SA for the period July 2015 to June 2016 went to the Netherlands and the UK combined (DAFF, 2016). Figure 3.3 highlights imports and exports of agricultural products in SA from 2011 to 2016. Foreign Agricultural Service (2019) reports that "South Africa imported \$7.7 billion in agricultural and food products in 2018, which is at the same level as in 2017". The major products imported were rice (\$437 million), wheat (\$395 million), chicken cuts and offal (\$389 million), palm oil (\$305 million), corn (\$208 million), whiskies (\$181

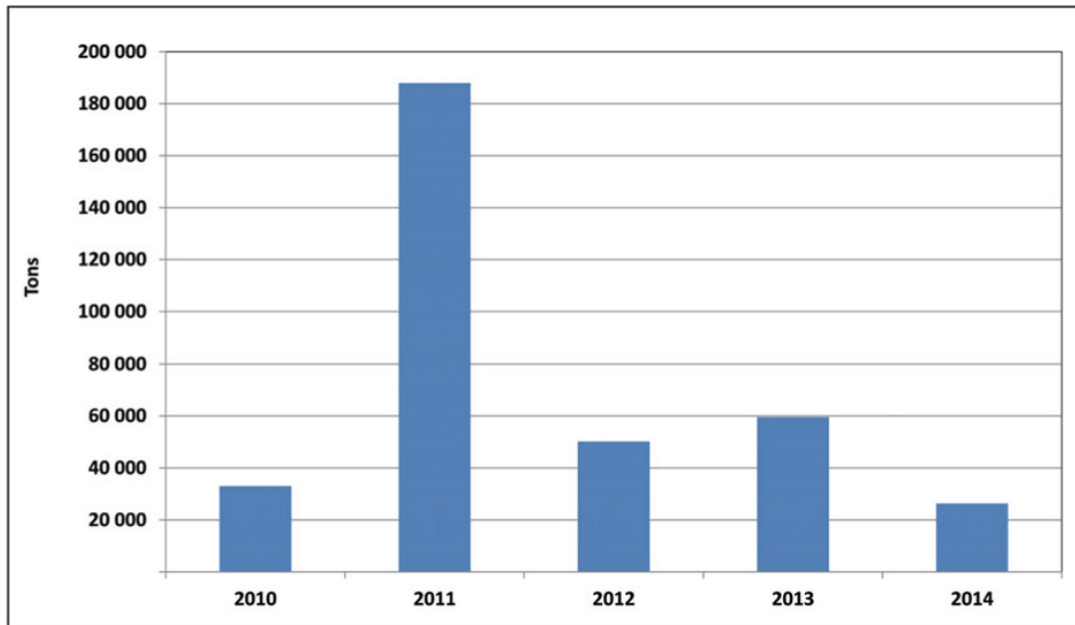
million) and soybean meal (\$173 million) (Foreign Agricultural Service, 2019).



**Figure 3.3: Imports and exports of agricultural products**

*Source: DAFF (2016)*

SA's sorghum exports are generally uneven and inconsistent (see Figure 3.4). This lack of consistency can be attributed to uneven surplus levels and increased production in traditional export markets. An increase in the level of production can be achieved by more females establishing farming businesses, which will lead to an increase in exportation of surplus products.



**Figure 3.4: South Africa sorghum exports**

*Source: Grain SA (2015)*

Table 3.2 shows key SA sorghum export markets in SADC countries and the role that export and foreign exchange transactions play in economic development. As can also be seen in Table 3.2, South African exports to top markets and to world markets dropped by almost half from 59,510 and 59,523 in 2013, to 26,272 and 26,330 in 2014 respectively. An increase in agricultural production is required because agriculture is one of sources that can play a crucial role in enhancing economic growth through job creation. Female farmers could take advantage of this opportunity and establish businesses in the sector.



**Table 3.2: South Africa overall sorghum exports to other African countries (tons)**

COUNTRY	2010	2011	2012	2013	2014	AVERAGE	SHARE OF TOTAL
Botswana	27 223	183 018	46 666	54 660	23 030	66 919	93,70%
Swaziland	2 901	3 814	3 180	4 107	2 255	3 251	4,60%
Uganda	1 204	-	-	-	6	242	0,30%
United Republic of Tanzania	993	-	-	-	2	199	0,30%
Mozambique	65	270	88	295	5	145	0,20%
Zimbabwe	156	36	-	28	493	143	0,20%
Angola	-	260	181	-	173	123	0,20%
Kenya	-	512	-	-	-	102	0,10%
Lesotho	87	31	19	168	12	63	0,10%
Namibia	78	13	1	217	6	63	0,10%
Sudan (North + South)	140	-	-	-	120	52	0,10%
Area not elsewhere specified	-	-	20	35	170	45	0,10%
Total SA exports top markets	32 847	187 954	50 155	59 510	26 272	71 348	-
Total SA exports to the world	33 036	187 968	50 162	59 523	26 330	71 404	-

Source: *International Trade Centre (2015)*

The development practice of agriculture may lead to reduced imports and increased exports, which ultimately assists in minimising the unfavourable balance of payments and saving foreign exchange. Businesses may use the capital generated to import other vital inputs, such as machinery, raw material and other infrastructure elements required for SA's economic development. Economists from the classical school of thought stated that international trade is a primary element of economic growth and foreign exchange earnings and specialisation is the key driver of economic expansion (Sun & Heshmati, 2010). In addition to foreign exchange earnings, businesses may accumulate other externalities of export expansion, including effective management, better production quality and technological proficiency (Xiong & Qureshi, 2013:290). Participation of more women in farming will boost export of goods because the establishment of new business start-ups will lead to an increase in production of agricultural products and job creation in the sector. Therefore, it is vital that South Africans pay serious attention to this sector as it is part of the backbone of the country's economic hub. The more the sector contributes to the gross economic product the better for economic growth through international trade and foreign exchange.

### 3.3.2 Marketable surplus

Alam and Afruz (2002:115) emphasised that market surplus of agricultural products plays a vital role in countries where agriculture is considered as the main source of household income. According to Kajale and Shroff (2013), marketable surplus

embodies the theoretical surplus available for disposal that the farmer makes available after meeting the requirements of family consumption, payment of wages to labourers, and feed and seed for the next farming activity. Shah and Makwana (2013) confirmed that marketed surplus of food grains is determined by factors like consumption habits of the producer's family, economic conditions, size of family, nature of crop, price level of different farm products and attitude of producers to the market. Apart from food and fibre deficit, the surplus also contributes to capital formation and offers the basic wage, goods, supply of raw materials and foreign exchange to the non-agricultural sector (Alam & Afruz, 2002:115). Alam and Afruz continue, stating that countries can play a crucial role in strengthening their economy if they are self-sufficient in food (important crops such as rice and wheat) and saving on foreign exchange. Grover, Singh & Singh (2012) describe fine marketed surplus as the portion of production which actually enters the market, irrespective of farmers' requirements for family consumption, farm requirements and social and religious payments.

### **3.3.2.1      *Factors influencing marketable surplus***

The Government of India (2002) identified the following factors that influence marketable surplus during pre- and post-production stages:

#### **i)      Pre-production factors**

The factors operating in the pre-production stages are those which determine the level of production, that is physical area under crop, investment of resources including inputs, productivity of the crop, expectations of monetary returns from the sale of crop.

#### **ii)      Post-production factors**

The post-production factors influencing marketable surplus are physical demand for human and animal consumption on the farm, local customs and practices regarding cash and kind payments, socio-economic conditions of the producers, price policies and price realisation.

### **3.3.2.2      *Infrastructure and other factors influencing marketable surplus***

According to the Government of India (2002), the following factors influence production and marketable surplus and other entities in turn get reinforced or weakened by

infrastructural and other facilities existing in the economy in general but rural economy in particular.

i) Availability of irrigation facilities

It is very well known that irrigation facilities influence productivity coupled with other inputs.

ii) Connectivity by roads

This is the most important facility for villages, particularly if these are connected by pucca all-weather roads. Absence of this connectivity becomes a handicap and a blockade in the exchange between rural and urban sectors. This influences the difficulties and cost of transportation, compelling sales in villages, restriction of flow of supplies to and demand from urban trade centres and increased uneconomic elements in price spread between the producers and the consumers. These drawbacks in turn lead to some of the basic pitfalls of the agricultural sector, such as cropping pattern, less responsive forces of market, and subsistence farming rather than market-oriented farming.

iii) Distance between villages and markets

The distance between a village and a market is one of the determinants of the type of crops produced and marketed in different areas. As the distance from the village to the market increases, the village goes beyond market influence and the result is subsistence farming in such villages. A longer distance with a good road and quick means of transport is a less serious drawback than a short distance without proper roads and proper means of transport.

iv) Services of regulated markets

Regulated markets provide services for fair participation of buyers and sellers by eliminating imperfections and malpractices. Since the regulation of market is for the benefit of the farmers or producers, it has a positive impact on production and the marketable surplus in general.

v) Storage facilities in villages

Proper storage facilities are essential and a basic need to save the produce from physical losses caused by improper sanitation and hygiene. Improper sanitation

and hygiene causes deterioration of quality due to infection of fungus, moulds and physical losses due to infestation of insects and pests like rodents. Proper storage is necessary to retain the farm surplus at the producers' level for disposal at a later stage in the season when supply and demand are better placed and to recall the surplus matching with the demand of the entire season. Thus, this factor contributes to the production pattern and the marketable surplus.

The growth of the agricultural sector may contribute to marketable surplus. Persons who engage in other sectors, including manufacturing, mining and other non-agricultural sectors, depend on food for survival, which they might get from the nation's marketable surplus (Agricultural Goods, 2013). As the agricultural sector develops, production increases, which will lead to the expansion of marketable surplus and exports to other nations. If more women participated in farming, the country will experience an increase in agricultural productivity, which will contribute to marketable surplus. In addition, if more women established farming businesses the issue of rural-urban migration will be minimised they will create jobs locally and assist in fighting poverty and unemployment. The main reason for rural-urban migration in SA is the same as in other countries across the continent, which is the differences in economic opportunities between the two locations. Cities have consistently outperformed the rest of the country in terms of economic employment growth, hence more jobs are created in urban areas. The more business start-ups by women in the agriculture sector will generate more jobs, which will assist in economic growth and poverty eradication in the country. Successful business start-ups in the sector by female farmers may eventually lead to the establishment of businesses in a secondary sector, such as livestock farming and production of other raw agricultural products. The establishment of secondary sector businesses in agriculture by women will also play a crucial role in economic growth through industrialisation and job creation.

### **3.3.3 Food security and source of raw material**

Farming in SA contributes significantly to food security (Meissner *et al.*, 2013:282). National food security can be guaranteed by a stable agricultural sector (Agricultural Goods, 2013). Food security is a critical requirement of any country because it averts starvation that has traditionally been alleged to be one of the main challenges faced

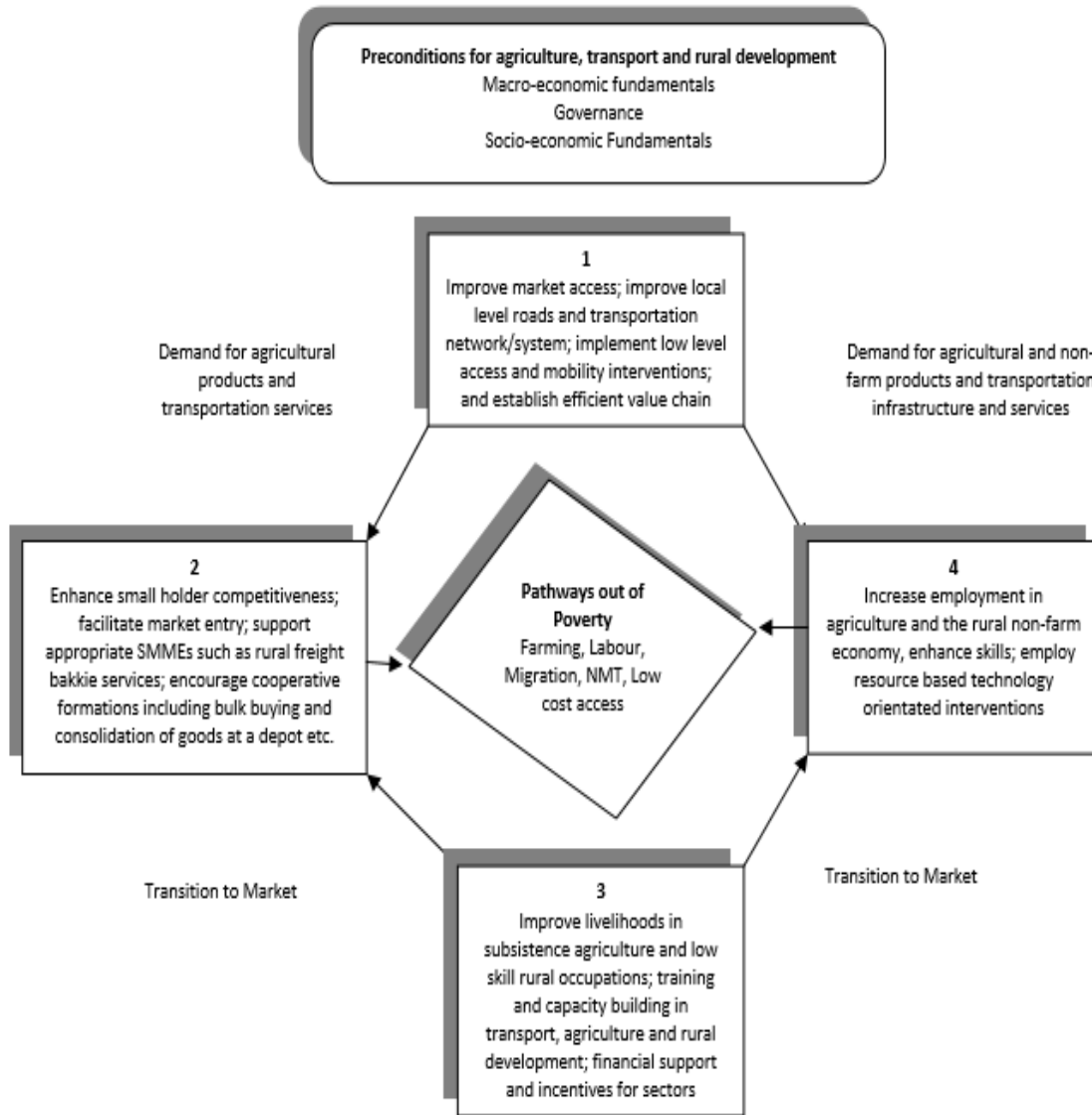
by developing countries around the globe (Food and Agriculture Organization, 2016). Many countries depend on agricultural products and associated industries for their main source of income. Development in agriculture may increase savings because wealthy farmers can start saving, particularly after the green revolution, hence surplus production may be invested further in the agriculture sector (Agricultural Goods, 2013). To major industries, the main source of raw materials such as oils, cotton and jute fabric, sugar, tobacco, and edible as well as non-edible products, comes from agriculture (Agricultural Goods, 2013). Industries such as processing of fruits, vegetables and rice husking, all get their raw material from agriculture.

### **3.3.4 Significance of transport and rural development**

Almost all agricultural products are transported via railways and roads from farms to factories (Agricultural Goods, 2013). The revenue of many countries across the African continent relies on the success of the agricultural sector. Transport is acknowledged as a strategic aspect of agriculture because accessible and low transport costs make it possible for agricultural products to be transported from the farms to factories and industries, where those raw materials or semi-processed goods will then be transformed into finished goods (Chakwizira, Nhemachena & Mashiri, 2010:209). Efficient transport of agricultural products is essential because produce must be delivered on time and in good condition, which will enhance profit and consumer satisfaction. Poor transport infrastructure will hinder efficiency and competitiveness of the sector.

In the USA, the transportation system is crucial for the agricultural sector to compete in domestic and international markets (Texas Department of Transport, 2015). In SA, trucks move the majority of agricultural products and food commodities on provincial and national roads from farms to factories and from factories to the tertiary sector. Rural road construction and maintenance significantly impacts on rural income and quality of life (Chakwizira *et al.*, 2010:209). An increase in the number of women farmers in SA is necessary to increase agricultural product output, which will influence the government and transport industry to meet its demands. Transport infrastructure development and the supply chain industry will contribute to the economic development of the country through job creation. Without adequate transportation infrastructure, farmers cannot transport their agricultural products to the market,

therefore domestic and international trade cannot expand. Figure 3.5 illustrates the linkages and value-add that a systematic transportation can provide for unbundling the linkages potential and fostering rural development.



**Figure 3.5: Unbundling the linkages between agriculture, transport and rural development**

*Source: World Bank (2008)*

The South African Department of Transport developed the Rural Transport Strategy with the objective of providing policy direction and guidance on how transport can be used as a rural development transformation instrument (South Africa, Department of Transport, 2007). Figure 3.6 presents a summary of linkages between agriculture, transport and rural development as informed by experiences from South America and Africa.

<i>Peru: Roads Bring Markets to the Rural Poor</i>	<i>Madagascar: Rural Non-farm Investment Benefits the Poor</i>
<ul style="list-style-type: none"> <li>• New roads in the sierra countryside, built under the Peru Rural Roads Project, have made the outside World and its markets more accessible for the area's 3 million poor</li> <li>• The program's design was innovative with a strong poverty focus, grassroots participation, and collaboration among key players – Ministry of Transport and Communications, the Inter-American Development Bank, the World Bank and more than 20 non-governmental organisations. An institutional collaborative framework was set up to make the most of each stakeholder's best talents.</li> <li>• The program reduced the isolation and facilitated the integration of the beneficiary communities, enhanced economic opportunities, and spurred local entrepreneurship.</li> <li>• More than 11,000km of rural roads were rehabilitated and 32,300 seasonal unskilled and 4,700 permanent jobs were created in 410 local road maintenance enterprises.</li> <li>• This innovative partnership program received a 2001 World Bank President's Award for Excellence.</li> </ul>	<ul style="list-style-type: none"> <li>• Aqualma, a shrimp-processing and export company in a remote corner of Madagascar has become one of the country's top private enterprises, with exports of US\$26 million in 2000.</li> <li>• Established in 1992 with support from the International Finance Corporation, the company has had a profound impact on the local economy and living conditions. Of Aqualma's 1,200 employees in 2001, 80 percent had never previously held a wage paying job.</li> <li>• Employees and local villagers gained access to education and health services through the primary school and clinic established by the company. The project generated many connections with small local enterprises during the construction and operational phases.</li> <li>• Future plans include expanding production on a new site, for which a community development plan and a conservation management plan to protect biodiversity habitats will be developed.</li> </ul>

**Figure 3.6: Linkages between agriculture, transport and rural development: Selected experiences from South America and Africa**

Source: World Bank (2008)

Agriculture contributes to rural development through economic activity, providing livelihoods and as a provider of environmental services. Figure 3.7 summarises the various ways in which agriculture contributes to development.

Economic Activity	Livelihood	Provider of Environmental Services
<ul style="list-style-type: none"> <li>• Source of growth for national economy</li> <li>• Provides investment opportunities for private sector</li> <li>• Prime driver and vehicle of agricultural related industries and the rural non-farm economy</li> <li>• Generates on average 29 per cent of the gross domestic product (GDP) and employs 65 percent of the labour force</li> <li>• Industries and services linked to agriculture in value chains often account for more than 30 percent of GDP in transforming and urbanising countries</li> <li>• Important for food security since it is a major source of income for the majority of the rural poor</li> </ul>	<ul style="list-style-type: none"> <li>• Source of livelihood for an estimated 86 percent of rural people</li> <li>• Provides jobs for 1.3 billion small holders and landless workers</li> <li>• Foundation for viable rural communities</li> <li>• Of the developing World's 5.5 billion people, 3 billion live in rural areas, nearly half of humanity. Of these rural inhabitants, an estimated 2.5 billion are in households involved in agriculture and 1.5 billion are in small-holder households</li> </ul>	<ul style="list-style-type: none"> <li>• One of the biggest users of water thereby contributing to water scarcity</li> <li>• A major player in underground water depletion, agro-chemical pollution, soil exhaustion, and global climate change, accounting for up to 30 percent of greenhouse gas emissions</li> <li>• Sequestering carbon</li> <li>• Managing watersheds</li> <li>• Preserving biodiversity</li> </ul>
<ul style="list-style-type: none"> <li>• Agriculture is a vital crossing cutting tool and platform to facilitate the realisation of the Millennium Development Goals (MDGs) that calls for halving by 2015 the share of people suffering from extreme poverty and hunger.</li> <li>• Three out of every four people in developing countries live in rural areas, and most of them depend directly on agriculture for their livelihoods.</li> <li>• Growth in agriculture acts as stimulus for stimulating growth in other sectors of the economy.</li> </ul>		

Source: (FAO, 2004; World Bank, 2005, 2008; AfDB, 2006; May, 2006; UNECA, 2006)

**Figure 3.7: Agriculture tripartite contribution of rural development**

Source: World Bank (2008)

### 3.3.5 Great employment opportunities

The agricultural sector and its associated activities is the economic base and the main source of employment and income generation in many countries across the globe. Uttarakhand, a state in northern India, depends on agriculture for job creation and income generation (Sharma, 2013:1). According to KPMG (2017), in other countries like Kenya, the government creates jobs through the promotion of industries because of their high capacity to create employment. The leather and textile sectors were identified as priority areas for government investment, such as in national irrigation schemes, providing subsidised fertilizer and seeds to farmers, funding livestock insurance schemes, digitizing land registries and mechanising agriculture with the aim of creating job opportunities (KPMG, 2017).

It is important to note that the agricultural sector in Kenya contributes about 25% of the GDP (KPMG, 2017), compared to the mere 2.3% of the agricultural sector in SA (SSA, 2016). In India, agricultural employment is rural-based and accounts for almost 60% of the country's employment (Jha, 2003). In Nigeria, agriculture remains a key sector of the economy, providing about 70% employment of the total population, while the farming, livestock production, forestry and fishery sectors contribute more than 66% to the country's GDP (Ogbalubi & Wokocha, 2013:62). Table 3.3 shows the unemployment rate in SA from 2011 to 2015. From the statistics in Table 3.3, it is evident that the unemployment rate in SA is very high, therefore, it is critical to devise a plan that will assist to overcome this challenge. One of the options is to increase the number of farmers in the country, thereby creating more job opportunities, which will assist in overcoming the unemployment problem.

**Table 3.3: Unemployment rate in South Africa**

South Africa - Unemployment Data					
	2011	2012	2013	2014	2015
Unemployment Rate	24.8	24.9	24.7	25.1	25.4

Note: Unemployment in % of active population

Source: SSA (2017)



Table 3.4 presents statistics of employment in agriculture, hunting, forestry and fishing, and total employment.

**Table 3.4: Employment in agriculture, hunting, forestry and fishing, and total employment**

Number of workers	Sep. 2011	Sep. 2012	Sep. 2013	Sep. 2014	Sep. 2015	Sep. 2016
	1 000					
Workers in agriculture, hunting, forestry and fishing	624	661	740	686	897	881
Skilled agriculture <sup>1</sup>	61	67	67	86	99	72
Total employment <sup>2</sup>	13 318	13 645	15 036	15 117	15 828	15 833

Source: SSA (2017)

According to the South African Agricultural Baseline (2011), there are five major opportunities for expanding employment in agriculture in SA, given the right circumstances:

- i) Expanding irrigation agriculture. There is evidence that the current 1.5 million hectare under irrigation (which produces virtually all of SA's horticultural harvest, and some field crops, that is well over a third of total output) can be expanded.
- ii) Bringing some of the under-utilised land in the communal areas and land under reform projects into commercial production over a period of time, which is commensurate with the aims and objectives of the land reform programme and SA's food security needs.
- iii) Picking and supporting 'winners' from commercial agriculture, being those sectors and regions which have the highest potential for growth and specifically for employment-creating growth.
- iv) Supporting employment creation in the upstream and downstream industries. The potential for employment creation will come from the growth in output that will result from the first three strategies.
- v) Finding creative combinations between these opportunities. This will include greater emphasis on land that has the potential or that has already been serviced

with irrigation infrastructure, giving priority to successful farmers in the communal areas as land reform beneficiaries, and giving targeted support to industries and areas of high employment creation potential to maximise collaboration between existing farmers and land reform beneficiaries.

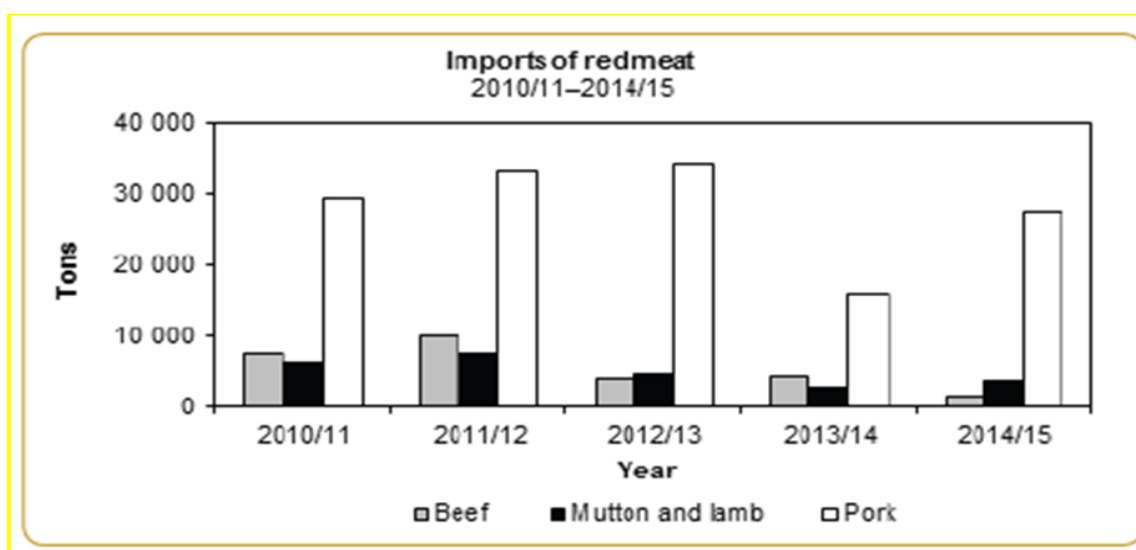
As can be seen, the rate of SA's participation in entrepreneurial-related business activities in the agricultural sector is very low. More people should engage in farming because new establishments in the sector can provide employment opportunities and reduce the high rate of unemployment, like other countries on the African continent, for example Kenya and Ethiopia. If more individuals participate in farming, more employment opportunities will be created, which in turn will lead to the construction of more irrigation schemes, drainage systems other projects in the agricultural sector to meet the demand.

### **3.3.6 Economic development**

According to the South African Institute for Race Relations (2016), 13% of SA's land is suitable for crop production and 22% of the land is high-potential arable land, while the greatest limitation is the availability of water caused by uneven and unreliable rainfall. About 1.3 million hectare of land is under irrigation and agriculture uses around 50% of SA's land (Brand South Africa, 2012). Agricultural land currently cultivated in SA is about 13 million hectare and available arable land amounts to almost 15 million hectare, which suggests that 2 million hectare of land, mostly located in former homeland areas, is available for increasing agricultural production (South African Agricultural Baseline, 2011). Therefore, there is land available for agricultural farming in SA. Agriculture is the substance of developing economies and SA needs to warrant a healthy agricultural industry that contributes to the country's GDP, food security, social welfare, job creation and ecotourism, while adding value to raw materials (World Wildlife Fund South Africa, 2010). The more people the agricultural sector employs the better, as it will contribute to the economic development of the country. Higher employment rates play a crucial role in improving the national income level and in individuals' standard of living. It is important to note that rapid development of the agriculture sector will lead to a progressive outlook and increased motivation for business development, which will create a platform for overall country economic development because economic development depends on the agricultural growth rate

(du Preez, 2017). The economic development of the country was badly affected when one of SA's biggest chicken producers in Durban, Kwa-Zulu Natal, sold 15 of its 25 farms in Hammarsdale to stay afloat after battling for years with dumping by importers; the selling of the farms led to retrenchment of more than 1,300 employees (Naidoo, 2017). Furthermore, Mike's Chickens a family-owned business in Polokwane, Limpopo, closed down and more than 950 employees lost their jobs.

Figure 3.8 depicts SA's red meat import statistics from 2010 to 2015. It is evident that SA is not meeting the country's red meat demand, therefore the need to import from other countries.



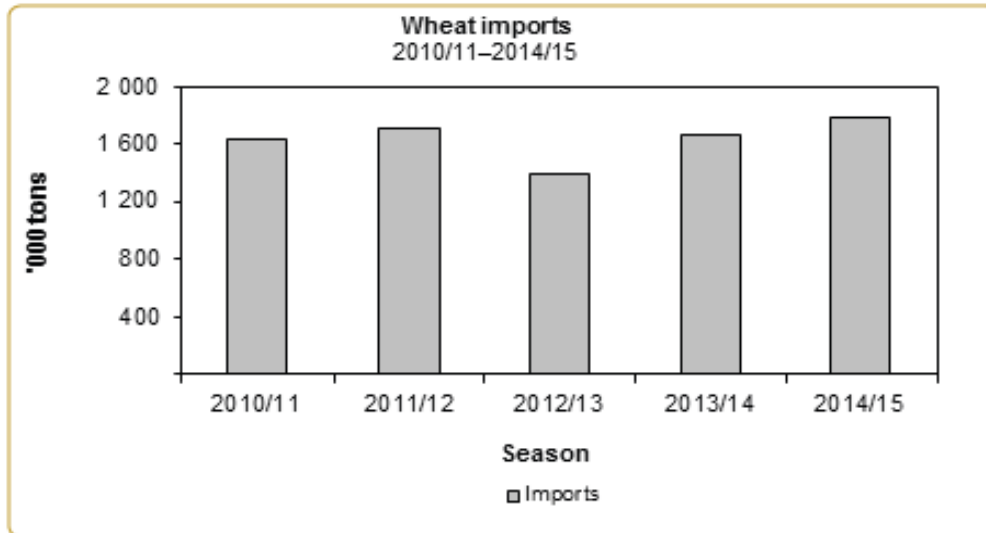
**Figure 3.8: Imports of red meat in South Africa**

Source: DAFF (2015)

Poultry is considered one of the fastest growing agricultural sectors across the globe (Singh & Jadoun, 2014:938). According to Videnska, Rahman, Faldynova, Babak, Matulova, Prukner-Radovcic, Krizek, Smole-Mozina, Kovac, Szmolka, Nagy, Sedlar, Cejkova and Rychlik (2014:1), poultry meat is the most common protein source of animal origin for humans. According to DAFF (2016), "South Africa's annual poultry meat production is around 960,000 tons". Chidananda, Gracy, Nagashree and Naik (2014:1390) report that poultry farming, with its advantages of low investment, quick return, and ease of management and marketing, has become the most viable option for households from both the supply and demand perspective, especially for the non-vegetarian diet.

Broiler production contributes about 80% to total poultry meat production, with the rest made up of mature chicken slaughter (culls), small-scale and backyard poultry production, ducks, geese, turkeys and other specialised white meat products. SA contributes 65% of world sales of ostrich products, leather, meat and feathers (DAFF, 2016). According to the South African Agricultural Baseline (2011), chicken meat consumption is expected to increase by 38% over the next decade, pork consumption is expected to grow by 33% in the next 10 years, the demand for beef will increase by 28% in the next 10 years and lamb consumption is expected to increase by 17% in the next 10 years. This expected increase in demand requires more production. Therefore, graduates in animal production-related fields can take advantage of these opportunities and establish more business start-ups to meet the anticipated demand.

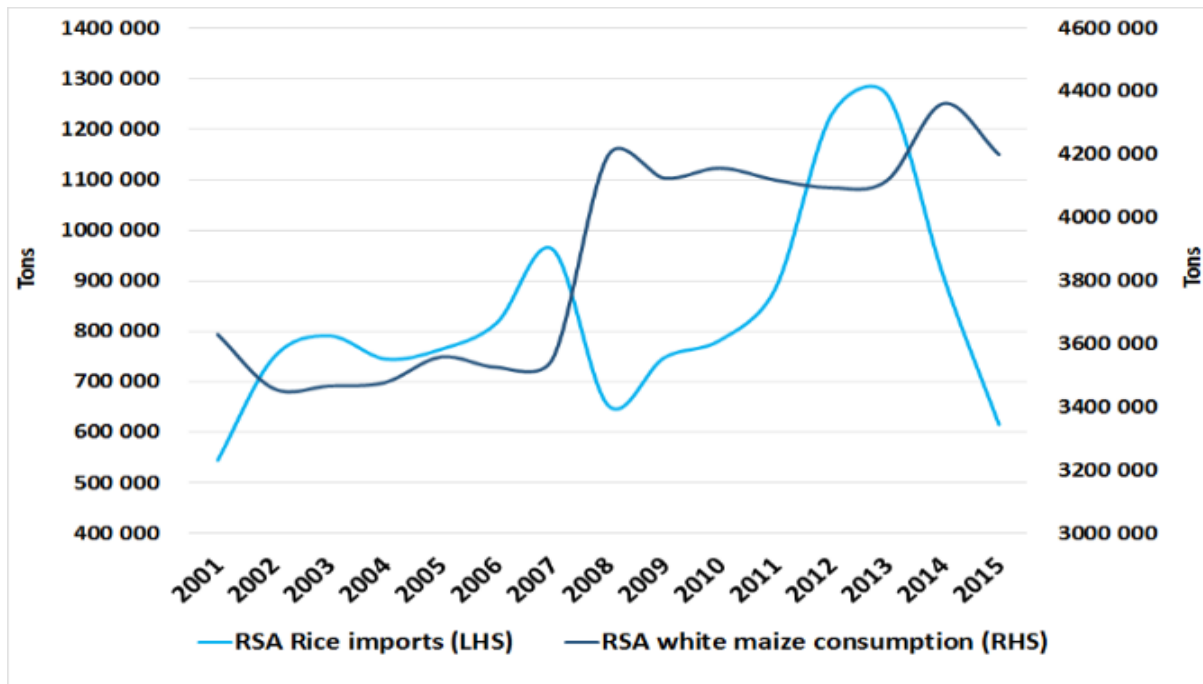
Most of the wheat produced in SA is bread wheat, with small quantities of durum wheat being produced in certain areas, mostly for human consumption with a small portion for animal feed (DAFF, 2010). Figure 3.9 highlights SA's wheat import statistics from 2010 to 2015. In the 2013/2014 financial year SA imported about 1,600,000 tons of wheat and in 2014/2015 about 1,750,000 tons were imported. It is evident that SA is not meeting the country's wheat demand and is therefore importing from other countries. This is a sign that more business start-ups in wheat farming are required to meet the country's wheat demand. More female farmers can take advantage of this opportunity and close the gap because at present only a few of them are participating in the sector.



**Figure 3.9: Wheat imports in South Africa**

*Source: DAFF (2015)*

Rice is the third most important grain worldwide. SA imports rice from countries such as Thailand, Vietnam, the USA, Brazil and Pakistan (Sihlolo, 2016). According to Rahardjo and Suroyo (2013:135), food demand is anticipated to increase for the next 40 years and food production will need to accelerate by 70%–100% by 2050. Therefore, there is a need to increase the number of business start-ups within the sector to meet the high demand for rice by South Africans because demand is expected to increase every year (Sihlolo, 2016). Figure 3.10 explains the interchange in rice import volumes and domestic white maize consumption. The figure reflects that SA is a net importer of rice. Imports increased by 13% from 544,351 tons in 2001 to 615,805 tons in 2015. Therefore, the demand for rice in SA is higher than what agricultural sector can provide. This implies that there is a business opportunity in the agricultural sector for prospective farmers, with the objective to satisfy the needs of society and to remedy the issue of food insecurity.

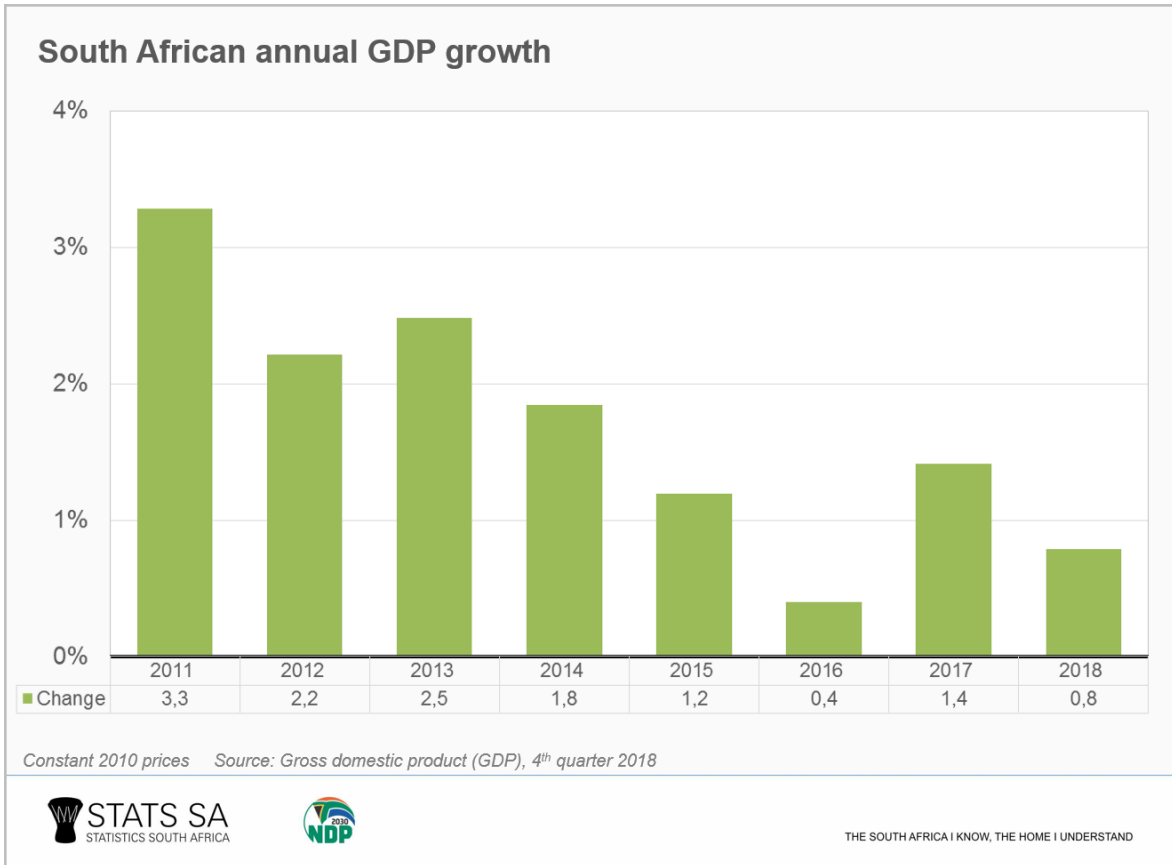


**Figure 3.10: Rice imports and white maize consumption**

Source: DAFF (2015)

SSA (2019) highlights key facts from SA’s GDP (see Figure 3.11) for the fourth quarter 2018, as follows:

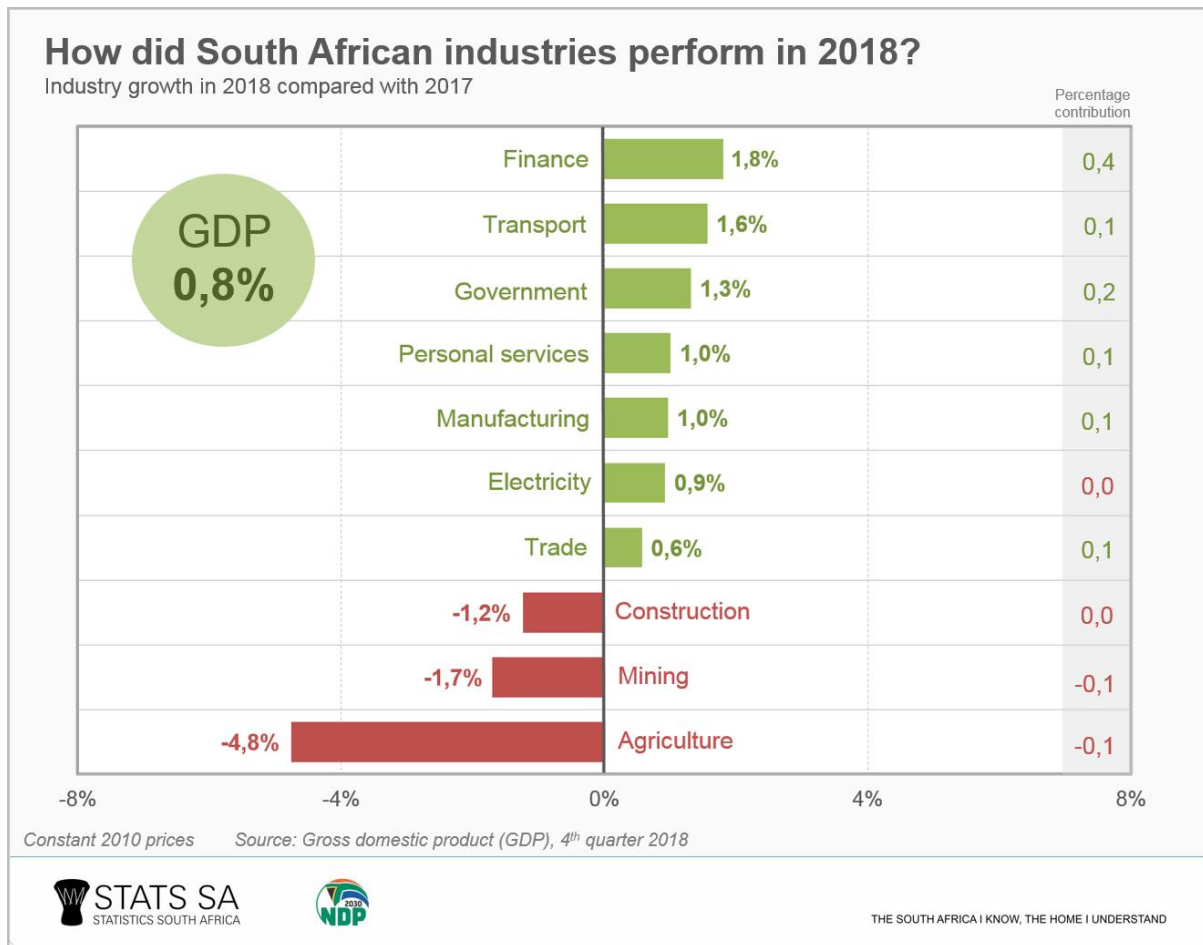
- Real GDP in the first quarter was down 3.2% quarter-on-quarter (seasonally adjusted and annualised).
- Unadjusted real GDP in the first quarter was flat (0% growth) year-on-year.
- Nominal GDP in the first quarter of 2019 was estimated at R1.20 trillion, lower than the R1.26 trillion recorded in the fourth quarter of 2018.
- Expenditure on GDP in the first quarter fell by 3.4% quarter-on-quarter (seasonally adjusted and annualised), largely a result of declining exports, weaker fixed capital investment and falling household consumption expenditure.



**Figure 3.11: South African annual GDP growth**

Source: SSA (2019)

Figure 3.12 presents real GDP growth by sector in 2018 compared with 2017. The finance sector was the greatest contributor, showing a growth of 1.8%, followed by transport at 1.6% and general government services at 1.3%. Personal services grew by 1.0%, the manufacturing sector by 1.0%, electricity by 0.9% and trade by 0.6%. Lastly, the construction, mining and agriculture sectors declined by -1.2%, -1.7% and -4.8% respectively. The agriculture, forestry and fishing sectors did not contribute to GDP growth and are ranked last. The agricultural sector (livestock, field crops and horticulture) is a subject for concern, therefore, more business start-ups are required to improve its contribution to the economy.



**Figure 3.12: Real GDP growth by economic sector**

Source: SSA (2019)

Another field in the farming sector that is problematic is livestock. This notion is substantiated by the fact that an increase in meat production is required to meet the expected future higher demand for chicken meat, pork, beef and lamb (South African Agricultural Baseline, 2011; DAFF, 2015). Furthermore, an increase in the production of wheat and rice is necessary to counter the current high levels of import from other countries (DAFF, 2015). In light of this, it is important to increase the number of farmers in the field of livestock and crop farming in SA to meet expected demand and at the same time improving economic growth through job creation.

### 3.4 Conclusion

As highlighted by the above literature, prospective farmers may establish a variety of agriculture-related businesses either in the areas of livestock, field crop or horticulture farming as these are considered as vital instruments for economic growth, job creation



and the fight against poverty. According to Msuya, Ahmad, Kalunguizi, Busindi, Rwambali, Machinda, Krogh, Gjotterud, Kifaro, Ndemanisho and Nziku (2014: 103), other countries on the African continent consider agriculture as the backbone of their economy and they are investing in education systems with the aim of producing graduates that can play a crucial role in the achievement of the industry objectives. Therefore, agriculture should be recognised as an important instrument for economic growth and job creation in SA. There is substantial evidence that agriculture has a critical role to play in modernising the economy. SA may benchmark with other countries like China and minimise the country's poverty and unemployment through agricultural development. Countries in South-East Asia, for example India, introduced a system of land reform and manufacturing industry development through industrialisation of agriculture, which is vital for economic growth and job creation.

In the following chapter, Chapter 4, the research methodology is discussed in detail and the ethical considerations are outlined.

## **CHAPTER 4**

### **RESEARCH METHODOLOGY**

#### **4.1 Introduction**

This chapter explains the planning and execution of the study. It addresses the research approach, followed by a discussion on the research population, sample and sampling methods, questionnaire design and data collection, data analysis, validity and reliability. Lastly, the ethical considerations applied in this thesis are stated.

#### **4.2 Research design**

There are several definitions of research design. According to Mouton (2001:55), research design is “a plan or blue print of how you intend conducting the research”, while Welman, Kruger and Mitchell (2008:2) define research as “a process through which scientific knowledge is obtained by means of various objective methods and procedures.”. Bless, Higson-Smith and Sithole (2013:221) argue that it is impossible to begin a research project without a research design, hence it is considered a clear plan that guides the researcher on how to conduct the intended investigation. According to Creswell (2009:145), “a survey design provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population.”

Babbie and Mouton (2010:232) advise that surveys are suitable for descriptive, explanatory and exploratory purpose and this research design is viewed as a technique for measuring attitudes and orientations in large populations. Leedy and Ormrod (2005:32) note that survey research has three possible methods, namely face-to-face interviews, telephonic interviews, and written questionnaires, which researchers may use collectively when conducting their studies. In this study, questionnaires were used. According to Fox and Bayat (2007:20), survey research is suitable for areas where the researcher believes there is no information available to solve a particular problem.

The plan must be determined by the research with the aim of realising the objectives or the hypotheses of the study. According to Tustin, Ligthelm, Martins and van Wyk (2005:82) the plan should indicate the methods and procedures for collecting and

analysing the required information to address the research problem. Tustin *et al.* (2005:83) categorises research designs into three types, exploratory, descriptive and causal:

- Exploratory research gains insight into the general nature of the problem, the possible decision alternatives and relevant variables that need to be considered. It is based on highly flexible, unstructured and qualitative research methods and uses approaches such as literature reviews and unstructured individual and group interviews (Tustin *et al.*, 2005:84). This type of research is conducted when little is known about a particular research topic (Bless, Higson-Smith & Kagee, 2007:43). The primary aim of exploratory research is to formulate specific research questions or hypotheses relating to that phenomenon (Bless *et al.*, 2007:182). This type of research is carried out by reviewing literature, interviewing experts on the subject and conducting focus group interviews (Saunders, Lewis & Thornhill, 2009:140).
- Descriptive research answers who, what, when, where and how questions (Cooper & Schindler, 2008:144). This type of research is based on structured and quantitative research methods. It uses research approaches that include in-house personal interviews, intercept surveys, telephonic interviewing, regular mail surveys and on-line quantitative surveys (Tustin *et al.*, 2005:86). Cooper and Schindler (2008:151) reported that the objectives of descriptive research are to describe the phenomena or characteristics associated with a subject population, to estimate the proportion of a population that have these characteristics, and to discover associations between different variables. Leedy and Ormrod (2005:182) opine that descriptive research does not allow any change or modification of the situation under investigation and the determination of the cause-and-effect relationships.
- Causal research determines the cause-and-effect relationships between variables using experiments (Tustin *et al.*, 2005:87).

This study utilised secondary research (review of existing literature) and empirical research was carried out by means of a descriptive research design. A survey was used as the data collection method. Cooper and Schindler (2008:151) define a survey

as a “measurement process used to collect information during a highly structured interview.” Surveys may be used in studies that are usually quantitative in nature and which are aimed at providing a broad overview of a representative sample of a large population (Mouton, 2001:152).

In view of the primary objective of this research, the researcher deemed the quantitative method applicable. Maree and Pietersen (2007:145) define the quantitative method as:

...a process that is systematic and objective in its ways of using numerical data from only a selected subgroup of a universe (or population) to generalise the findings to the universe that is being studied.

According to de Vos, Strydom, Fouché and Delport (2011:143), describing the trend or relationship between the independent (gender) and dependent (barriers) variables means that the objective of quantitative methods has to be tested during the research process. Leedy and Ormrod (2005:218) state that when investigating cause and effect relationships the researcher looks at the degree to which the independent variable (the cause) influences the dependent variable (the effect). In addition, the predetermination of all elements of the research process (objectives, design and measuring instruments) should be informed by the structural approach of the study. Due to its structured nature, the quantitative method is regarded as the most appropriate method to be used when the researcher wants to determine the extent of a problem or phenomenon. This study aimed at determining perceived gender-based barriers to business start-up amongst prospective farmers in SA. Wilson *et al.* (2007:387) considered a quantitative rather than qualitative approach when examining the relationships between gender, entrepreneurial self-efficacy and EI among adolescents and adult Master of Business Administration students. Verheul, Thurik, Grilo and van der Zwan (2011: 331) also considered the quantitative rather than qualitative approach when investigating the relationship between the variables gender and entrepreneurial personality. In this study, the researcher investigated the relationship between demographic factors (gender, field of study, area in which raised, and family business status) and barriers to business start-up.

### **4.3 Population**

A population is described as the entire pool of items or individuals about which the researcher has to draw conclusions. Zikmund (2003:369) defines population as “a complete group of entities sharing some common set of characteristics”. According to Babbie (2004:19), a study population is the aggregate of individuals from which the researcher selects the sample.

According to Cooper and Schindler (2008:584), the target population under study and the sampling methods used must be explicitly defined. In this study, the research population comprises third year students who are enrolled solely for agriculture programmes, at all 27 South African universities. It is important to note that all the students from these institutions follow a similar curriculum. The total number of third year agriculture students at the 27 universities is estimated at 3,486.

### **4.4 Sampling**

Leedy and Ormrod (2005:41) opine that it is important for the researcher to identify a large sample. However, in a situation where the population is small (less than 100 people), it is crucial to survey the entire population. Zikmund (2003:71) describes sampling as the process of using a small number of items or parts of a larger population to draw conclusions about the whole population. Leedy and Ormrod (2005:199) indicate that there are various sampling designs from which a researcher may select when conducting an investigation, such as a probability or non-probability sampling design. A non-probability sampling design was deemed appropriate for this study.

The researcher requested permission from 27 institutions to gather data but only six responded positively and granted permission for data collection, which are North-West University, Tshwane University of Technology, University of Free State, Fort Hare University, University of Venda and University of Mpumalanga. There was no response at all from the other 21 institutions. The number of agricultural students in these six participating institutions is 1,123. The target group for this study was third year students.

Arrangements were made with the six participating institutions and the researcher travelled, with an assistant, to distribute questionnaires to participants personally at

their respective institutions. The distribution of questionnaires took place in the last week of July 2018 and first, second and third weeks of August 2018. Only 421 students returned completed questionnaires of the 1,123 distributed at the six institutions. Therefore, the sample of this study comprised of 421 (North-West University 90, Tshwane University of Technology 141, University of Free State 51, Fort Hare University 48, University of Venda 59 and University of Mpumalanga 32 students) from 3,486 third year agriculture students in 27 universities, 12.07% of the population, these being students who returned completed questionnaires.

#### **4.5 Instrument**

According to Jansen (2010:2), survey research is considered as the most conventional method of data collection, particularly in vast areas. Bird (2009:1307) opines that a questionnaire is a fundamental research instrument through which the researcher can determine the extent to which respondents hold a particular attitude or perspective by answering the same set of questions in a predetermined order. The use of a questionnaire was appropriate where the researcher required an analytical approach exploring relationships between variables. Jansen (2010:2) reports that the endorsement of questionnaires by researchers as an instrument for data collection is based on their advantages, which include distribution to a large number of respondents at a relatively low cost, returning a high response rate as compared to other instruments. Therefore, a questionnaire was deemed appropriate for this study.

Data was collected using the primary source of a self-administered questionnaire (see Appendix C). The questionnaire was self-developed from the literature reviewed and was named Prospective Farmers Profile Questionnaire (PFPQ). Relevant validated scales in previous studies to measure entrepreneurial intention, entrepreneurial orientation and barriers to business start-ups could not be found and the researcher opted to develop original version of Prospective Farmers Profile Questionnaire. The questionnaire contained questions on the prospective farmer respondents' demographic profiles, entrepreneurial knowledge, and intrinsic and extrinsic barriers to business start-up. The perceived barriers, namely intrinsic and extrinsic, were investigated using a Likert scale. Cooper and Schindler (2001:234) and Flick (2011:10) indicate that the Likert scale is a variation of the summated rating scale with statements that indicate both favourable and unfavourable attitudes to the research

subject. Nemoto and Beglar (2014:2) report that the Likert scale is classified as a psychometric scale that consists of multiple categories from which respondents may choose when expressing their opinions, attitudes or feelings about a particular subject.

The questionnaire contained 96 questions, divided into four sections, A to D, as follows:

- Section A requested the demographic details of the respondents, such as gender, field of study, area in which raised, and family business status (4 questions).
- Section B tested the perception of prospective farmers on starting a business, which was linked to the objective of determining the EO of prospective farmers. This EO was measured by the following constructs: risk aversion (5 questions), innovation (6 questions), proactiveness (7 questions), motivation (7 questions), and competitive aggressiveness (6 questions).
- Section C tested the individual intention of prospective farmers to start a business, which was linked to the objective of determining individual intention of prospective farmers in business start-up. The EI was measured by the constructs of personal attitude (4 question), subjective norm (6 questions), perceived behavioural control (6 questions), creativity (6 questions) and locus of control (6 questions).
- Section D tested the perceptions of prospective farmers on external barriers to business start-up and was linked to the objective of identifying external barriers facing prospective farmers. This section comprised the constructs of human capital and skills (5 questions), access to resources (4 questions), socio-cultural skill (4 questions), social networking (5 questions), political skills (5 questions) and access to land (6 questions).

Questions in section A were based on a nominal scale while those in sections B to D were based on a seven-point Likert scale (1=strongly disagree to 7=strongly agree). The Likert scale was used measure the extent of the different intrinsic and extrinsic barriers that affect business start-up. All the questions in sections A, B C and D were

developed from the literature reviewed. Questions that focused on the key variables of this study are discussed in detail in the next sections.

#### **4.5.1 Demographics**

Data on demographics (section A of the questionnaire) were collected by means of a nominal scale. These types of data sought were prospective farmers' gender (Male=1, Female=2 and Other=3) who had been exposed to the following fields of study (Animal Farming/Production=1, Field Crop=2, Horticulture=3 and Mixed Farming=4), area raised (Urban=1, Rural=2 or Semi-rural=3) and their family business ownership status (Yes=1 and No=2).

#### **4.5.2 Entrepreneurial orientation (internal barriers)**

Questions in Section B were based on the literature reviewed. In this study, five EO internal barriers were identified (risk-aversion, innovation, proactiveness, motivation and competitive aggressiveness). Formulation of questions on risk aversion were based on the literature of Pogue (2009:57) who stated that there were three types of persons when it comes to dealing with risk (risk seeking, risk averse and risk neutral entrepreneurs) and the decision-making criteria used by different persons is determined by their attitude to risk. As highlighted in Chapter 2, the concept and theory of risk are vital to EO because risk tolerance and risk-averse are a conceptual bridge that link opportunity recognition and entrepreneurial enactment (Marlow & Swail, 2014:84).

The second barrier measured was innovation, which aimed to measure the ability of prospective farmers to transform ideas into practical application and identify opportunities where ordinary people would not. The questions were based on the literature of Chatterjee and Das (2015:110) who affirmed that innovativeness is a primary element that every entrepreneur should concern about because an entrepreneur should be able to transform ideas into practical application. Measuring innovation was crucial because innovative entrepreneurial activities create positive future projection to envisage how to respond to internal and external environmental forces that may hinder efficiency and effectiveness in business operation (Marin-Garcia, Perez-Peñalver, Vidal-Carreras & Maheut, 2012:920). Proactiveness was the third internal barrier measured to determine the ability of prospective farmers to take



the initiative to pursue market opportunities with the primary objective of actively seeking and anticipating opportunities, to acquire first-mover advantages and nurture the direction of the setting (Reijonen *et al.*, 2015:37).

Motivation was the fourth internal barrier measured to determine prospective farmers' attitudes to goal achievement. Hellriegel *et al.* (2006:44) view motivation as a tool that entrepreneurs may use to encourage a positive attitude towards goal achievement. The last internal barrier measured was competitive aggressiveness. The barrier was introduced to measure prospective farmers' hyper-competitiveness and personal development competitiveness attitudes. Menesini *et al.* (2018:240) identified these two types of competitiveness attitudes that exist in entrepreneurship. As indicated in Chapter 2, hyper-competitiveness is described by Horney (1937) as an indiscriminate need by individuals to compete and win (and to avoid losing) at any cost as a means of maintaining or enhancing feelings of self-worth, with an attendant orientation of manipulation, aggressiveness, exploitation and denigration of others across a myriad of situations. Menesini *et al.* (2008:240) define personal development competitiveness as "an attitude focusing primary on enjoyment and mastery of the task rather than on winning". All these internal barrier questions were measured using a seven-point Likert scale (1= Strongly disagree to 7= Strongly agree) as shown in Table 4.1.

It should be noted that the study assumed that the absence or lack of risk-aversion, innovation, proactiveness, motivation and competitive aggressiveness in an individual (prospective farmer) would be a barrier to entrepreneurship. These factors were considered intrinsic (internal) to the individual.

**Table 4.1: Questions measuring the prospective farmers' internal barriers to business start-up**

<b>Risk averse</b>
1. I do not value new plans even if I believe that they will work.
2. I do not encourage people to take risks.
3. I am scared of possible financial losses associated with starting a farming business.
4. The possibility of not receiving a regular income bothers me.
5. I think that business start-ups are uncertain and risky.
<b>Innovation</b>
1. I do not consider myself an innovative person.
2. When it comes to problem solving, I rely on conventional wisdom.
3. I place little value on developing new business ideas.
4. I am not comfortable marketing new products and services.
5. I do not think I will be a market leader in innovation in the future.
6. When attempting to do something new I prefer to do it in the same way as everyone else.
<b>Proactiveness</b>
1. I rarely search for new business opportunities.
2. I am not willing to invest time in identifying new farming-related business opportunities or markets now or when I complete my studies.
3. It is unnecessary to continuously monitor any evolving needs when it comes to consumers.
4. It is not important to proactively anticipate customer needs when considering products and services.
5. I don't plan ahead when it comes to projects.
6. I prefer not to plan projects in a short space of time.
7. When working on projects, I prefer to sit and wait for someone else to take the lead.
<b>Motivation</b>
1. I enjoy having freedom to choose my own activities.
2. I value my independence when it comes to business operations.
3. I appreciate being my own boss.
4. I prefer to be a follower instead of a being a leader.
5. I enjoy having authority.
6. Having the power to make my own decisions is important to me
7. I value realisation of my personal ambitions.
<b>Competitive Aggressiveness</b>
1. I do not enjoy competing when pursuing my goals
2. I lack the ability to help people respond to challenges that already exist in their lives.
3. Aggressiveness is not an important element in how I plan to achieve my goals.
4. An individual's attitude towards entrepreneurship bears no direct relation to their level of aggression.
5. I consider competitiveness to be of little importance when it comes to personal development and growth
6. I believe that competing aggressively is not a characteristic of successful individuals.

### 4.5.3 Entrepreneurial intention

Questions in Section C were also developed based on the literature review. Five EI factors (personal attitude, subjective norm, perceived behavioural control, creativity and locus of control) were identified. Formulation of questions on personal attitude

were based on the literature by Autio *et al.* (2001:146), Liñán and Chen (2009:594), Debarliev *et al.* (2015:147), and Robledo *et al.* (2015:106). Debarliev *et al.* (2015:147) found that attitude to the act reflects the person's valuation of the individual desirability of establishing a new business start-up. Chatterjee and Das (2015:110) highlight that psychological and non-psychological factors (demographic, training and experience) are pertinent in clarifying the existence of entrepreneurial attitudes. Questions on the second entrepreneurial factor, subjective norm, were based on the literature by Ajzen (2001:27), Yordanova and Tarrazon (2010:256), and Karimi *et al.* (2013:204). Karimi *et al.* (2013:204) found that subjective norm was a strong predictor of EI. Ajzen (2001:27) defines subjective norm as "the perception to approve the decision to become an entrepreneur or not". Perceived behavioural control was the third factor measured and it was based on the literature by Liñán *et al.* (2008:65), Maes *et al.* (2014:791), and Rachmawan *et al.* (2015:420). As defined in Chapter 2, perceived behavioural control refers to "the perception of the ease or difficulty of becoming an entrepreneur" (Rachmawan *et al.*, 2015:420). Soria *et al.* (2016:74) found that the level of EI is related to perceived behavioural control. Creativity was the second last factor measured. This was based on the literature of Hamidi *et al.* (2008:304), da Costa *et al.* (2015:165), and Phipps and Prieto (2015b:34). Phipps and Prieto (2015b:34) report that creativity is positively allied to EI and is one of the abilities that individuals are determined to associate with entrepreneurial success. Cheung and Lau (2013:463) found that creativity is a basic element for growth in society. The last factor measured, locus of control, was based on the literature of Jain and Ali (2013:128), Antoncic *et al.* (2015a:1), Waghmare (2016:458), and Chaudhary (2017:173). Internal locus of control is vital for entrepreneurial behaviour and persons with a higher chance of non-control will establish a new business start-up with lower belief in chance outcome (Chaudhary, 2017:173). According to Antoncic *et al.* (2015a:3), locus of control of entrepreneurs can have a significant impact on EI. All EI factors were measured using a seven-point Likert scale (1= Strongly disagree to 7= Strongly agree) as shown in Table 4.2.

**Table 4.2: Questions measuring the prospective farmers' intention to business start-up**

Personal Attitude
1. A career as an entrepreneur is attractive to me.
2. Being an entrepreneur would give me great satisfaction.
3. If I have had the opportunity and resources, I would love to start my own business..
4. Being an entrepreneur brings with it more advantages than disadvantages in my opinion.
Subjective Norm
1. My family plays a crucial role in my life.
2. I think it is important to meet colleagues in official settings to exchange information.
3. My friends will approve of a decision on my part to start a business.
4. I can identify with the goals of the farming industry.
5. I am inspired by role models in the industry to start a business.
6. My community will support any entrepreneurial activities I engage in.
Perceived Behavioral Control
1. I feel confident that I would be able to control the process involved in starting a business.
2. I think it will be easy to start a farming business and keeping it viable.
3. I do not become anxious when I imagine starting a business on my own.
4. If I tried to start a business, I think it is likely that I would be successful.
5. I think it would be easy for me to come up with an idea for a business.
6. I am familiar with all the practical aspects of starting a business.
Creativity
1. I am determined to deal with the challenges of life.
2. I consider myself a creative person.
3. I enjoy performing more challenging tasks and setting high goals.
4. I have the ability to discover original and novel ideas that lead to feasible courses of action.
5. Building a shared vision is important for the success of a business.
6. I make use of and encourage the process of approaching complex and persistent problems more effectively.
Locus of Control
1. Outside forces are responsible for what happens to me and my environment.
2. I believe that I am responsible for my own fate.
3. I control my own destiny.
4. I make decisions regardless of what people say.
5. I believe that success depends on competence and hard work.
6. I am certain that plans that I always make work.

#### 4.5.4 External barriers

The questions in section D were formulated to assess prospective farmers' external barriers to business start-up. Six external barriers (human capital and skills, access to resources, socio-cultural forces, social networking, political skills and access to land) were identified. Questions on the first external barrier, "human capital and skills", were based on the literature of Erikson (2002:275), Bolton and Lane (2012:219), Semrau and Sigmund (2012:335), and Mueller *et al.* (2014:261). Human capital includes but is not limited to attitude, commitment, values, knowledge, experience, education, capability, skills and abilities that assist an entrepreneur in starting a new initiative, or running or growing a business (Botha *et al.*, 2015:56). Bolton and Lane (2012:219) further found that educational and training programmes are the cornerstone of

enhancing entrepreneurial skills and expertise that can have a positive impact on new business performance, profitability, growth and innovation. Questions on the second barrier, “access to resources”, were developed based on the literature of Jurik (1998:8), Kim *et al.* (2006:07), Hormiga *et al.* (2011:617) and Ullah *et al.* (2013:4099). The findings of Pretorius and Shaw (2004:222), Antieno (2009:34), and Young Upstarts (2011) revealed that lack of access to capital for starting a business is a global challenge for many entrepreneurs. In addition, Hormiga *et al.* (2011:617) found that establishing a new business is a complex process that entails accumulating a variety of resources before actually executing any trade or any other activities required for business transaction process.

Socio-cultural forces is the third external barrier in this study. Questions were formulated based on the literature of Begley and Tan (2001:538), Greve and Salaff (2003:02), Spigel (2013:804), and Castaño *et al.* (2015:1497). Castaño *et al.* (2015:1497) found that socially, the structure, social development and culture of a country are some of the important factors that affect entrepreneurial decision to start new businesses. Tanveer *et al.* (2011:74) found that the existence of social-cultural constraints are liable to influence the participation of persons in entrepreneurial activities.

The fourth external barrier identified for this study is “social networking”. Questions on this barrier were developed based on the literature reviewed of Johannisson *et al.* (1994:329), Jenssen and Greve (2002), and Hoang and Antoncic (2003:165-166). Batjargal (2010:139) found that entrepreneurs’ networking skills are essential because they have a positive effect on the structural changes of entrepreneur networks over time. Baron and Tang (2009:282) further found that there is a very significant relationship between entrepreneurs’ social skills and new business performance, therefore, it is important for entrepreneurs to possess the same. Semrau and Sigmund (2012:335) report that new business network characteristics such as size and the quality of network relationships are contributing factors to new business success.

The second last barrier identified was “political skills”. Questions were articulated based on the literature of Baron and Markman (2000:106), Harris *et al.* (2007:279), Shaughnessy *et al.* (2010:588). Phipps and Prieto (2015a:76) found that entrepreneurs with higher EI possess political skills to successfully facilitate

entrepreneurial behaviour and introduce new business start-ups to serve a particular need. Westbrook *et al.* (2013:6) argue that political skill is a vital element of a leader's success and politically skilled persons are able to proficiently interpret their environment with social norms and adjust their behaviour to match such norms. Brice and Spencer (2007:49) found that persons with strong EI value political savvy.

The last external barrier identified was access to land. The questions on this barrier were developed based on the literature by Maylam (1986:8), Carter and May (2001:1991), National Development Agency (2011), and Modise and Mtshiselwa (2013). According to Modise and Mtshiselwa (2013), the Native Land Act in 1913 engineered the poverty of black South Africans because the legacy of socio-economic injustice was inherited by the same Act. This Act is considered as a predecessor to apartheid regime laws because more hectares of arable land were allocated to whites and very few reserved for blacks (Maylam, 1986:8). External barriers were measured using a seven-point Likert scale (1 = Strongly disagree, to 7 = Strongly agree) as shown in Table 4.3.

**Table 4.3: Questions measuring the prospective farmers' external barriers to business start-up**

Human Capital and Skills
1. I think a lack of business skills is a barrier to a new business start-up.
2. I am convinced that I do not have a clear idea about the kind of a farming business I want to start.
3. I am not able to write a business plan for a new business start-up.
4. My not having knowledge of the farming sector and related markets will be a barrier to a new business start-up.
5. I am not able to identify openings or opportunities in the market and this will be a barrier to a new business start-up
Access to Resources
1. I do not have enough capital to starting a farming business.
2. I think that it will be difficult to obtaining a loan from any bank for me to starting a farming business.
3. A strict credit check may prevent me from securing capital to start a farming business.
4. Without sufficient assets to provide a financial guarantee (collateral) for loans it will be difficult to start a farming business.
Socio Cultural Forces
1. Family and friends do not approve of me, starting a farming business.
2. My culture discourages starting a farming business.
3. It would be difficult to start a farming business because the people close to me do not encourage entrepreneurship.
4. The in availability of legal assistance and business advice discourages me from starting a business.
Social Networking
1. Due to lack of a direct contact with successful entrepreneurs I would hesitate to start a business.
2. Due to lack of social networking it would be difficult for me acquire any new skills.
3. A lack of social networking will make it impossible for me to get relevant information on the business start-up process.
4. It would be extremely difficult to get entrepreneurial advice from entrepreneurs without social networks.
5. Without financial support from other entrepreneurs in my social network, I would not consider starting a business.
Political Skills
1. I lack the ability to effectively influence others and gain their support for my business decisions.
2. My lack of negotiating skills would seriously hamper my ability to generate resources.
3. My lack of skills to manage the uncertainty of others would be a barrier for me to run a business.
4. My having very little knowledge and expertise concerning the creation of a new farming business would be a barrier to me starting one.
5. My lack of confidence will hamper my control of others in starting and running a successful business operation.
6. I am certain that plans that I always make work.
Access to Land
1. I am not familiar with the processes of acquiring land for business start-up.
2. I think it will be difficult for me to access land for farming.
3. It will be very difficult for me to establish a farming business if there is no land available for farming
4. I don't think South Africa has enough land allocated for new business start-ups in farming.
5. I think the Land Act of South Africa may prohibit me to access land for farming business start-up.
6. The amendment of the Expropriation Bill may disadvantage my chances of accessing land for business start-up.

## 4.6 Data analysis

The Statistical Package for Social Sciences (SPSS) software was used to perform the following analyses:

- a) Descriptive statistics, to describe the sample's demography;
- b) Factor analysis, to reduce variables into smaller groups of latent variables, including tests of construct validity;

- c) Cluster analysis, to classify respondents into groups of demographic characteristics and their perceptions of entrepreneurial barriers; and
- d) Regression analysis, to assess the effects of independent variables on dependant variables.

#### **4.7 Validity and reliability**

Leedy and Ormrod (2005:33) indicate that survey research makes it possible for participants to be truthful when answering questions. Prospective farmers were expected to be truthful when responding to the questions in this study. This section addresses the internal validity and external validity of the instrument. Maree (2010:151) stated that internal validity determines whether there was adequate control over the variables other than the treatment, to conclude that a change in the dependent variable was triggered by the treatment alone. On the other hand, external validity measures the degree to which the research results can be generalised to a broader population (Bless *et al.*, 2007:182). It is the duty of the researcher to make sure that the chosen instrument measures what it is supposed to measure (Leedy & Ormrod, 2005:34). Leedy and Ormrod continue, if the instrument chosen measures what it is supposed to measure, then the measurement instrument is considered valid for a particular study. In this study, to ensure validity, questions designed were guided by the literature and most of them were based on domestic and international research findings. A pre-test of the questionnaire was done to determine its effectiveness, using 53 prospective farmers who are not included in the sample of this study.

Construct validity was performed and confirmed through factor analysis and the results are analysed and presented in Chapter 5.

According to Leedy and Ormrod (2005:29), “reliability is the consistency with which a measuring instrument yields a certain result when the entity being measured has not changed”. Sookdeo (2007) stated that the instrument is considered reliable only if it measures a particular measurement field as consistently as possible. The regularity of which the mechanism measures what it is presumed to measure is known as the reliability of that predictor (van Zyl, 2010). The reliability of a test can either be called internal reliability (which measures the consistency of the test itself) or external reliability (which measures the stability of the test results if the test is done more than



once). Reliability was tested using Spearman's correlation. The results are presented in Chapter 5.

#### **4.8 Ethical considerations**

To protect research participants from any negative impact, this thesis adhered to the regulations and guidelines stipulated by the University of South Africa (UNISA) Research Ethics Committee. To uphold high ethical standards, this study complied with the following ethical guidelines. The purpose of the study was shared with all participants, clearly outlining the participants' role in the study and how the information they provided was to be used. The participants were informed that they could withdraw at any stage from the study should they so wish since participation was voluntary. The questionnaires of participants who did not follow instructions or did not complete the questionnaire, were not used in this study and their records were deleted from the system. Participants who took part in this study were requested to agree to the informed consent form (see Appendix B). This was done before they proceeded to the questionnaire. All information obtained from respondents was treated confidentially. Names and any other identifying factors were not requested and all participants remained anonymous throughout the research process. UNISA's ethical requirements were met and the clearance certificate is attached as Appendix A.

#### **4.9 Conclusion**

The purpose of this chapter was to explain the steps in the research process that were followed in this study. The researcher used a quantitative, descriptive research design that was carried out by means of a survey. Structured questionnaires that were based on nominal and Likert scales were used for data collection. Data was collected from 421 third year prospective farmers who were registered in 2018 for agricultural programmes at North-West University, Tshwane University of Technology, University of Free-State, University Fort-Hare, University of Venda and University of Mpumalanga. Permission was obtained from these institutions to approach students to invite them to participate in the study. The data analysis techniques used in this study include descriptive and nonparametric statistics.

The findings of the survey are presented in the next chapter, Chapter 5.

## **CHAPTER 5**

### **ANALYSIS AND INTERPRETATION OF THE RESEARCH FINDINGS**

#### **5.1 Introduction**

The research methodology followed in this study was discussed in the previous chapter. This chapter deals with the analysis and interpretation of the survey data. The results of the research are presented in tables and charts. The presentation of the results begins with the demographic characteristics of the respondents, which include gender, field of study, area raised and business ownership. This is followed by the factor analysis and reliability test. Presentation of the findings are outlined according to the objectives and hypotheses that were formulated in Section 1.3 of Chapter 1. The main purpose of this chapter is to present the findings of the study on the perceived gender-based barriers to business start-up amongst prospective farmers in SA. A total of 421 final year students who were registered for the academic year 2018 completed the questionnaire. The 421 completed questionnaires were deemed suitable for analysis and each record was independently scrutinised using SPSS software.

#### **5.2 Descriptive statistical analysis**

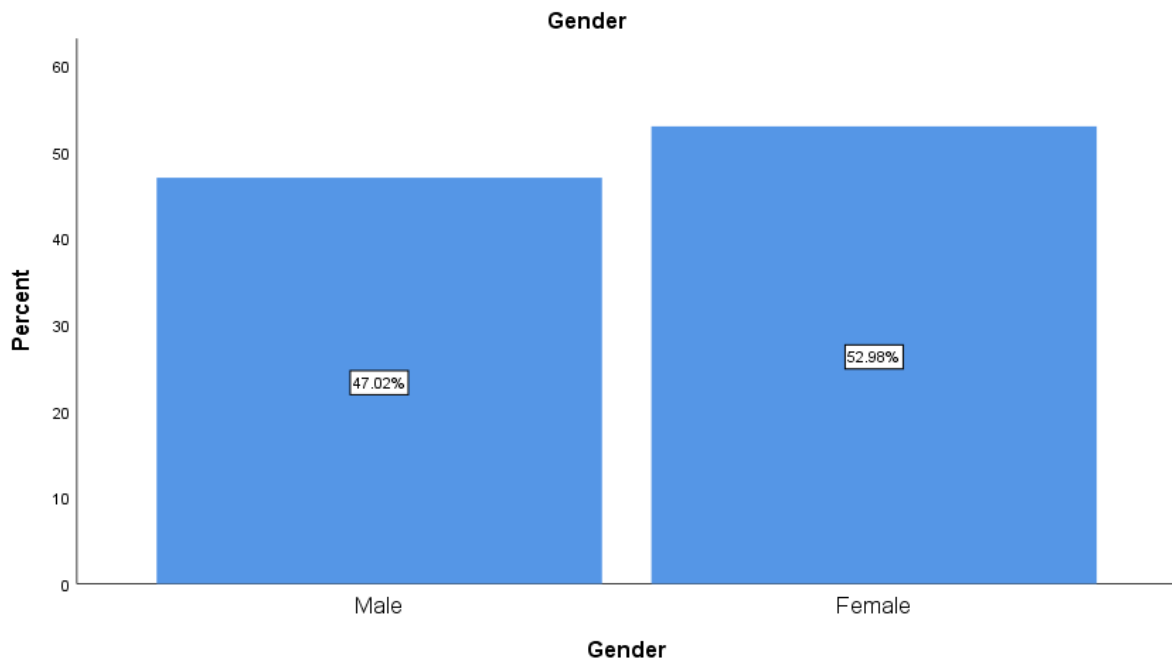
Demographic questions to the respondents are contained in Section A of the questionnaire (see Appendix C). These questions asked of prospective farmers related to gender, field of study, the area in which they were raised and whether their families owned businesses.

Each of these four aspects is analysed in the following sections.

##### **5.2.1 Gender**

Gender is an essential characteristic of every person. The role of gender is defined as social and cultural traits assigned to males and females in different societies (Golmakani, Fazeli, Taghipour & Shakeri, 2015:276). Gender order of most cultures is structured to the disadvantage of women (Bandama, 2016:6). In SA, gender differences are especially evident in entrepreneurship, and farming in particular. Bandama (2016:6) argues that it is important to reduce gender differences in the agricultural sector to allow women to contribute more efficiently to farming. The

researcher included gender as one of the demographic factors of the study with the aim of determining the gap between male and female agricultural students' intention to start a farming business.

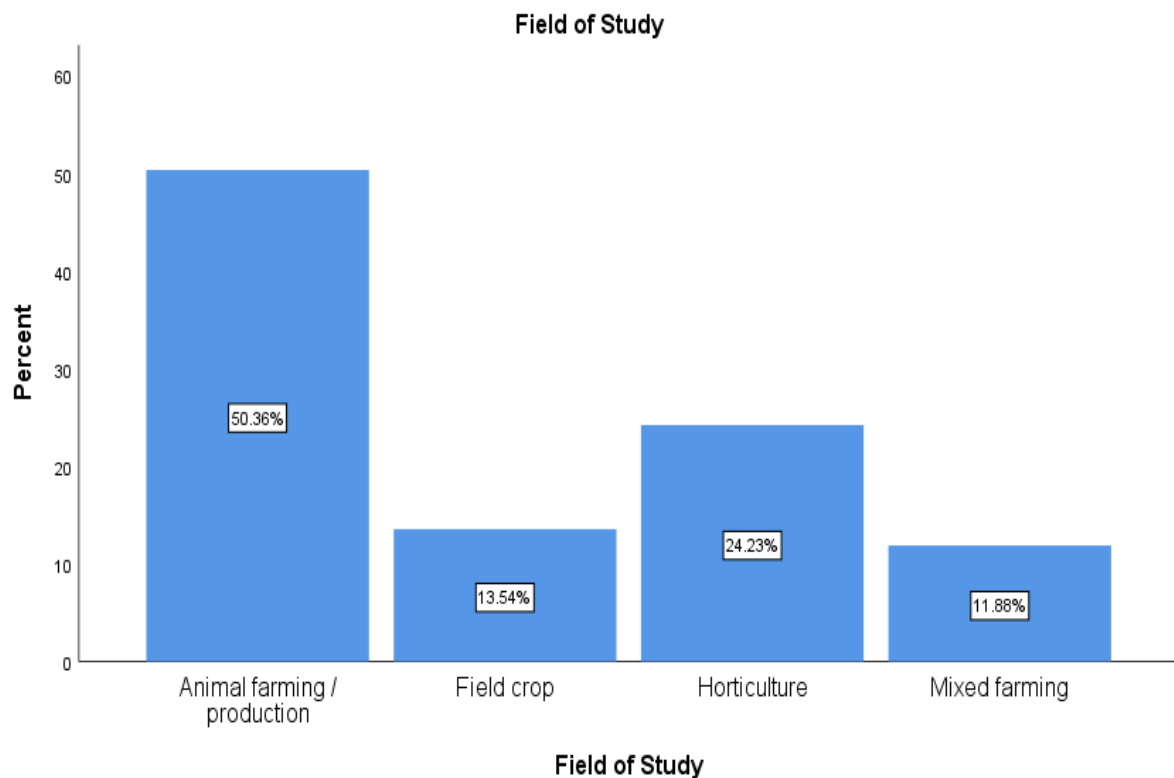


**Figure 5.1: Gender of respondents**

Figure 5.1 shows the gender of respondents in percentages. Of the total respondents (N=421), 223 (52.98%) were female and 198 (47.02%) were male. The results show that slightly more females (53%) than males (47%) took part in this study. This finding is representative of students enrolled at North-West University, Tshwane University of Technology, University of Free-State, University Fort-Hare, University of Venda and University of Mpumalanga, studying agriculture-related programmes. Based on the total population of this study, this is a fair representation of the gender split of agricultural students. The results indicate no gender bias in agricultural programme enrolment at universities in SA. The results of this study show that more female students were interested in studying agriculture-related programmes than their male counterparts were. This is surprising because more males established agriculture-related businesses than females did in SA, which this study aimed to establish.

### 5.2.2 Field of study

Agriculture is the backbone of most economies on the African continent. The South African agriculture sector is competitive and robust, with many investment opportunities in different fields, for example animal farming or production, field crops, horticulture and mixed farming (GreenCape, 2018). The sector employed 748,113 people in agriculture and related services as at the end of June 2017, compared with 739,878 in June 2016, an increase of 1.1% (SSA, 2018). For the purpose of this study, the researcher identified animal farming or production, field crops, horticulture and mixed farming fields as distinct and specialised areas of study. Differences in EI of students studying these areas were expected.



**Figure 5.2: Field of study of respondents**

Figure 5.2 shows the percentages of the field of study pursued by respondents. Of the total respondents (N=421), 212 respondents (50.36%) were studying animal farming/production, 57 respondents (13.54%) were studying field crops, 102 respondents (24.23%) horticulture and 50 respondents (11.86%) mixed farming. The results show that more than half of the respondents (50.36%) were enrolled for animal farming/production and the least (11.89%) were registered for mixed farming. The high

number of prospective farmers enrolled for the animal farming/production programme is explained by Meissner *et al.* (2013:282). They report that livestock production in SA is a major contributor to food security and clothing and it is the provider of significant social and economic benefits to the country. Chenoweth (2012:52) reported that livestock production does not only contribute to the economy of the country, but also to sustainability and cost-effectiveness of agriculture, and to the fabric of domestic societies in manufacturing. Therefore, more students might be interested in this field for the same reasons.

The results show that the second highest number of respondents (24.23%) enrolled for horticulture. In 2016, horticulture contributed 28.5% of the estimated R247 billion of the total gross value of agricultural production (DAFF, 2017). SSA (2018) highlights that growing crops, market gardening, horticulture and production of organic fertiliser contributed to more than 400, 000 jobs being created in 2016 and 2017. This is a very important area within South African agriculture and its production rate increased more than other fields did. Furthermore, in 2016 horticulture production was 11.9 million tons, with a gross value of R70.4 billion. The results of this study show that horticulture is a vital field and hence it is rated as the second-most favourable field of study by prospective farmers.

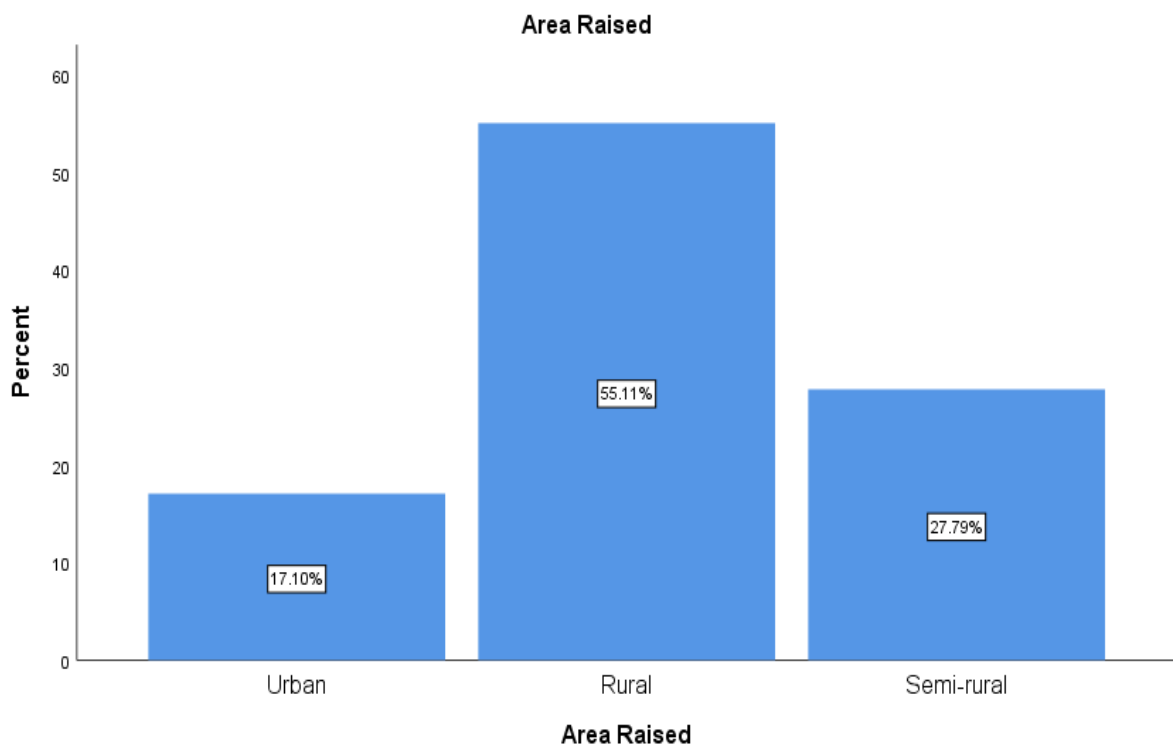
The results show that 13.54% of respondents enrolled for field crops compared to the majority of prospective farmers who chose animal farming/production as a field of study. Based on the results, this might lead to an insufficient supply of field crop products in SA, which will have to be imported from other countries to bridge the gap.

The results further show that 11.86% of respondents enrolled for mixed farming, of which livestock and crops are the key components. Therefore, the number of respondents in this field of study would be distributed between animal farming/production and field crops and this will increase the total number of respondents in both fields. The researcher introduced this factor to test the intention of prospective farmers to start a farming business based on their field of study.

### **5.2.3 Area raised**

Sabuhilaki (2016:1229) states that social and cultural factors such as family characteristics, customs community, the rate of participation and co-operation with

friends, and neighbours and relatives, influence the intention to start a business process. The behaviour of an entrepreneur can be shaped by the roles that society plays, life experiences, family background, education, consciousness level, as well as social class (Sabuhilaki, 2016:1229). Ijaz, Yasin and Zafar (2012:908) state that family and friends play a strong role as a source for the development of entrepreneurial behaviour. The researcher introduced this demographic factor to compare prospective farmers' intentions to start a farming business, taking into account the different areas where they were raised.



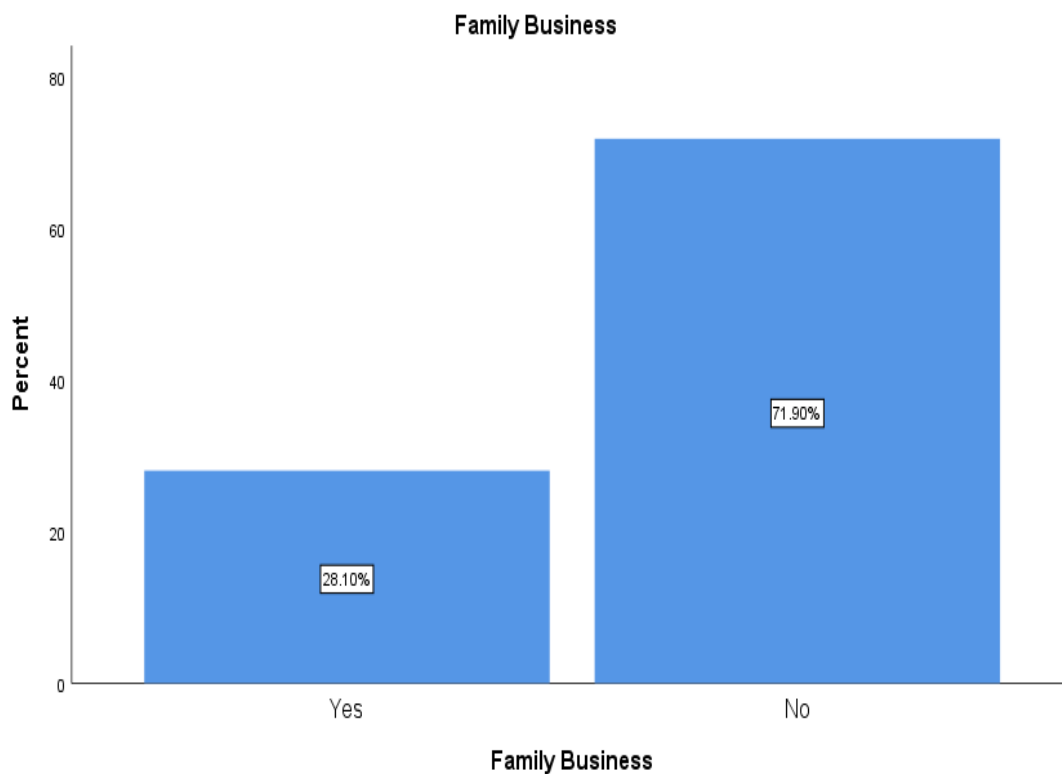
**Figure 5.3: Area where respondents were raised**

Figure 5.3 shows that out of the total respondents (N=421), 72 respondents (17.10%) were raised in urban areas, 232 respondents (55.11%) in rural areas and 117 respondents (27.79%) in semi-rural areas. More than half of the students (55.11%) were raised in rural areas and 17.10% of them in urban areas. Unlike prospective farmers raised in urban and semi-rural, those raised in rural areas were exposed to agricultural-related activities at a very early age, for example looking after livestock (cows, goats and sheep) and ploughing maize and other vegetables in the fields or in

the back yard. This could be the main reason why most of them choose farming as a career.

#### 5.2.4 Family business

Family and friends as role models play a role in being an entrepreneur. According to Sabuhilaki (2016:1232), a role model is an individual whose behaviour is simulated by another person. In this study the researcher associate role model to parents and other family members of the prospective farmers. Holienka, Mrva and Marcin (2013:3725) noted that one of the key role models for students is family. The researcher introduced this demographic factor to compare prospective farmers' intention to start a farming business based on their family business ownership status.



**Figure 5.4: Students' family business**

Figure 5.4 shows that of the total respondents (N=421), the families of 118 respondents (28.10%) do own a business and 303 respondents' (71.90%) families do not own a business. The results reflect that the majority of prospective farmers who took part in this study come from families who do not own a business.

## **5.3 Construct validation**

### **5.3.1 Introduction**

The purpose of this section is to investigate how well the test measures what it claims to measure. Exploratory factor analysis (EFA) is used to uncover a large number of items from a questionnaire to a smaller number of components underlying a data set and to examine items that have the strongest association with a given factor analytical tool (DiStefano, Zhu & Mîndrilă, 2009:1). EFA attempts to discover the nature of the constructs influencing a set of responses. According to DeCoster (1998: 2), the primary objectives of EFA are to determine the number of common factors influencing a set of measures and the strength of the relationship between each factor and each observed measure. Zikmund (2003:586) defines factor analysis as “a type of analysis used to discern the regularity in phenomena” and Dharmawardena, Thattil & Samita (2015:96) describe factor analysis as a suitable tool for investigating variable relationships for complex concepts. The researcher deemed it vital to conduct EFA to determine validity and reliability of the instrument. The following section discusses the factor analysis theory and its application in this study.

### **5.3.2 Theory on factor analysis**

Factor analysis explores groupings of variables to establish outlines among the values (Babbie & Mouton, 2010:472). During the process of factor analysis, a set of factors is generated from interrelated variables. The emphasis is on variables that correlate highly within the cluster but do not correlate with other variables outside the cluster. According to Ellis (2017), factor analysis has multiple purposes, including investigating and understanding the variables and to measure them by means of a constructed questionnaire.

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett’s test of sphericity, with the aim to determine the factorability of the correlation matrix, was undertaken. The KMO value was computed primarily to determine the adequacy of the sample size. The KMO index suggests that data may be grouped into small sets of factors (Field, 2009). According to Howard (2016:52), values between 0.80 and 0.90 are acceptable to perform a factor analysis. The KMO value of prospective farmers in this study was 0.776, 0.857 and 0.830 (Tables 5.1, 5.2 and 5.3). This indicates that



conducting a factor analysis is appropriate. Furthermore, Costello and Osborne (2005:1) opined that a sample size of 100–200 is acceptable for most factor solutions. The sample size of this study was 421, which is appropriate. The anti-image correlation matrix yields individual KMO values for each variable. All measures along the diagonal should be above 0.5 and the official diagonal elements should be very small (close to zero) (Field, 2009).

Bartlett's test of sphericity examines the difference between the correlation matrix (a matrix of Pearson correlations) to identify the matrix. To be able to use factor analysis, at least some inter-correlations between variables are required. Perfect correlation would indicate that only one factor is sufficient and very low correlations would indicate that no variables could be combined to factors, so factor analysis is not useful. The difference between the two matrices are significant when  $p < .05$  (Field, 2009). The computed Bartlett's test of Section B (measuring the constructs of risk aversion, innovation, proactiveness, motivation and competitive aggressiveness) is significant (chi-square 1566.480,  $df=300$ ,  $p < .000$ ). Section C (measuring the constructs of personal attitude, subjective norm, perceived behavioural control, creativity and locus of control) is also significant (chi-square 3124.757,  $df=378$ ,  $p < .000$ ). Lastly, Section D (measuring the constructs of human capital and skills, access to resources, socio-cultural forces, social networking, political skills and access to land) is significant (chi-square 3476.650,  $df=406$ ,  $p < .000$ ). Based on Bartlett's test results, it is therefore appropriate to use factor analysis. Section B tested the perception of prospective farmers to starting a business and was linked to the objectives to determine the EO of prospective farmers and to determine internal barriers to business start-up. Section C tested individual intention of prospective farmers to business start-up and was linked to the objective of determining individual intentions of prospective farmers in business start-up. Section D tested the perception of prospective farmers on external barriers to business start-up and was linked to the objective of identifying the external barriers facing prospective farmers.

**Table 5.1: KMO and Bartlett's Test of Section B Sampling Adequacy**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.776
Bartlett's Test of Sphericity	Approx. Chi-Square	1566.480
	Df	300
	Sig.	.000

**Table 5.2: KMO and Bartlett's Test of Section C Sampling Adequacy**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.857
Bartlett's Test of Sphericity	Approx. Chi-Square	3124.757
	Df	378
	Sig.	.000

**Table 5.3: KMO and Bartlett's Test of Section D Sampling Adequacy**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.830
Bartlett's Test of Sphericity	Approx. Chi-Square	3476.650
	Df	406
	Sig.	.000

### 5.3.3 Procedure for determining factor structures

The components of the questionnaire used in this study were validated with the aim of determining structure and reliability using factor analysis.

- Eigenvalues >1.00 were identified as an indication of differentiation of possible factors.
- Variables were subjected to exploratory data analysis and variables with loadings of less than 0.30 were removed; other rounds of exploratory analysis were carried out until clean structures were generated.

In the EFA, the responses for the 78 items of the questionnaire were correlated and rotated using a principal component analysis on the items of Sections B, C and D to investigate the groupings of items and their correspondence to the original theoretical scales. The original intended theoretical scales constructed were grouped into three sections (B, C and D), being:

- Section B subscales (risk aversion, innovation, proactiveness, motivation and competitive aggressiveness);
- Section C subscales (personal attitude, subjective norm, perceived behavioural control, creativity and locus of control); and
- Section D subscales (human capital and skills, access to resources, socio-cultural forces, social networking, political skills and access to land).

Factor analysis was conducted section by section to investigate the grouping of items in each section and their correspondence to the original theoretical scales. It would not make theoretical sense to group all the items in one factor analysis because each section tested different objectives. A principal components analysis was performed to investigate the number of factors suggested by the Kaiser criterion as well as the percentage variance explained by those factors. Following this, Horne's parallel analysis was performed and the number of factors suggested were compared with those suggested by the Kaiser criterion. A principal axis factor analysis with a direct oblimin rotation was subsequently performed to establish the best factor solution which made both statistical and theoretical sense.

Table 5.4A shows that after using Kaiser's criterion to retain factors with eigenvalues >1 (Field, 2009:647), a total number of 10 factors were extracted comprising 31 items, explaining 56.15% of the total variance. This is in line with the recommendation made by Hayton, Allen and Scarpello (2004:192), who reported that it is important to keep as many common factors as possible to explain at least 50% of the variance in the data set. Applying the same Kaiser criterion and recommendation of Hayton *et al.* (2004:192), eight factors were extracted, comprising 28 items that explain 57.46% of the total variance (Table 5.4B) and In Table 5.4C, seven factors were extracted, comprising 29 items that explain 57.38% of the total variance. A number of factor

solutions were subsequently investigated, using principal axis factoring with direct oblimin rotation, including the 25-factor structure which was theoretically calculated. The resultant pattern matrix showed that the 25-factor solution made the most theoretical and intuitive sense. Factors mostly overlapped with the theoretically calculated scales, which was encouraging. The pattern matrix of the remaining 88 items is provided in Tables 5.4A, 5.4B and 5.4C.

**Table 5.4A: Total variance explained for 31 items of Section B**

(measuring the following constructs: risk aversion, innovation, proactiveness, motivation, and competitive aggressiveness)

Factor	Initial eigenvalues			Extraction sums of squared loadings
	Total	%of Variance	Cumulative %	Total
1	4.250	13.709	13.709	4.250
2	2.692	8.685	22.394	2.692
3	1.772	5.716	28.110	1.772
4	1.683	5.429	33.539	1.683
5	1.360	4.387	37.926	1.360
6	1.232	3.975	41.901	1.232
7	1.189	3.836	45.738	1.189
8	1.143	3.687	49.425	1.143
9	1.057	3.411	52.836	1.057
10	1.027	3.314	56.150	1.027
11	0.980	3.162	59.312	
12	0.916	2.956	62.268	
13	0.879	2.837	65.105	
14	0.862	2.782	67.887	
15	0.838	2.704	70.591	
16	0.772	2.490	73.081	
17	0.742	2.393	75.474	
18	0.735	2.370	77.844	
19	0.690	2.224	80.069	
20	0.680	2.192	82.261	
21	0.631	2.034	84.295	
22	0.620	1.999	86.294	
23	0.579	1.867	88.161	
24	0.563	1.817	89.978	
25	0.528	1.702	91.680	
26	0.500	1.613	93.293	
27	0.481	1.553	94.846	

28	0.438	1.411	96.256	
29	0.403	1.301	97.558	
30	0.394	1.270	98.829	
31	0.363	1.171	100.00	

Extraction method: Principal axis factoring

**Table 5.4B: Total variance explained for 28 items of Section C**

(measuring the following constructs: personal attitude, subjective norm, perceived behavioural control, creativity and locus of control)

Factor	Initial eigenvalues			Extraction sums of squared loadings
	Total	% of Variance	Cumulative %	Total
1	6.462	23.079	23.079	6.462
2	1.888	6.744	29.823	1.888
3	1.664	5.942	35.765	1.664
4	1.486	5.308	41.072	1.486
5	1.364	4.873	45.945	1.364
6	1.167	4.168	50.113	1.167
7	1.039	3.711	53.823	1.039
8	1.017	3.633	57.457	1.017
9	0.999	3.569	61.026	
10	0.933	3.331	64.357	
11	0.882	3.151	67.507	
12	0.830	2.964	70.472	
13	0.778	2.778	73.250	
14	0.761	2.718	75.968	
15	0.697	2.490	78.458	
16	0.680	2.428	80.885	
17	0.622	2.222	83.107	
18	0.616	2.200	85.306	
19	0.545	1.948	87.254	
20	0.534	1.908	89.163	
21	0.502	1.794	90.957	
22	0.468	1.670	92.627	
23	0.453	1.617	94.244	
24	0.402	1.434	95.678	
25	0.365	1.302	96.980	
26	0.349	1.245	98.225	
27	0.316	1.128	99.353	
28	0.181	0.647	100.000	

Extraction method: Principal axis factoring

**Table 5.4C: Total variance explained for 29 items of Section D**

(measuring the following constructs: human capital and skills, access to resources, socio-cultural forces, social networking, political skills and access to land)

Factor	Initial eigenvalues			Extraction sums of squared loadings
	Total	% of Variance	Cumulative %	Total
1	6.216	21.436	21.436	6.216
2	2.613	9.009	30.445	2.613
3	1.857	6.403	36.847	1.857
4	1.841	6.348	43.195	1.841
5	1.740	6.002	49.197	1.740
6	1.357	4.679	53.875	1.357
7	1.017	3.506	57.382	1.017
8	0.990	3.413	60.794	
9	0.876	3.020	63.815	
10	0.853	2.940	66.755	
11	0.799	2.754	69.509	
12	0.771	2.660	72.169	
13	0.726	2.503	74.671	
14	0.685	2.360	77.032	
15	0.645	2.225	79.257	
16	0.612	2.111	81.368	
17	0.567	1.955	83.323	
18	0.540	1.864	85.186	
19	0.540	1.860	87.047	
20	0.497	1.714	88.761	
21	0.456	1.573	90.334	
22	0.421	1.450	91.784	
23	0.406	1.399	93.183	
24	0.393	1.353	94.537	
25	0.364	1.256	95.792	
26	0.362	1.249	97.041	
27	0.329	1.135	98.176	
28	0.274	0.944	99.121	
29	0.255	0.879	100.000	

*Extraction method: Principal axis factoring*

The extraction pattern matrix for the questionnaire is shown in Table 5.5 below. All the items had factor loadings of 0.31 and higher, indicating the significance of these items for interpretative purposes. Five items loaded on factor 1, three items loaded on factor 2, two items loaded on factor 3, eight items loaded on factor 4, five items loaded on factor 5, five items loaded on factor 6, four items loaded on factor 7, three items loaded

on factor 8, four items loaded 9, six items loaded on factor 10 and five items loaded on factor 11. The factors were labelled according to the general content of their significant related items.

**Table 5.5: Extraction pattern matrix**

Pattern Matrix	Factors Loading											Factor Name	Alpha
	1	2	3	4	5	6	7	8	9	10	11		
<b>B3.7</b> When working on projects, I prefer to sit and wait for someone else to take the lead.	<b>0.668</b>											<b>Taking responsibility</b>	0,638
<b>B3.5</b> I don't plan ahead when it comes to projects.	<b>0.436</b>												
<b>B4.4</b> I prefer to be a follower instead of a being a leader.	<b>0.362</b>												
<b>B2.6</b> When attempting to do something new, I prefer to do it in the same way as everyone else.	<b>0.320</b>												
<b>B2.5</b> I do not think I will be a market leader in innovation in the future.	<b>0.306</b>												
<b>B4.1</b> I enjoy having freedom to choose my own activities.		<b>0.749</b>									<b>Motivation</b>	0,614	
<b>B4.2</b> I value my independence when it comes to business operations.		<b>0.569</b>											
<b>B4.3</b> I appreciate being my own boss.		<b>0.453</b>											



Pattern Matrix	Factors Loading											Factor Name	Alpha	
	1	2	3	4	5	6	7	8	9	10	11			
<b>B3.3</b> It is unnecessary to continuously monitor any evolving needs when it comes to consumers.			0.767										Proactiveness	0.525
<b>B3.4</b> It is not important to proactively anticipate customer needs when considering products and services.			0.609											
<b>C4.4</b> I have the ability to discover original and novel ideas that lead to feasible courses of action.				0.743									Creativity	0.815
<b>C4.3</b> I enjoy performing more challenging tasks and setting high goals.				0.708										
<b>C4.2</b> I consider myself a creative person.				0.706										
<b>C4.6</b> I make use of and encourage the process of approaching complex and persistent problems more effectively.				0.549										
<b>C4.5</b> Building a shared vision is important for the success of a business.				0.497										
<b>C3.5</b> I think it would be easy for me to come up with an idea for a business.				0.454										

Pattern Matrix	Factors Loading											Factor Name	Alpha	
	1	2	3	4	5	6	7	8	9	10	11			
<b>C4.1</b> I am determined to deal with the challenges of life.				0.403									Creativity	0.815
<b>C3.6</b> I am familiar with all the practical aspects of starting a business.				0.371										
<b>C1.2</b> Being an entrepreneur would give me great satisfaction.					-0.907								Personal Attitude	0.806
<b>C1.1</b> A career as an entrepreneur is attractive to me.					-0.869									
<b>C1.3</b> If I had the opportunity and resources, I would love to start my own business.					-0.647									
<b>C1.4</b> Being an entrepreneur brings with it more advantages than disadvantages in my opinion.					-0.435									
<b>C3.1</b> I feel confident that I would be able to control the process involved in starting a business.					-0.319									

Pattern Matrix	Factors Loading											Factor Name	Alpha
	1	2	3	4	5	6	7	8	9	10	11		
<b>D4.2</b> Due to lack of social networking, it would be difficult for me acquire any new skills.						<b>0.889</b>						<b>Social Networking</b>	0,791
<b>D4.3</b> A lack of social networking will make it impossible for me to get relevant information on the business start-up process.						<b>0.771</b>							
<b>D4.4</b> It would be extremely difficult to get entrepreneurial advice from entrepreneurs without social networks.						<b>0.582</b>							
<b>D4.1</b> Due to lack of a direct contact with successful entrepreneurs, I would hesitate to start a business.						<b>0.441</b>							
<b>D4.5</b> Without financial support from other entrepreneurs in my social network, I would not consider starting a business.						<b>0.431</b>							

Pattern Matrix	Factors Loading											Factor Name	Alpha
	1	2	3	4	5	6	7	8	9	10	11		
<b>D2.2</b> I think that it will be difficult to obtain a loan from any bank for me to start a farming business.							0.711					Access to Resources	0.722
<b>D2.4</b> Without sufficient assets to provide a financial guarantee (collateral) for loans, it will be difficult to start a farming business.							0.697						
<b>D2.1</b> I do not have enough capital to start a farming business.							0.637						
<b>D2.3</b> A strict credit check may prevent me from securing capital to start a farming business.							0.516						
<b>D3.3</b> It would be difficult to start a farming business because the people close to me do not encourage entrepreneurship.								0.740				Socio-Cultural Forces	0.714
<b>D3.2</b> My culture discourages starting a farming business.								0.695					
<b>D3.1</b> Family and friends do not approve of me starting a farming business.								0.515					

Pattern Matrix	Factors Loading											Factor Name	Alpha
	1	2	3	4	5	6	7	8	9	10	11		
D1.3 I am not able to write a business plan for a new business start-up.									0.748			Human Capital and Skills	0.696
D1.4 My not having knowledge of the farming sector and related markets will be a barrier to a new business start-up.									0.623				
D1.5 I am not able to identify openings or opportunities in the market and this will be a barrier to a new business start-up									0.584				
D1.2 I am convinced that I do not have a clear idea about the kind of a farming business I want to start									0.467				

Pattern Matrix	Factors Loading											Factor Name	Alpha
	1	2	3	4	5	6	7	8	9	10	11		
<b>D6.5</b> I think the Land Act of South Africa may prohibit me from accessing land for farming business start-up.										0.683		Access to land	0.698
<b>D6.2</b> I think it will be difficult for me to access land for farming.										0.644			
<b>D6.6</b> The amendment of the Expropriation Bill may disadvantage my chances of accessing land for business start-up.										0.460			
<b>D6.4</b> I don't think South Africa has enough land allocated for new business start-ups in farming.										0.426			
<b>D6.3</b> It will be very difficult for me to establish a farming business if there is no land available for farming.										0.404			
<b>D6.1</b> I am not familiar with the processes of acquiring land for business start-up.										0.399			

Pattern Matrix	Factors Loading											Factor Name	Alpha	
	1	2	3	4	5	6	7	8	9	10	11			
<b>D5.3</b> My lack of skills to manage the uncertainty of others would be a barrier for me to run a business.												<b>0.783</b>	<b>Political skills</b>	0.827
<b>D5.4</b> My having very little knowledge and expertise concerning the creation of a new farming business would be a barrier to me starting one.												<b>0.768</b>		
<b>D5.5</b> My lack of confidence will hamper my control of others in starting and running a successful business operation.												<b>0.734</b>		
<b>D5.2</b> My lack of negotiating skills would seriously hamper my ability to generate resources.												<b>0.729</b>		
<b>D5.1</b> I lack the ability to effectively influence others and gain their support for my business decisions.												<b>0.424</b>		

Table 5.5 displays factor loadings for 11 factors. According to Field (2005:704), a factor will be deemed reliable if it consists of four or more loadings of at least 0.6, irrespective of the sample size. Stevens (2002:395) recommended that a cut-off of 0.4 should be considered appropriate for interpretative purposes. Guadagnoli and Velicer (1988:225) made a similar suggestion, asserting that a factor loading of 0.4 has good factor stability and is considered to lead to the required and acceptable outcome. According to Field (2009:644), factor loadings  $>0.35$  should be considered as significant. Ximenez (2009:1039) reported that factor loadings of a sample of 300 or more, with a factor loading of greater or equal to 0.30, are considered significant. Stevens (2002:398) and Ximenez (2009:1039) recommended that a factor loading of 0.30 is desirable for significance if the sample size is 350 and more. Based on the above recommendations by Ximenez (2009:1039) and Stevens (2002:398), the researcher opted to consider 0.3 as the acceptable cut-off point for all factor loadings because the sample size of the study was more than 350.

Tabachnick and Fidell (2014:620) recommend that factor loadings lower than the absolute value of 0.30 should be suppressed. The researcher omitted some of the items that did not have acceptable loadings in Section B (financial concern, innovation, autonomy, risk taking) and Section C (locus of control, subjective norm and perceived behavioural control). In a situation where an item was associated to more than one factor, the highest factor was considered for the purpose of this study (for example item C4.6 was associated with more than one factor, creativity being the highest with 0.549 and perceived behavioural control being the lowest value of 0.326). The researcher decided to use and encourage the process of approaching complex and persistent problems more effectively. Yong and Pearce (2013:80) state that it is important to note that once a factor is reduced to two or fewer items or variables, the factor is only considered significant if the correlation between these variables is above 0.7 or  $r > 0.7$ . Table 5.9 reflects only one factor (proactiveness) having two items. The correlation of the items in this factor is 0.767 and 0.609 respectively. It is also evident that 0.609 is not far from the cut-off of 0.7. Therefore, the researcher decided to retain this factor.

After rotation, a reliability test on the 11 factors was carried out, the results of which are shown in Table 5.5 as well as in Tables 5.6A to 5.6L.



### 5.3.4 Internal consistency reliability

Zikmund (2003:300) defines reliability as “the degree to which measures are free from error and therefore yield consistent results”. It differs from validity in the sense that validity is the ability for a particular measuring instrument to measure exactly what it is supposed to measure. According to Taber (2018:1277), validity is an assessment of the degree of consistency between multiple measurements of a variable. In this study, reliability was determined by means of Cronbach’s alpha test. Taber (2018:1277) advocates that items with an alpha correlation of 0.70 and higher be regarded as suitable, even if this may decrease to 0.60 in exploratory research. According to Cortina (1993:102), alpha is very sensitive to the number of items in a measurement and alpha can be high in spite of low internal correlations and multidimensionality. In contrast to Taber (2018:1277), Cortina (1993) suggested that an alpha correlation of 0.70 should serve as an absolute minimum for newly developed measurements and that through appropriate use of factor analysis, the internal consistency reliability could be considerably higher than 0.70. According to Juul, van Rensburg and Steyn (2012:83), alpha values of 0.60–0.65 are still acceptable. In this study, the researcher used an alpha value of 0.60 as the minimum acceptable value for reliability.

Each of the factors indicated above are discussed in detail in the following sections.

#### 5.3.4.1 *Taking responsibility factor*

Factor 1, labelled ***taking responsibility***, consisted of five items. The two items, B3.7 and B3.5, originally used to measure proactiveness were loaded to the new renamed factor (taking responsibility). Item B4.4, which was originally used to measure motivation in entrepreneurship, was also loaded to this new renamed factor. Two other items, B2.6 and B2.5, that were originally intended to measure the factor innovation, were regarded by respondents as being related to the factor, taking responsibility. For the purposes of this study, taking responsibility is associated with leadership and the drive of becoming innovative in future projects.

As shown in Table 5.6A, Cronbach’s alpha for taking responsibility of 0.638 is  $>0.6$  (Cronbach’s Alpha  $>0.6$ ), which shows a good factor structure and reliability. The variance explained of 13.709% for taking responsibility is favourable.

The eigenvalue of 4.250 for taking responsibility is >1.00, which shows that the factor is relevant. Eigenvalues are used to determine which factors are relevant and should be analysed. The taking responsibility factor should therefore be analysed

**Table 5.6A: Factor loadings for taking responsibility**

Variable	Factor Loadings
B3.7	0.668
B3.5	0.436
B4.4	0.362
B2.6	0.320
B2.5	0.306
Explained Variance	13.709%
Cronbach's Alpha	0.638
Eigenvalue	4.250
Number of items	5

#### **5.3.4.2 Motivation factor**

Factor 2, labelled **motivation**, consists of three items. All items (B4.1, B4.2 and B4.3) were originally intended to measure motivation. Items B4.4, B4.5, B4.6 and B4.7 could either not load on this factor and cross-loaded onto other factors, or they did not survive the 0.30 cut-off for significance for factor loading in the study. The motivation factor was considered significant because its Cronbach's alpha of 0.614 is >0.6. The variance explained of 8.685% is favourable (Table 5.6B). For the purposes of this study, motivation is in line with the study done by Chatterjee and Das (2015:110) who highlight that the desire to be motivated drives individual interest in entrepreneurship. Furthermore, Rauch and Frese (2000:102) highlighted that for an entrepreneur to establish a new business start-up, a strong desire for need of achievement is required and the need for achievement is associated with motivation.

The eigenvalue of 2.692 for motivation is >1.00, which shows that the factor is relevant. Eigenvalues are used to determine which factors are relevant and should be analysed. The motivation factor shows good structure and reliability and was therefore analysed.

**Table 5.6B: Factor loadings for motivation**

Variable	Factor Loadings
B4.1	0.749
B4.2	0.569
B4.3	0.453
Explained Variance	8.685%
Cronbach's Alpha	0.614
Eigenvalue	2692
Number of items	3

#### **5.3.4.3 Proactiveness factor analysis**

Factor 3, labelled **proactiveness**, consists of two items (B3.3 and B3.4). Other items that were originally meant to measure proactiveness (B3.1, B3.2, B3.5, B3.6 and B3.7) could either not load on this factor and cross-loaded onto other factors, or they did not survive the 0.30 cut-off for significance. According to Yong and Pearce (2013:80), once a factor is reduced to two or fewer items or variables, the factor is only considered significant if  $r$ -value  $>0.7$  the correlation between these variables is above 0.7 or  $r >0.7$ . The proactiveness factor was considered significant because its Cronbach's alpha was 0.646 and shows a good factor structure and reliability (Table 5.6C). According to Juul *et al.* (2012:83) alpha values of 0.60–0.65 are still acceptable. In this study, the researcher used an alpha value of 0.60, as the minimum acceptable value for reliability.

For the purposes of this study, proactiveness refers to an individual's ability to take the initiative to pursue market opportunities with the primary objective of actively seeking and anticipating opportunities, to acquire first-mover advantages and nurture the direction of the setting (Reijonen *et al.*, 2015:37).

The eigenvalue of 1.683 for proactiveness is >1.00 and a favourable variance explained of 5%, which shows that the factor is relevant. The proactiveness factor was therefore analysed.

**Table 5.6C: Factor loadings for proactiveness**

Variable	Factor Loadings
B3.3	0.767
B3.4	0.609
Explained Variance	5.429%
Cronbach's Alpha	0.646
Eigenvalue	1.683
Number of items	2

#### **5.3.4.4 Creativity factor analysis**

Factor 4, labelled **creativity**, consists of eight items. The six items (C4.4, C4.3, C4.2, C4.6, C4.5 and C4.1) that were originally used to measure the variable creativity loaded to one factor. Two items (C3.5 and C3.6) which were originally intended to measure the variable **perceived behavioural control**, loaded onto this factor. These two items were regarded by respondents as being related to the factor creativity. The researcher retained the factor creativity because all items from creativity were grouped together. For the purposes of this study, creativity is in line with the study of Kickul *et al.* (2004), who found that creativity undoubtedly contributed towards entrepreneurial career interests and behaviours. Phipps and Prieto (2015b:34) found that creativity was positively allied to EI and was one of the abilities that individuals are determined to associate with entrepreneurial success.

Table 5.6D reflects Cronbach's alpha for creativity of 0.815 which is >0.6 (Cronbach's Alpha >0.6) and shows good factor structure and reliability. The variance explained of 23.079% for creativity is favourable. The eigenvalue of 6.462 for creativity is >1.00, which shows that the factor is relevant for analysis.

**Table 5.6D: Factor loadings for creativity**

<b>Variable</b>	<b>Factor Loadings</b>
C4.4	0.743
C4.3	0.708
C4.2	0.706
C4.6	0.549
C4.5	0.497
C3.5	0.454
C4.1	0.403
C3.6	0.371
Explained Variance	23.079%
Cronbach's Alpha	0.815
Eigenvalue	6.462
Number of items	8

#### **5.3.4.5 Personal attitude factor analysis**

Factor 5, labelled **personal attitude**, consists of five items. Four items (C1.2, C1.1, C1.3 and C1.4) were originally intended to measure the variable personal attitude loaded to one factor. One item (C3.1) was originally intended to measure the variable, perceived behavioural control, loaded into personal attitude factor. This item was regarded by respondents as being related to the factor personal attitude. For the purposes of this study, personal attitude refers to the degree to which an individual holds a positive or negative personal valuation about becoming an entrepreneur (Autio *et al.*, 2001:146), a notion which is supported by Debarliev *et al.* (2015:147). Liñán and Chen (2009:594) report that beliefs are antecedents of attitudes because beliefs explain attitude, while attitude explains intention.

The factor shows good factor structure and reliability as reflected in Table 5.6E. The Cronbach's alpha for personal attitude of 0.806 is >0.6 (Cronbach's Alpha >0.6). The variance explained of 7% is favourable and the eigenvalue of 1.888 for personal attitude is >1.00, which depicts factor relevancy.

**Table 5.6E: Factor loadings for personal attitude**

<b>Variable</b>	<b>Factor Loadings</b>
C1.2	-0.907
C1.1	-0.869
C1.3	-0.647
C1.4	-0.435
C3.1	-0.319
Explained Variance	6.744%
Cronbach's Alpha	0.806
Eigenvalue	1.888
Number of items	5

#### **5.3.4.6 Social networking factor analysis**

Factor 6, labelled **social networking**, consists of five items. These five items (D4.2, D4.3, D4.4, D4.1 and D4.5) were originally meant to measure the construct networking. For the purposes of this study, social networking refers to channels through which an entrepreneur gains access to a variety of resources held by other entrepreneurs (Hoang & Antoncic, 2003:165).

Table 5.6F reflects Cronbach's alpha for social networking of 0.791 is greater than 0.6 (Cronbach's Alpha >0.6), which shows a good factor structure and reliability with the variance explained of 21%.

The eigenvalue of 6.216 for social networking is >1.00, which shows that the factor is relevant and should therefore be analysed.

**Table 5.6F: Factor loadings for social networking**

<b>Variable</b>	<b>Factor Loadings</b>
D4.2	0.889
D4.3	0.771
D4.4	0.582
D4.1	0.441
D4.5	0.431
Explained Variance	21.436%
Cronbach's Alpha	0.791
Eigenvalue	6.216
Number of items	5

#### **5.3.4.7 Access to resources factor analysis**

Factor 7, labelled **access to resources**, consists of four items. These items (D2.2, D2.4, D2.1 and D2.3) were meant to measure the construct access to resources loaded to one factor. For the purposes of this study, access to resources is in line with Ullah *et al.* (2013:4099) who report that access to resources enables an entrepreneur to aggressively exploit opportunities well before competitors due to environmental pressures. According to Antieno (2009:34), lack of access to capital is a global problem for many entrepreneurs.

The factor access to resources is reliable, (Cronbach's alpha for of 0.722 >0.6) as reflected on Table 5.6G. A variance explained of 9% and an eigenvalue of 2.613 which is >1.00, all show that the factor is relevant and should be used.

**Table 5.6G: Factor loadings for access to resources**

<b>Variable</b>	<b>Factor Loadings</b>
D2.2	0.711
D2.4	0.697
D2.1	0.637
D2.3	0.516
Explained Variance	9.009%
Cronbach's Alpha	0.722
Eigenvalue	2.613
Number of items	4

#### **5.3.4.8 Socio-cultural forces factor analysis**

Factor 8, labelled **socio-cultural forces**, consists of three items. These items (D3.1, D3.2, and D3.1) were originally intended to measure the variable socio-cultural forces and they loaded to the same factor. For the purposes of this study, socio-cultural forces are pressures that originate from the social structure of the country or society or from the national culture that may influence one's decision to participate in entrepreneurial activities. Urbano *et al.* (2011:125) found two key socio-economic factors that are crucial in the emergence of an entrepreneurial-orientated society, namely the existence of role models within the entrepreneurial context and their entrepreneurial attitudes and values. Hopp and Stephan (2012:918) opine that socially supportive environments are important because they enable emerging entrepreneurs to access the important resources required to establish their own businesses.

Table 5.6H reflects Cronbach's alpha for socio-cultural forces of 0.714 is >0.6 (Cronbach's Alpha >0.6), which shows good factor structure and reliability. The variance explained of socio-cultural forces is 6%.

The eigenvalue of 1.857 for socio-cultural forces is favourable since it is >1.00 and should therefore be analysed.



**Table 5.6H: Factor loadings for socio-cultural forces**

<b>Variable</b>	<b>Factor Loadings</b>
D3.3	0.740
D3.2	0.695
D3.1	0.515
Explained Variance	6.403%
Cronbach's Alpha	0.714
Eigenvalue	1.857
Number of items	3

#### **5.3.4.9 Human capital and skills factor analysis**

Factor 9, labelled **human capital and skills**, consists of four items that were initially intended to measure this construct. These items (D1.3, D1.4, D1.5 and D1.2) were originally intended to measure the variable human capital and skills loaded to one factor. For the purposes of this study, human capital and skills refers to entrepreneurial competences. Erikson (2002:280) reported that entrepreneurial competences are perceived feasibility, creativity, enterprise ability, perceived behavioural control, and self-efficacy that entrepreneurs should possess to be successful in performing entrepreneurial activities. Erikson (2002: 275) asserts that entrepreneurial capital is important for entrepreneurial success hence is considered as a multiplicative function of entrepreneurial competence and commitment.

Table 5.6I reflects Cronbach's alpha for human capital and skills of 0.696, is  $>0.6$  (Cronbach's Alpha  $>0.6$ ), which shows good factor structure and reliability with the explained variance of 6.348%. The eigenvalue of 1.841 for human capital and skills is  $>1.00$ , which shows that the factor is relevant and can be analysed. The human capital and skills factor was therefore analysed.

**Table 5.6I: Factor loadings for human capital and skills**

<b>Variable</b>	<b>Factor Loadings</b>
D1.3	0.748
D1.4	0.623
D1.5	0.584
D1.2	0.467
Explained Variance	6.348
Cronbach's Alpha	0.696
Eigenvalue	1.841
Number of items	4

#### **5.3.4.10 Access to land factor analysis**

Factor 10, labelled **access to land**, consists of six items. These items (D6.5, D6.2, D6.6, D6.4, D6.3 and D6.1) were used to measure the variable access to land loaded to one factor. For the purposes of this study, access to land is considered as the most significant facet of production, especially agricultural production. Mowlds *et al.* (2012) report that major global food security challenges can be addressed by the provision of land available for agriculture.

Table 5.6J reflects Cronbach's alpha for access to land of 0.698, which is greater than 0.6 (Cronbach's Alpha >0.6). This shows a good factor structure and reliability with the explained variance of 6%.

The eigenvalue of 1.740 for access to land is >1.00, which shows that the factor is relevant and should be analysed.

**Table 5.6J: Factor loadings for access to land**

<b>Variable</b>	<b>Factor Loadings</b>
D6.5	0.683
D6.2	0.644
D6.6	0.460
D6.4	0.426
D6.3	0.404
D6.1	0.399
Explained Variance	6.002%
Cronbach's Alpha	0.698
Eigenvalue	1.740
Number of items	6

#### **5.3.4.11 Political skills**

Factor 11, labelled **political skills**, consists of five items. These items (D5.3, D5.4, D5.5, D5.2, and D5.1) were used to measure the variable political skills loaded to one factor. For the purposes of this study, political skills was associated with Ahearn *et al.* (2004:311) who defined political skills as “the ability to effectively understand others at work, and to use such knowledge to influence others to act in ways that enhance one’s personal and/or organisational objective”.

Table 5.6K below reflects Cronbach’s alpha for political skills of 0.827 is >0.6 (Cronbach’s Alpha >0.6), which shows good factor structure and reliability with the explained variance of 5%.

The eigenvalue of 1.357 for political skills is >1.00, which shows that the factor is relevant. The political skills factor was therefore analysed.

**Table 5.6K: Factor loadings for political skills**

Variable	Factor loadings
D5.3	0.783
D5.4	0.768
D5.5	0.734
D5.2	0.729
D5.1	0.424
Explained Variance	4.679
Cronbach's Alpha	0.827
Eigenvalue	1.357
Number of items	5

Table 5.6L reflects the summary of reliability statistics for the independent variables (taking responsibility, motivation, proactiveness, creativity, social networking, access to resources, socio-cultural forces, human capital and skills, access to land and political skills) and one dependent variable EI (personal attitude).

**Table 5.6L: Summary of factors reliability statistics**

No.	Factors	Cronbach's Alpha	Number of Items	Number of respondents
1	Taking Responsibility	0,638	5	415
2	Motivation	0,614	3	411
3	Proactiveness	0,646	2	417
4	Creativity	0,815	8	412
5	Social Networking	0,791	5	415
6	Access to Resources	0,722	4	417
7.	Socio-Cultural Forces	0,714	3	417
8	Human Capital and Skills	0,696	5	417
9	Access to Land	0,698	6	406
10	Political Skills	0,827	5	407
11	Personal Attitude	0,806	5	416

Table 5.6L above consists of political skills with the highest Cronbach's alpha value of 0.827, while creativity has the second highest alpha value of 0.815, followed by EI (personal attitude) of 0.806, social networking of 0.791, access to resources of 0.722, and socio-cultural forces of 0.714. Access to land has the Cronbach's alpha value of 0.696, human capital and skills of 0.698, proactiveness of 0.646, taking responsibility of 0.638, and lastly, motivation has the lowest Cronbach's alpha value of 0.614. All variables have good internal consistency reliability because they score 0.6 or more.

All factors in this study show stable and consistent structure. Values below 0.6 indicate unsatisfactory internal consistency and values above 0.6 indicate satisfactory internal consistency (Malhotra, 2010).

## **5.4 Testing study aims**

### **5.4.1 Introduction**

This study investigated perceived gender-based barriers to business start-up amongst prospective farmers in SA. The secondary aims of the study were to determine the EO of prospective farmers, explore external and internal barriers facing prospective farmers, determine individual intention to business start-up and establish the role of gender in business start-up. The aim and objectives of this study were tested by conducting comparison analysis using Levene's Test for Equality of Variance, dependency analysis using the analysis of variance (ANOVA) method and lastly, correlation analysis with Spearman's correlation.

### **5.4.2 Levels of Entrepreneurial Orientation (taking responsibility) and Entrepreneurial Intention (personal attitude) among prospective farmers**

Before any tests are carried out, the levels of entrepreneurial orientation and entrepreneurial intention among the sample is established. This shows the distribution of these two key constructs among the sample. The results are shown in Table 5.7 A.

**Table 5.7A: Summary of factors on frequency statistics**

Factors		Strongly disagree 1	Disagree 2	Somewhat disagree 3	Neither agree or disagree 4	Somewhat agree 5	Agree 6	Strongly agree 7
Taking Responsibility (Entrepreneurial Orientation)	Respondents where F=419	13	17	21	25	33	109	201
	%	3%	4%	5%	6%	8%	26%	48%
Motivation	Respondents where F=416	8	12	12	12	42	125	204
	%	2%	3%	3%	3%	10%	30%	49%
Proactiveness	Respondents where F=419	8	17	17	38	42	130	167
	%	2%	4%	4%	9%	10%	31%	40%
Creativity	Respondents where F=417	4	8	13	33	71	150	138
	%	1%	2%	3%	8%	17%	36%	33%
Personal Attitude (Entrepreneurial Intention)	Respondents where F=417	4	8	8	25	46	117	209
	%	1%	2%	2%	6%	11%	28%	50%
Social Networking	Respondents where F=415	54	79	45	50	54	75	58
	%	13%	19%	11%	12%	13%	18%	14%
Access to Resources	Respondents where F=418	25	33	21	42	55	121	121
	%	6%	8%	5%	10%	13%	29%	29%
Socio Cultural Forces	Respondents where F=418	200	105	25	33	21	21	13
	%	48%	25%	6%	8%	5%	5%	3%
Human Capital and Skills	Respondents where F=417	54	71	33	38	58	92	71
	%	13%	17%	8%	9%	14%	22%	17%
Access to Land	Respondents where F=410	53	86	53	62	37	70	49
	%	13%	21%	13%	15%	9%	17%	12%
Political Skills	Respondents where F=415	58	104	50	54	58	66	25
	%	14%	25%	12%	13%	14%	16%	6%

Table 5.7A shows that out of the total respondents' (N =419); 201 respondents (48%) strongly agree that they take responsibility for their own actions, while 109 (26%) and

33 (8%) respondents agree and somewhat agree respectively that they take responsibility for their own actions. This means that 343 respondents (82%), do take responsibility for their actions. The results reflect that majority of 343 prospective farmers (82%) are entrepreneurially-orientated. Dmitrieva and Lyutikova (2013:322) established that entrepreneurs tend to take responsibility for their own actions in what they pursue.

Out of the total respondents' (N=416); 204 respondents (49%) strongly agree that they are motivated to be entrepreneurs, while 125 (30%) and 42 (10%) respondents agree and somewhat agree respectively that they are indeed motivated to be entrepreneurs. This means that 371 respondents (89%) who are the majority are motivated to start their own businesses. Only small number of 32 respondents (8%) disagree that they are motivated to be entrepreneurs, while 12 respondents (3%) were neutral. These results reflect that majority of prospective farmers are independent in what they do and have the intention to establish their own businesses. According to Thapa *et al.* (2008: 86) alluded that independence is one the motivational factors that leads to successful entrepreneurial activities.

### **5.4.3 Comparisons**

The study's first and second objective were to determine if there was a statistically significant difference between independent variables (gender, field of study, area raised and family business status of prospective farmers) and the following barriers to business start-up (taking responsibility, motivation, proactiveness, creativity, social networking, access to resources, socio-cultural forces, human capital and skills, access to land and political skills).

In this section, multiple comparisons were conducted to test the statistically significant difference between different groups. The perceptions of prospective farmers (males and females) were compared to different barriers to business start-up. Hypotheses were postulated for each variable and tested using appropriate statistical methods.

The first comparison is between gender and the different barriers to business start-up.

### 5.4.2.1 Gender

The relationship between gender and business start-up is globally problematic. It is generally accepted by many scholars that more men are involved in new business creation than women are (Shinnar *et al.*, 2012:486). The critically limited number of female entrepreneurs is a painful reality. Countries like the USA faced the same challenge prior to 1960 where women were underrepresented in mathematically intensive science until their participation changed afterwards (Hill & Rogers, 2012:198). According to Shinnar *et al.* (2012:486), gender is vital when it comes to perceptions of barriers to new business start-up. The aim of this section was tested using the T-test method. This method is deemed appropriate because it compares the mean scores of two different aspects—in this case, male/female (gender) and each of the barriers to business start-up, taking responsibility, motivation, proactiveness, creativity, personal attitude, social networking, access to resources, socio-cultural forces, human capital and skills, access to land and political skills. This study utilised Levene's Test for Equality of Variance, which tests whether the variance of scores for the two groups is the same, and determines which of the t-values is correct to use. If the Sig. value is  $>.05$ , the “equal variances assumed” should be used and if the Sig. value is  $p=.05$  or less, the “equal variances not assumed” should be used in the interpretation.

#### 5.4.2.1.1 Gender and barriers to business start-up

The hypothesis (H1) states that:

There is no statistically significant difference between the mean values of males and females with regard to the following barriers to business start-up: H1:1 taking responsibility, H1:2 motivation, H1:3 proactiveness, H1:4 creativity, H1:5 personal attitude, H1:6 social networking, H1:7 access to resources, H1:8 socio-cultural forces, H1:9 human capital and skills, H1:10 access to land, H1:11 political skills.

Table 5.7B reflects that all the p-values of barriers to business start-up (H1:1, H1:2, H1:3, H1:4, H1:5, H1:6, H1:7, H1:8, H1:9, H1:10 and H1:11) are  $> \alpha = 0.05$ . Therefore, hypotheses (H1:1, H1:2, H1:3, H1:4, H1:5, H1:6, H1:7, H1:8, H1:9, H1:10 and H1:11) are accepted, implying that there is no statistically significant difference between males and females in taking responsibility, motivation, proactiveness, creativity, personal attitude, social networking, human capital and skills, access to land and political skills.



**Table 5.7B: Levene's independent sample test on gender and independent variables**

Independents Samples Test										
Hypothesis H1:1 to H1:11		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Taking responsibility	Equal variances assumed	0,748	0,388	-0,407	417	0,684	-0,03999	0,09822	-0,23306	0,15309
	Equal variances not assumed			-0,409	415,627	0,683	-0,03999	0,09786	-0,23235	0,15237
Motivation	Equal variances assumed	1,035	0,310	0,113	414	0,910	0,01094	0,09699	-0,17971	0,20160
	Equal variances not assumed			0,114	413,125	0,910	0,01094	0,09641	-0,17857	0,20046
Proactiveness	Equal variances assumed	0,304	0,582	0,421	417	0,674	0,05571	0,13226	-0,20426	0,31569
	Equal variances not assumed			0,422	413,261	0,673	0,05571	0,13206	-0,20389	0,31531
Creativity	Equal variances assumed	1,164	0,281	-0,132	415	0,895	-0,01080	0,08194	-0,17187	0,15026
	Equal variances not assumed			-0,131	400,312	0,896	-0,01080	0,08227	-0,17254	0,15093
Personal attitude	Equal variances assumed	4,253	0,040	-1,252	415	0,211	-0,11491	0,09180	-0,29537	0,06555
	Equal variances not assumed			-1,232	366,358	0,219	-0,11491	0,09324	-0,29825	0,06844
Social networking	Equal variances assumed	0,904	0,342	-0,940	413	0,348	-0,13060	0,13899	-0,40381	0,14261
	Equal variances not assumed			-0,942	409,292	0,347	-0,13060	0,13866	-0,40318	0,14198
Access to resources	Equal variances assumed	6,458	0,011	-1,371	416	0,171	-0,17504	0,12772	-0,42609	0,07600
	Equal variances not assumed			-1,358	387,342	0,175	-0,17504	0,12891	-0,42849	0,07840
Socio cultural forces	Equal variances assumed	7,005	0,008	1,300	416	0,194	0,16677	0,12830	-0,08542	0,41897
	Equal variances not assumed			1,289	389,560	0,198	0,16677	0,12940	-0,08764	0,42119
Human capital and skills	Equal variances assumed	0,601	0,439	-1,693	415	0,091	-0,21554	0,12729	-0,46576	0,03468
	Equal variances not assumed			-1,698	411,690	0,090	-0,21554	0,12696	-0,46511	0,03403
Access to land	Equal variances assumed	0,199	0,656	-1,719	408	0,086	-0,20648	0,12014	-0,44265	0,02969
	Equal variances not assumed			-1,716	400,020	0,087	-0,20648	0,12031	-0,44299	0,03004
Political skills	Equal variances assumed	0,007	0,932	-1,213	413	0,226	-0,17141	0,14129	-0,44915	0,10633
	Equal variances not assumed			-1,212	406,041	0,226	-0,17141	0,14138	-0,44933	0,10651

\*\*\* Statistical significant correlation level at  $\alpha = 0.05$  level

Quaye *et al.* (2015:137) found that females are rated lower than their male counterparts when it comes to EO. Goktan and Gupta (2015:99), also found that there are different distinctive personal factors that influence male and female orientation to entrepreneurship. However these studies did not pronounce on the significance of these differences. Even the studies by Lim and Envick (2013:465), Sexton and Bowman-Upton (1990:29), Smith *et al.* (1992:485), Gatewood *et al.* (1995:371),

Brandstatter (1997:157) and Envick and Langford (1998:106), which found that male entrepreneurs scored higher on the internal barriers to entrepreneurship (risk taking, innovation and competitive aggressiveness) than their female counterparts did not also test the significance of these differences. These prior results can therefore be comparable with the findings of this study, which found out that though gender differences exist, on specific business start up factors, the differences were not significant.

The findings of this study (H1:2) show no significant difference between male and female agricultural students in their level of motivation to establish a business. Civelek *et al.* (2016:76) found that men are more motivated to become entrepreneurs than women. In support Karimi *et al.* (2013:211) indicate that females are motivated by social factors while males are more driven by instrumental factors to pursue a career in a particular field of their choice. These results, however do not indicate significant differences. The results of this study also indicate differences, but the differences are not significant. On the other hand the findings of Brush (1992) show that women are similar to men in many ways regarding their motivations for starting a new business. Lim and Envick (2013) provide further clarification, reporting that when females want to become entrepreneurs, their need for achievement and independence are similar to their male counterparts. Thapa *et al.* (2008:86) argued that independence is one of the motivational factors that lead to successful entrepreneurial activities. Therefore, lack of motivation may hinder prospective farmers in establishing farming businesses in the agricultural sector and is perceived as a barrier to business establishment. The existence of differences does not mutually exclude similarities. The findings of this study also show that both male and female prospective farmers are motivated to be their own boss, value their independence and enjoy their freedom as shown by more or less similar mean values and the standard deviation of almost 1 for all comparisons. This is in line with Chatterjee and Das (2015:110), who report that the desire to be independent drives an individual's interest in entrepreneurship.

The results (H1:3) show that the level of proactiveness between male and female prospective farmers is different but not significant. These results are contrary to the findings of Riley *et al.* (2016:2) who found that there is a significant effect of gender on proactiveness. Women were found to be significantly less impulsive, slower and more

variable than men. However, Civelek *et al.* (2016:76) found that there is no difference in the dimension of proactiveness between men and women. According to Shan *et al.* (2016:685), proactive entrepreneurs are those individuals that have the will to lead and seize new opportunities. Dai *et al.* (2014:514) argue that persons who lack the intentionality and market knowledge required to identify market opportunities have a moderate level of proactiveness. Therefore, proactiveness can be viewed as barrier to business start-up because its absence can lead to persons not being able to take initiatives to pursue new market opportunities and take leadership. This finding is supported by Chipeta *et al.* (2016:6894) who confirm that proactiveness influences the intention to start a business. Prospective farmers have the ability to anticipate future consumer demands and business opportunities in the market, shape the environment, and introduce new products or services and brands before their rivals do in the sector (Venkatraman, 1989:943). Both male and female prospective farmers have the ability to generate constructive change and launch new business initiatives because they are creative persons.

These findings (H1:4) show that there is difference in the level of creativity between male and female prospective farmers but the difference is not significant. The results are aligned to those of Wilson *et al.* (2007:390) who found that there are gender differences in key areas where females have reported lower creativity levels than males in streams such as maths, finance, decision making, and problem solving. Table 5.7B shows means between genders and reflects that the level of creativity of prospective female farmers to entrepreneurship is slightly higher than that of their male counterparts. However, this difference is not significant.

These results (H1:5) reflect that personal attitude to entrepreneurship is different between male and female agricultural students but not significantly so. The results are in line with the findings of Bach *et al.* (2016:42) who reported that attitude to entrepreneurship in a form of social norms affects men more than it affects women, while the cognitive abilities of women drive them to establish new business start-ups. Table 5.7B shows means between genders and reflects that the personal attitude of prospective female farmers to entrepreneurship is slightly higher than that of their male counterparts. Soria *et al.* (2016:75) report that gender effects on personal attitude to entrepreneurship was weaker in women and subjective norm was found to be a

stronger predictor of EI in women. Women find it acceptable to establish their business start-ups if they feel that their immediate environment is positive to entrepreneurial activity (Caro-Gonzalez *et al.*, 2017:445). Attitudes to new business start-ups exert a positive influence on EI (Robledo *et al.*, 2015:106) and attitudes are considered as the best predictor of entrepreneurial behaviour (Chipeta *et al.*, 2016:6896). These findings are in line with Debarliev *et al.* (2015:147) who report that attitude to the act reflects the person's valuation of the individual desirability of establishing a new business start-up.

It is evident that personal attitude is considered as one of the barriers to business start-up because its absence may reduce the chances of establishing a business. The results show that male and female prospective farmers rated their personal attitude to entrepreneurship differently. Prospective farmers have different views of their actions toward social EI and attitude to entrepreneurship (Chipeta *et al.*, 2016:6892), but these differences are not significant at 0.95% confidence level.

The results (H1:6) show that the perceptions of male and female prospective farmers of the role of social networking in entrepreneurship is different but not significantly so. The results are in line with the findings of Yang *et al.* (2015:405) who found that women are viewed as less influential than men and are not well integrated into men's networks, especially in business' dominant coalitions and women are in a disadvantageous position when forming networks. Social networking is considered as a barrier to business start-up because without social networks entrepreneurs may not learn new skills, techniques, share past experiences or gain free entrepreneurial advice on how to solve problems they might encounter (Johannisson *et al.*, 1994:329; Jenssen & Greve, 2002; Hoang & Antoncic, 2003:166). Yang *et al.* (2015:406) further highlight that gender plays very crucial role in how persons develop their individual networks because some might have extensive and utilitarian network expertise while others possess expressive networks. The results show that prospective farmers, irrespective of gender, share the same views regarding the role of social networking. This might be because prospective farmers use technology for many reasons, including communicating via emails, mobile phones, texting services, video conferencing, video chat rooms and social media channels. However the results are not significant.

The results (H1:7) are in line with Derera *et al.* (2014:313) who reported that women entrepreneurs are subjected to gender bias practices by financial institutions in many countries, which discourage them from entering into non-traditional industries. Derera *et al.* further found that even though financial providers are well informed about their products, the majority of emerging women entrepreneurs in SA might find it challenging and costly to access information on available financial products from which they may benefit to enable them to establish a business. Therefore, access to resources is a barrier to business start-up. The results show that both male and female prospective farmers believe that it will not be easy for them to access resources for business start-up because they often do not have the capital to fund their business ideas and are very aware of the importance of credit. However there is no significant differences.

The results (H1:8) are in line with the findings of van Auken *et al.* (2006:325) who found that there is a difference in how males and females are influenced by their families. Auken *et al.* further highlighted that a higher percentage of females than males expressed a constructive parental influence on their entrepreneurial activity. Tanveer *et al.* (2011:74) found that the existence of social-cultural constraints are liable to influence the participation of persons in entrepreneurial activities. Table 5.7B shows means between genders and reflects that the influence of socio-cultural forces of prospective female farmers to entrepreneurship is slightly higher than that of their male counterparts. Therefore, socio-cultural forces are considered as a barrier to business start-up. The results show that male and female prospective farmers are influenced differently by socio-cultural forces, which include religion, culture, area raised, lifestyle and associates. However, this influence is not statistically significant.

The results (H1:9) are in line to the findings of Guerrero and Richards (2015:17) who found that more female than male entrepreneurs frequently lack key business skills and competences, including negotiation skills, which is considered as a vital competence required in establishing and sustaining a new business. Guerrero and Richards further found that females face more challenges than their male counterparts do in securing human capital resources for a business set-up initiative. Table 5.7B shows means between genders and reflects that the prospective female farmers value the importance of human capital and skills to entrepreneurship higher than that of their

male counterparts. Human capital and skills is a barrier to business start-up because its absence may contribute negatively to the optimum performance that is required to achieve set goals and objectives. Papulova and Makros (2007) found that the education level of women is mostly lower than that of men and they lack the necessary soft and hard business skills such as planning, decision-making, marketing, accounting skills and pertinent business information. The results show that both male and female prospective farmers rated human capital and skill barriers differently, but the influence is not statistically significant. This might be because prospective farmers, irrespective of gender difference have a different understanding of the importance of human capital and skills in entrepreneurship.

The results (H1:10) are aligned to the findings of Doss *et al.* (2013) who found that SA is experiencing great gender inequities in access to land. The results of the study done by Abrahamsson (2013) show that women experience gender discrimination in accessing land in most countries in the African continent and becomes a challenge for women to access land for farming activities. Access to land may be viewed as a barrier to business start-up because of gender inequalities in access. Abrahamsson further found that access to land is crucial in strengthening women's economic independence and would enable them to control the income and investment generated by the agriculture sector. The results show that male and female prospective farmers rated access to land as a barrier. Prospective farmers might feel that the amendment of Section 23 of the Constitution of the Republic of South Africa to allow the government to expropriate land without compensation will give them access to land for farming. However, this influence is not statistically significant. Table 5.7B shows means between genders and reflects that prospective female farmers are slightly disadvantaged to access land for farming than their male counterparts.

The results (H1:11) show that male and female agricultural students perceive differently the influence of political skills when establishing a farming business. Political skills can be viewed a barrier to business start-up because these skills influence decision making in business. However, the results (H1:11) are in line with the findings of Phipps and Prieto (2015a:83) who found that women have higher political skill perception than their male counterparts do but the associations between each

dimension and EI were found to be stronger in males than in females. The influence is not statistically significant.

#### *5.4.2.1.1.1 Conclusion on gender and barriers to business start-up*

The results (H1:1) reflect that both male and female prospective farmers' perceive taking responsibility slightly different and not in a statistically significant way. This might be because they are differently exposed to entrepreneurial education at their institutions. Gautam and Singh (2015:21) emphasise that entrepreneurship education has a role to play, which includes equipping the youth with functional knowledge and skills for them to be able to build character, attitude and vision. Another contributing factor to this finding might be that majority of students are residing away from home and the tertiary education environment forces them to mature. Residing at institutions and other private residences far away from home leaves students with no other choice but to take responsibility for their own actions (for example monthly budget, life planning), hence they are away from day-to-day parental care.

The results (H1:2) reveal that students of both genders possess self-empowerment and their levels of motivation are not be significantly different. Prospective farmers, irrespective of gender, might be motivated by a strong desire to complete their studies and to meet personal standards of excellence to be self-employed or employed in the sector.

The results (H1:3) indicate that proactiveness is perceived differently by male and female prospective farmers but not in a significant way. One of the reasons for this finding might be that both male and female students have different will to lead and seize new opportunities in the agricultural sector after completing their studies and become either entrepreneurs or intrapreneurs. Both genders might have different ability to take the initiative to pursue new opportunities with the primary objective of acquiring an advantage in the identified market niche.

The results (H1:4) reflect that both male and female agricultural students are creative differently, meaning that they have human skills that may enable them to deal with life challenges and support psychological and social adaptation. It is evident from the results that prospective farmers have a slight different understanding of intrinsic and extrinsic levels of motivation that may lead to creative effort in entrepreneurship.

The results (H1:5) show that prospective farmers have a different understanding of the principles of EI that might be acquired through entrepreneurial education. Consequently, prospective farmers hold a different personal valuation on becoming entrepreneurs or intrapreneurs because their attitude explains their intention to entrepreneurship.

The results (H1:6) reveal that social networking is a barrier to business start-up. Prospective farmers are exposed to the benefits of social networking in entrepreneurship. This is caused by the role that technology, especially social networking, plays in conducting businesses, for example B2B, ERP and online banking. Therefore, networking has a crucial role to play in entrepreneurial practice because it provides a range of means to entrepreneurial experience. Differences, between the genders, though not significant, exist with regard to perception of networking as a barrier to business start up.

The results (H1:7) indicate that prospective farmers have a different understanding of how access to resources enables an entrepreneur to aggressively exploit opportunities well before their competitors do, due to environmental pressures. They also share different sentiments on the problem that lack of access to capital could cause entrepreneurs in the process of business establishment. The existence of gender based or gender affirming finance support programmes, eg (Isivande Women's Funds, National Development Agency and National Empowerment Fund) may be the main reason why male and female students have a different understanding of the importance of access to resources in entrepreneurship. Therefore, prospective farmers are differently equipped with functional knowledge and skill in the field of agriculture that will enable them to build their character, attitude and vision to achieve their set goals.

The results (H1:8) show that socio-cultural forces is a barrier to business start-up. Socio-cultural factors can influence prospective farmers' personality, attributes and lifestyles inversely. This might be because they place values on the structure, social development and culture of a country differently as some of the important factors that affect entrepreneurial decision to start a business.



The results (H1:9) reflect that prospective farmers, irrespective of gender, understand the role of human capital and skills in entrepreneurship differently. Prospective farmers are aware that entrepreneurial capital is the important element for entrepreneurial success because it is considered as a multiplicative function of entrepreneurial competence and commitment. They also perceive feasibility, creativity, ability to enterprise, perceived behavioural, and self-efficacy as important elements of entrepreneurship.

The results (H1:10) reveal that prospective farmers of both genders are well informed that there are processes to be followed to access land for farming purpose. The Constitution of the Republic of South Africa is very clear on fighting inequality and promoting women farmers who were previously disadvantaged. This might be the reason why they are familiar with the processes to be followed in accessing land with the aim to establish a farming business.

The results (H1:11) show that both male and female prospective farmers understand the role of politics in entrepreneurship slightly different. One of the reasons behind these findings might be that prospective farmers are exposed to politics at their institutions. Students at institutions of higher learning are members of different student organisations such as the South African Students Congress (SASCO), Pan Africanist Student Movement of Azania (PASMA), EFF Students Command (EFFSC), and others. Therefore, political experience shared by student leaders with their members from different political organisations might play a crucial role in enhancing political knowledge of students.

Generally, females and males perceive these factors differently but the differences are not significant when measured at 0.05 Sig. level.

#### *5.4.2.1.2 Field of study and business start-up factors*

The hypothesis (H2) states that:

There is no statistically significant difference between the mean values of prospective farmers' field of study with regard to the following barriers to business start-up: H2:1 taking responsibility, H2:2 motivation, H2:3 proactiveness, H2:4 creativity, H2:5 personal attitude, H2:6 social networking, H2:7 access to resources, H2:8 socio-cultural forces, H2:9 human capital and skills, H2:10 access to land, H2:11 political skills.

The comparison was tested using the ANOVA method because it is appropriate when testing differences between more than two categories (means).

Table 5.8 reflects that overall tests of all business start-up factors were not significant because the ANOVA is higher than alpha value of 0.05. The alpha values are: (H2:1) p-value of 0.128  $>\alpha = 0.05$ ; (H2:2) p-value of 0.087  $>\alpha = 0.05$ ; (H2:3) p-value of 0.187  $>\alpha = 0.05$ ; (H2:4) p-value of 0.292  $>\alpha = 0.05$ ; (H2:5) p-value of 0.678  $>\alpha = 0.05$ , (H2:6) p-value of 0.366  $>\alpha = 0.05$ ; (H2:7) p-value of 0.689  $>\alpha = 0.05$ ; (H2:8) p-value of 0.121  $>\alpha = 0.05$ , (H2:9) p-value of 0.790  $>\alpha = 0.05$ , (H2:10) p-value of 0.344  $>\alpha = 0.05$ ; and (H2:11) p-value of 0.789  $>\alpha = 0.05$ . Therefore, the hypotheses are accepted because there is no statistically significant difference between prospective farmers' fields of study and all business start-up factors (taking responsibility, motivation, proactiveness, creativity, personal attitude, social networking, access to resources, socio-cultural forces, human capital and skills, access to land and political skills). The p-values of all factors are  $>\alpha = 0.05$  as reflected in Table 5.8.

**Table 5.8: ANOVA test on field of study and independent variables**

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Taking responsibility	Between Groups	5,701	3	1,900	1,908	0,128
	Within Groups	415,315	417	0,996		
	Total	421,016	420			
Motivation	Between Groups	6,388	3	2,129	2,208	0,087
	Within Groups	399,173	414	0,964		
	Total	405,561	417			
Proactiveness	Between Groups	8,764	3	2,921	1,607	0,187
	Within Groups	757,842	417	1,817		
	Total	766,606	420			
Creativity	Between Groups	2,591	3	0,864	1,247	0,292
	Within Groups	287,364	415	0,692		
	Total	289,954	418			
Personal attitude	Between Groups	1,329	3	0,443	0,506	0,678
	Within Groups	363,244	415	0,875		
	Total	364,573	418			
Social networking	Between Groups	6,325	3	2,108	1,059	0,366
	Within Groups	822,054	413	1,990		
	Total	828,380	416			
Access to resources	Between Groups	2,504	3	0,835	0,490	0,689
	Within Groups	708,695	416	1,704		
	Total	711,199	419			
Socio cultural forces	Between Groups	10,115	3	3,372	1,948	0,121
	Within Groups	719,826	416	1,730		
	Total	729,940	419			
Human capital and skills	Between Groups	1,781	3	0,594	0,349	0,790
	Within Groups	705,638	415	1,700		
	Total	707,419	418			
Access to land	Between Groups	4,930	3	1,643	1,112	0,344
	Within Groups	602,742	408	1,477		
	Total	607,672	411			
Political skills	Between Groups	2,253	3	0,751	0,362	0,781
	Within Groups	856,960	413	2,075		
	Total	859,213	416			

\*\*\* Statistical significant correlation level at  $\alpha = 0.05$  level

The results show that the prospective farmers' field of study determines their level of taking responsibility for their actions but the results are not significant. These results are explained by Ghasemi, Ahmadi and Kazemnejad (2018) who found that personal, educational and professional factors lead to the development of responsible behaviours in Bachelor of Nursing students at Tarbiat Modares University in Iran. Blašková (2014:423) further found that taking responsibility is one of the key competences of graduates in the second decade of the 21<sup>st</sup> century. However, Bonwell and Eison (1991) reported that students learn more effectively when they participate actively in their own learning. The reason behind the finding of prospective farmers having similar perceptions of taking responsibility for their own actions is because their perceptions might be driven by their field of study (agriculture) irrespective of other different streams within the same field.

It is evident, based on the results that prospective farmers' fields of study have an influence on their intrinsic or extrinsic motivation to become entrepreneurs but these findings are not significant. Prospective farmers are all in the field of agriculture but studying different programmes. Therefore, it is assumed that their motivation level is driven by their field of study, not by programmes within the same field. The results are further explained by Ali, Khan and Hamid (2014:80), who found that motivation of students is a crucial aspect in institutions of higher learning, predominantly due to the importance of academic performance in their professional life. The results reflect that the field of study prospective farmers influences their level of motivation to start a farming business. The benefits to students from studying science is that they acquire scientific literacy skills, gain scientific knowledge, learn how to identify important scientific questions, and understand how to draw evidence-based conclusions (Bryan, Glynn & Kittleson, 2011:1063). These benefits apply to learners who are willing to venture into new business set-ups in their field of study or if they aspire to become scientists.

The field of study of prospective farmers influences entrepreneurial levels of proactiveness but not significantly so. The findings are explained by Geertshuis, Jung, and Cooper-Thomas (2014:166) who found that proactive students engage in problem solving, networking and information seeking behaviours. Bateman and Crant (1993:103) further established that persons with high levels of proactivity actively

search for and take advantage of different opportunities, demonstrate initiative, take action and persist until they achieve their goals. Therefore, prospective farmers in any field of study may be proactive to establish a farming business of their choice. The results show that prospective farmers' fields of study do not significantly influence their proactiveness in entrepreneurship.

The results (H2:6), although not significant, reflect that prospective farmers' fields of study influence the role of social networking in entrepreneurship as a result of the extensive usage of social media by most students. This is further explained by Orifah, Ijeoma, Olajide and Wigwe (2017:127) who report that agricultural students in selected Universities in Nigeria value the use social media sites to connect with friends, access latest information on global trend in governance, for academic and collaborative purposes, as well as to keep themselves busy when bored. Hadebe, Owolabi and Mlambo (2016:748) established growing use of social networking sites by undergraduate students at the Federal University of Agriculture Abeokuta, Nigeria and University of Zimbabwe, Harare. Therefore, it is important to note that based on the results all prospective farmers, irrespective of their field of study, value the importance of social networking. The results also show that perceived access to resources is influenced by prospective farmers' fields of study but not significantly so. Prospective farmers' perceptions of access to resources for entrepreneurship is determined by their field of study. The reason for these findings might be that all prospective farmers are studying agriculture-related programmes and probably their perceptions are driven by such.

Prospective farmers' fields of study do not significantly influence the perceived effect of social cultural forces on business start up. The reason might be that they are all studying agricultural programmes, which does not require them to have different perceptions of socio-cultural forces in entrepreneurship. However, Razmjoo and Movahed (2009:59) report that social class is one of the important factors in entrepreneurship because persons from different social classes react differently to the same environment. For example, students of a high social class in society may have more access to facilities than those belonging to the lower social classes. Prospective farmers' fields of study do not significantly influence the value they place on human capital and skills in entrepreneurship. This may stem from what Storey (2004:420)

reported, that the experience and educational level gained by persons over time may offer signs of better human capital and access to business resources for business start-up. The students have had similar education and experience, hence the non-significant differences in perception. Prospective farmers' fields of study determine their perceptions on accessing land for entrepreneurship, although these results are not significant. The results further reflect that prospective farmers' fields of study do not significantly influence their perception of political skills in entrepreneurship.

In conclusion, there is no statistically significant difference between the mean values of prospective farmers' fields of study and all the barriers to business start-up. This is because students have similar worldviews of agriculture and they are studying the same subjects in the programme which shapes their worldview. Social media and easy access to news/media is one of the contributing factors because students have the same access to current affairs, such as land issues, perceived barriers and lack of finance. For example, if studying agriculture, topics will arise, such as access to finance and land, human capital that is labour, or the political negotiation skills to acquire these resources. Therefore, because these issues are covered in the syllabus, this could explain why there are no significant differences, even if the students have different internal orientations.

#### *5.4.2.1.3 Area raised and barriers to business start-up*

The hypothesis (H3) states that:

There is no statistically significant difference between the mean values of where prospective farmers were raised and the following barriers to business start-up: H3:1 taking responsibility, H3:2 motivation, H3:3 proactiveness, H3:4 creativity, H3:5 personal attitude, H3:6 social networking, H3:7 access to resources, H3:8 socio-cultural forces, H3:9 human capital and skills, H3:10 access to land, H3:11 political skills.

The comparison was tested using the ANOVA method because it is appropriate when testing differences between more than two means.

**Table 5.9: ANOVA test on area raised and independent variables**

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Taking responsibility	Between Groups	2,911	2	1,455	1,455	0,235
	Within Groups	418,105	418	1,000		
	Total	421,016	420			
Motivation	Between Groups	1,058	2	0,529	0,543	0,581
	Within Groups	404,503	415	0,975		
	Total	405,561	417			
Proactiveness	Between Groups	7,427	2	3,714	2,045	0,131
	Within Groups	759,179	418	1,816		
	Total	766,606	420			
Creativity	Between Groups	5,814	2	2,907	4,256	0,015
	Within Groups	284,140	416	0,683		
	Total	289,954	418			
Personal attitude	Between Groups	2,224	2	1,112	1,277	0,280
	Within Groups	362,349	416	0,871		
	Total	364,573	418			
Social networking	Between Groups	4,150	2	2,075	1,042	0,354
	Within Groups	824,230	414	1,991		
	Total	828,380	416			
Access to resources	Between Groups	0,229	2	0,115	0,067	0,935
	Within Groups	710,970	417	1,705		
	Total	711,199	419			
Socio Cultural Forces	Between Groups	0,189	2	0,094	0,054	0,948
	Within Groups	729,751	417	1,750		
	Total	729,940	419			
Human capital and skills	Between Groups	0,185	2	0,093	0,054	0,947
	Within Groups	707,234	416	1,700		
	Total	707,419	418			
Access to land	Between Groups	4,445	2	2,223	1,507	0,223
	Within Groups	603,227	409	1,475		
	Total	607,672	411			
Political skills	Between Groups	0,683	2	0,341	0,165	0,848
	Within Groups	858,530	414	2,074		
	Total	859,213	416			

Significant at the 0.05 level

Table 5.9 reflects that overall test of 10 business start-up factors were not significant because the ANOVA is higher than alpha value of 0.05; only one factor was significant where the ANOVA was less than alpha value of 0.05. (H3:1) p-value of 0.235  $>\alpha = 0.05$ , (H3:2) p-value of 0.581  $>\alpha = 0.05$ , (H3:3) p-value of 0.131  $>\alpha = 0.05$ , (H3:5) p-value of 0.280  $>\alpha = 0.05$ , (H3:6) p-value of 0.354  $>\alpha = 0.05$ , (H3:7) p-value of 0.935  $>\alpha = 0.05$ , (H3:8) p-value of 0.948  $>\alpha = 0.05$ , (H3:9) p-value of 0.947  $>\alpha = 0.05$ , (H3:10) p-value of 0.223  $>\alpha = 0.05$  and (H3:11) p-value of 0.848  $>\alpha = 0.05$ . Therefore, the hypotheses are accepted because there is no statistically significant difference

between where prospective farmers were raised and all barriers to business start-up (taking responsibility, motivation, proactiveness, creativity, personal attitude, social networking, access to resources, socio-cultural forces, human capital and skills, access to land and political skills).

Secondly, Table 5.9 reflects that the overall test of the barrier to business start-up “creativity” was significant because the ANOVA is lower than alpha value of 0.05, (H3:4) p-value of  $0.015 < \alpha = 0.05$ . Therefore, the hypothesis is rejected because there is a statistically significant difference between where prospective farmers were raised and creativity.

The results (H3:4) explain the findings of the study done by Cox, Sproles and Sproles (1988:27), who found that rural students are rated higher in the elements of creativity (analytical and active, practical learner characteristics) than their urban counterparts. The same findings were reported by Hunter, Bedell and Mumford (2007:69) who found that the interaction between an individual and his or her environment yield creativity ambitions. The studies referred to did not however point to a significant difference as established in this study, that there is a statistically significant difference between where prospective farmers were raised and creativity.

D’Amico, Matthes, Sankar, Merchant and Zurita (1996:142) established that students living in rural areas run the risk of having a lower motivation level to achieving their set goals when compared with students living in urban areas. Similar findings were reported by Singh, Singh and Singh (2011:142), that urban-based students have slightly better motivation levels than rural-based students do. Although MacTavish and Salamon (2003:73) found that rural communities are unique, they have local cultural values and opportunities influence students’ personal attitudes to their career endeavours, the results do not show any significant difference between area were prospective farmers where raised and motivation. The attitude of prospective farmers to entrepreneurship might be influenced by their positive attitude to goal achievement and their association with positive people who are academically successful, or with successful entrepreneurs. These studies did not establish the significance of these difference. Loan (2011:434), established that both urban and rural students placed equal value on the importance of social networking even though urban students use it more than their rural counterparts do.



Shane (2000:448) confirmed that there is a positive relationship between prior experience in self-employment and EI. The results show that prior experience and exposure may not place students from a family business background at an advantage over their counterparts regarding access to resources for business start-up, but not significantly so. The results are contrary with the findings of MacTavish and Salamon (2003:73) who established that rural communities are unique, have local cultural values and opportunities, and do influence students' personal attitudes to their career endeavours. Herrington *et al.* (2009) found that the choice of an individual is normally influenced by his or her social environment. Furthermore, Spigel (2013:804) found that culture is an important element in entrepreneurship literature because its role is to identify differences in the entrepreneurship process which are observed between regions, industries and socio-cultural groups.

Lauglo (2011:73) found that a family's social capital (parents' workplace or job) could influence how their children acquire knowledge (political knowledge) of a particular concept. The results reflect that the area where prospective farmers were raised determines how they perceive the central role that political skills play in organisations and how it can provide entrepreneurs with the ability to manage complex situations and organisational members, but not significant.

#### 5.4.2.1.4 *Family business status*

The hypothesis (H4) states that:

There is no statistically significant difference between the mean values of prospective farmers who belong to a family owning a business or do not own a business and the following barriers to business start-up: H4:1 taking responsibility, H4:2 motivation, H4:3 proactiveness, H4:4 creativity, H4:5 personal attitude, H4:6 social networking, H4:7 access to resources, H4:8 socio-cultural forces, H4:9 human capital and skills, H4:10 access to land, H4:11 political skills.

The comparison was tested using the t-test method. This method is considered appropriate because the the mean scores of two factors is being compared. Levene's Test for Equality of Variance tests whether the variance of scores for the two groups is the same, and determines which of the t-values is the correct to use.

**Table 5.10: Independent sample test on family business status and barriers to business start-up**

Independent Samples Test+A3A336:K347										
Hypotheses H4:1 to H4:11		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Taking responsibility	Equal variances assumed	5,734	0,017	-1,392	418	0,165	-0,15120	0,10859	-0,36465	0,06224
	Equal variances not assumed			-1,534	265,298	0,126	-0,15120	0,09854	-0,34523	0,04282
Motivation	Equal variances assumed	0,138	0,710	1,518	415	0,130	0,16276	0,10719	-0,04793	0,37346
	Equal variances not assumed			1,482	201,598	0,140	0,16276	0,10983	-0,05380	0,37932
Proactiveness	Equal variances assumed	0,037	0,847	-1,267	418	0,206	-0,18594	0,14673	-0,47437	0,10249
	Equal variances not assumed			-1,267	213,550	0,207	-0,18594	0,14676	-0,47521	0,10334
Creativity	Equal variances assumed	1,752	0,186	1,367	416	0,172	0,12424	0,09088	-0,05441	0,30289
	Equal variances not assumed			1,396	217,688	0,164	0,12424	0,08901	-0,05119	0,29966
Personal attitude	Equal variances assumed	7,156	0,008	1,313	416	0,190	0,13362	0,10177	-0,06642	0,33366
	Equal variances not assumed			1,492	282,453	0,137	0,13362	0,08957	-0,04268	0,30992
Social networking	Equal variances assumed	0,192	0,661	-1,646	414	0,101	-0,25366	0,15415	-0,55668	0,04936
	Equal variances not assumed			-1,610	200,200	0,109	-0,25366	0,15758	-0,56439	0,05706
Access to resources	Equal variances assumed	0,864	0,353	-0,594	417	0,553	-0,08442	0,14215	-0,36385	0,19500
	Equal variances not assumed			-0,573	196,643	0,567	-0,08442	0,14739	-0,37510	0,20625
Socio cultural forces	Equal variances assumed	0,028	0,868	-0,779	417	0,436	-0,11221	0,14396	-0,39519	0,17077
	Equal variances not assumed			-0,777	209,848	0,438	-0,11221	0,14438	-0,39683	0,17241
Human capital and skills	Equal variances assumed	5,307	0,022	-2,245	416	0,025	-0,31736	0,14137	-0,59525	-0,03946
	Equal variances not assumed			-2,413	243,721	0,017	-0,31736	0,13150	-0,57638	-0,05833
Access to land	Equal variances assumed	0,964	0,327	0,628	409	0,530	0,08398	0,13373	-0,17890	0,34685
	Equal variances not assumed			0,641	216,772	0,522	0,08398	0,13099	-0,17421	0,34216
Political skills	Equal variances assumed	0,034	0,854	-0,904	414	0,367	-0,14182	0,15688	-0,45021	0,16656
	Equal variances not assumed			-0,913	216,437	0,362	-0,14182	0,15529	-0,44790	0,16425

\*\*\* Statistical significant correlation level at  $\alpha = 0.05$  level

Table 5.10 reflects that the p-values of barriers to business start-up (H4:1, H4:2, H4:3, H4:4, H4:5, H4:6, H4:7, H4:8, H4:10 and H4:11) are  $>0.05$ . The Sig. under Levene's Test for Equality of Variance is higher than alpha value of 0.05. It therefore shows that the variances are equal. The p-value under equal variance assumed should be reported. Their p-values are much greater than the alpha value of 0.05. Therefore,

hypotheses (H4:1, H4:2, H4:3, H4:4, H4:5, H4:6, H4:7, H4:8, H4:10 and H4:11) are accepted because there is no statistically significant difference between prospective farmers who either belong to a family owning a business or not and the following barriers to business start-up: taking responsibility, motivation, proactiveness, creativity, personal attitude, social networking, access to resources, socio-cultural forces, access to land and political skills.

Secondly, Table 5.10 also shows that the p-value of barriers to business start-up (H4:9) is 0.017 (equal variances not assumed). The Sig. under Levene's Test for Equality of Variance is lower than alpha value of 0.05 and therefore shows that the variances are not equal. The p-value under unequal variance assumed should be reported. The p-value is 0.017 and much lower than alpha value of 0.05. Therefore, the hypothesis (H4:9) is rejected because there is a statistically significant difference between prospective farmers who either belong to a family owning a business and those who do not own a business and how they value the importance of human capital and skills in entrepreneurship.

The results (H4:9) show that the family business status of prospective farmers influences how they value human capital and skills in entrepreneurship and is significant. This is explained by Tarling, Jones and Murphy (2016:743) who found that the power of experience in sharing real and unique entrepreneurial experiences and the values of entrepreneurs, individuals growing under their watch do learn from them or from others before they consider establishing a business of their own. Therefore, encouraging students to share their own personal experience of exposure to family business or business ideas may be conducive to enterprise and entrepreneurship education sessions. The family business status of prospective farmers determines if an entrepreneurship educational programme is a platform that could play a crucial role in the development of competences related to entrepreneurship, social and civic skills, and cultural awareness (do Paço., *et al* 2011:20). Results are explained by Tarling *et al.* (2016:744) who reveal that the exposure of nascent entrepreneurs to business ideas at an early age instils personal responsibility, accountability and a work ethic, which are some of the building blocks that contribute to successful entrepreneurial activity. Mets, Kozlinska and Raudsaar (2017:30) report that developing cognitive and skill-based entrepreneurial outcomes may lead to the

development of entrepreneurial behaviour and social-economic outcomes in students' real life.

The results (H4:1) are not significant but show that prospective farmers' ability to take responsibility for their actions is influenced by whether they are from a family owning a business or not. Aldrich and Cliff (2003:595) reported that entrepreneurship is significantly linked to the family background. The prospective farmer's status in the family business determines if high competitive energy contributes positively to business performance. The findings show that the family business background of prospective farmers determines if competitive aggressiveness is one of the crucial personality traits that entrepreneurs should possess (Lumpkin & Dess, 1996:148). Furthermore, a family business background influences an individual's ability to find new opportunities and solutions and it encompasses creativity, experimentation, technological leadership, novelty as well as research and development that bring about new or improved products, services and processes that enhance efficiency and effectiveness but not significantly so.

The results (H4:2) show that prospective farmers' level of motivation is influenced by the status of their family business but the results are not significant. Tarling *et al.* (2016:743) report that individuals who are attached to family business' values have strongly formed concepts that motivate and steer them in an entrepreneurial direction. The family business status of prospective farmers determines if motivation will influence a positive attitude to goal achievement. The results reflect that their family business status determines if the need for achievement is considered as one of the critical elements of motivation and is related significantly to entrepreneurial inclination (Chaudhary, 2017:181). The results show that prospective farmers' level of motivation is influenced by their family business status but not significant. Prospective farmers' motivation levels might also be influenced by their passion for entrepreneurship, self-reliance, personal growth, self-control and feeling of accomplishment.

The results (H4:3) show that the proactiveness level of prospective farmers is influenced by the status of their family business but not significantly so. The results are explained by Dunn and Holtz-Eakin (2000:303) who suggested that growing up in an environment in which family members are self-employed might lead to a positive attitude to business start-up. The family business status of prospective farmers

determines if proactiveness is associated with an individual's ability to take the initiative and pursue market opportunities with the primary objective of actively seeking and anticipating opportunities, to acquire first-mover advantages and nurture the direction of the setting (Reijonen., *et al* 2015: 37). The findings also indicate that the family business status of prospective famers determines that persons who lack intentionality and the market knowledge required to identify market opportunities have a moderate level of proactiveness (Dai., *et al* 2014:514). Although these authors say area raised and family business status influence individual attitude towards the behaviour to act but the results of this study show no significant difference.

This results (H4:4) show that the family business status of prospective farmers determines if creativity is positively allied to EI and is one of those abilities that individuals are determined to associate with entrepreneurial success. However, the results are not significant. Olsezewski, Kulieke and Buescher (1987:25) found that individual family background influences creativity level. According to their study, creative children belong to a family environment that stresses independence rather than interdependence. Olsezewski *et al.* further found that family climate variables such as the quality of the relationship between family members, cohesiveness and parental acceptance of children are variables that differentiate and produce creative individuals and high achieving competent persons but also those that are not. These results are explained by Matthews and Moser (1995:376), who found that family background and the parental role were the most important factors that affected early socialization and the development of attitude towards entrepreneurship. An individual whose parent is self-employed is strongly inspired because at an early age, the independent nature of self-employment is deep-rooted by the parent (Matthews & Moser, 1995:376). Krueger (1993) further empirically proved that persons with a family business background are more likely to start their own businesses than those who do not have a family business background. Therefore, it is evident that entrepreneurship can be stimulated through family background and entrepreneurship education. The family business status of prospective farmers determines their beliefs and attitudes; beliefs explain attitude and attitude explains intention (Linan & Chan, 2009: 594). The results indicate that the status of their family business do not determine the attitude of prospective farmers to new business start-up but positively influences their EI, while attitude is considered the best predictor of entrepreneurial behaviour (Chipeta., *et al*

2016:6896). These studies did not establish statistical significant difference between prospective farmers' family business status and the following barriers to business start-up: creativity and personal attitude.

The results (H4:6) show that the family business status of prospective farmers determines if businesses with large alliance networks benefit from the initiative but not significantly so. The results are further explained by Arregle, Batjargal, Hitt, Webb, Miller and Tsu (2015:313) who established that family ties are an important resource and a constant network component for entrepreneurs in developing new business start-ups. In addition, Aldrich and Cliff (2003:594) reported that family ties through networking could facilitate venture development by providing unique and valuable resources with lower costs and risks. The results show that the family business status of prospective farmers do not significantly influence how they value the importance of social networking in entrepreneurship. The result further indicate that the family business status of prospective famers determines that entrepreneurs' networking skills are essential and they have a positive effect on the structural changes of entrepreneur networks over time but not significantly so. The results also reflect that their family business status determines that without extensive social networks it becomes difficult for persons to access information and develop relationships with other people who are in business (Mushtaq., *et al* 2011:438). Prospective farmers understand that social networking applies to both social and business purpose through sites such as Facebook, Twitter, LinkedIn and Instagram.

The results (H4:7) reflect that the family business status of prospective farmers influences how they access resources for business start-up although not significantly so. This is explained by Bygrave, Hay, Ng, and Reynolds (2003:114) who found that the family is an important source of early stage funding in entrepreneurship. Edelman, Manolove, Shirokova and Tsukanova (2016:445) further established that social support in the form of social capital, together with emotional social support and family instrumental support, which includes tangible support, affects business establishment in which nascent student entrepreneurs may engage. According to Steier and Greenwood (2000:191), family members are the main source of support both financially and morally for potential entrepreneurs. This might be because of prospective farmers being familiar with the processes to be followed to acquire

resources for business start-ups. The results show that the family business status of prospective farmers has an influence on how they perceive the role of access to resources in entrepreneurship but not significantly so.

This results (H4:8) show that the family business status of prospective farmers influences how they value the importance of socio-cultural forces in entrepreneurship but not significantly so. Tarling *et al.* (2016:743) report that positive values and beliefs instilled through early exposure to business have a lasting impact on EI to start a business. The results indicate that the status of family business of prospective farmers influences how they value the importance socio-cultural forces in entrepreneurship. This status determines if socio-cultural forces are pressures that originate from the social structure of the country or society or from the national culture (Jones & George, 2009:200). The results also show that the status of the family business of prospective farmers determines the importance of culture in entrepreneurship, hence its role is to assist with the identification of differences in the entrepreneurship process which is observed between regions, industries and socio-cultural groups (Spigel, 2013:804).

The results (H4:10) although not significant, show that the family business status of prospective farmers influences how they value the importance of access to land in entrepreneurship. These results are further explained by Ndofirepi and Rambe (2018:11) who found that to enrich the development of potential entrepreneurs, educators (family business owners) should address various aspects of the entrepreneurship education value chain, including access to land for their children because the issue will affect students' willingness to engage in future entrepreneurial activity. The family business status of prospective farmers determines how they value access to natural resources, especially land, as a critical determinant that may be utilised to improve food security and economic welfare of society. The results could be influenced by the notion that Section 23 of the Constitution will be amended and land will be expropriated without compensation. Prospective farmers might feel that access to land for farming will be easy, hence land will be made available to those who are willing to pursue a career in farming.

The results (H4:11) show that the family business status of prospective farmers influences how they value the role of political skills in entrepreneurship, although the findings are not significant. Edelman *et al.* (2016:445) found that instrumental social



support from family businesspersons in the form of social capital (political skills), together with emotional social and instrumental support, which includes tangible support, affects business establishments in which nascent entrepreneurs may engage. The family business status of prospective farmers determines if political skills play a central role in organisations and assists entrepreneurs to manage complex situations and organisational members for personal ends (Shaughnessy., *et al* 2010:588) The results also reflect that their family business status determines if political skills can assist individuals to understand others and use that knowledge to influence situations effectively for their own benefit. This finding might be influenced by political education prospective famers receive on campus. Students' organisations such as EFFSC, SASCO and others might play a vital role in equipping students with political education and knowledge of the political landscape in SA in general.

#### *5.4.2.1.5 Field of study, area raised, family business status and barriers to business start-up*

In conclusion, the hypothesis (H2) states that:

There is no statistically significant difference between the mean values of prospective farmers' field of study with regard to the following barriers to business start-up: H2:1 taking responsibility, H2:2 motivation, H2:3 proactiveness, H2:4 creativity, H2:5 personal attitude, H2:6 social networking, H2:7 access to resources, H2:8 socio-cultural forces, H2:9 human capital and skills, H2:10 access to land, and H2:11 political skills.

The results reflect that no significant relationship exists between the mean values of prospective farmers' field of study with regard to all barriers to business start-up. All hypotheses are accepted.

The hypothesis (H3) states that:

There is no statistically significant difference between the mean values of where prospective farmers were raised and the following barriers to business start-up: H3:1 taking responsibility, H3:2 motivation, H3:3 proactiveness, H3:4 creativity, H3:5 personal attitude, H3:6 social networking, H3:7 access to resources, H3:8 socio-cultural forces, H3:9 human capital and skills, H3:10 access to land, and H3:11 political skills.

The results reflect that no significant relationship exists between the mean values of where prospective farmers were raised and the barriers to business start-up. All hypothesis were acceptable, except H3:4. The results also reflect significant

relationship between the mean values of where prospective farmers were raised and creativity.

Lastly, hypothesis (H4) states that:

There is no statistically significant difference between the mean values of prospective farmers who belong to a family owning a business or do not own a business and the following barriers to business start-up: H4:1 taking responsibility, H4:2 motivation, H4:3 proactiveness, H4:4 creativity, H4:5 personal attitude, H4:6 social networking, H4:7 access to resources, H4:8 socio-cultural forces, H4:9 human capital and skills, H4:10 access to land, and H4:11 political skills.

The results reflect no significant difference between prospective farmers whose family owns a business and those who do not. Hypothesis H4:1, H4:2, H4:3, H4:4, H4:5, H4:6, H4:7, H4:8, H4:10 and H4:11 are therefore accepted except H4:9. The results also reflect significant difference between prospective farmers whose family owns a business and those who do not and only one barrier to business start-up namely human capital and skills.

#### **5.4.3 Dependency test**

Multiple linear regression was used to test the dependency relationship between (1) dependent variable (personal attitude) and independent variables (taking responsibility, access to resources, motivation, political skills, access to land, proactiveness, socio-cultural forces, creativity, human capital and skills and social networking); (2) dependent variable (taking responsibility) and independent variables (access to resources, motivation, political skills, access to land, proactiveness, socio-cultural forces, creativity, human capital and skills and social networking); (3) dependent variable (motivation) and independent variables (access to resources, political skills, access to land, proactiveness, socio-cultural forces, creativity, human capital and skills and social networking).

According to Zaid (2015:13), this analysis involves identifying and evaluating the relationship between a dependent variable and an independent variable. Zaid opines that linear regression explores relationships that may be described by a straight line. Asuero, Sayago and Gonzalez (2006:41) view regression as a test that expresses the relationship between values of the independent variables and the means of the dependent variable. The sign (+, -) of the regression coefficient shows the trend of the

effect of independent variable(s) on dependent variable, while the degree of the regression coefficient designates the effect of the individual independent variable into dependent variable. In this section, a comparison is done between dependent variables and a multiple number of predictors.

The objectives of this section are firstly, to determine if business start-up is dependent on personal attitude; secondly, to determine if business start-up is dependent on taking responsibility and lastly, to establish whether business start-up is dependent on motivation.

#### **5.4.3.1 Personal attitude**

According to the Theory of Planned Behaviour, personal attitude is the degree to which an individual has a positive or negative personal valuation of becoming an entrepreneur (Autio *et al.*, 2001:146). Debarliev *et al.* (2015:147) report that attitude reflects the person's valuation of the desirability of establishing a new business start-up. Liñán and Chen (2009:594) state that beliefs are antecedents of attitudes because beliefs explain attitude, while attitude explains intention. The objective of this section is to determine if business start-up is dependent on personal attitude and was tested through the following hypotheses.

The hypothesis (H5) states that:

Personal attitude to start a business is predicted by the following business start-up factors: H5:1 taking responsibility, H5:2 motivation, H5:3 proactiveness, H5:4 creativity, H5:5 social networking, H5:6 access to resources, H5:8 socio-cultural forces, H5:9 human capital and skills, H5:10 access to land, H5:11 political skills.

The ANOVA method was used to test the cause-effect between two variables—dependent variable, personal attitude and the remainder of the factors (taking responsibility, motivation, proactiveness, creativity, social networking, access to resources, socio-cultural forces, social human capital and skills, access to land and political skills) as independent variables. The assumptions of the homoscedasticity, linearity and normality of residuals were tested. Based on this, 10 outliers (political skills, creativity, social networking, access to resources, socio-cultural forces, human capital and skills, access to land, proactiveness, motivation and taking responsibility) were removed from the data set. The assumptions of the homoscedasticity, linearity and normality of residuals were tested and met because an increase in motivation and

creativity were associated with an increase in personal attitude, while an increase in socio-cultural forces was associated with a decrease in personal attitude. Therefore, hypotheses H5:2, H5:4 and H5:8 are accepted because personal attitude to start a business is predicted by the business start-up factors of motivation, creativity and socio-cultural forces. The overall model was significant ( $F [10,387] 20.119, p < 0.01$ ) as shown in Tables 5.11 and 5.12. These results are in line with findings of the study done by Thapa *et al.* (2008: 86) who found that motivation leads to successful entrepreneurial activities. Rugutt and Chemosit (2009: 17) further established that motivation theory has a role to play because of the influence it has on human success in any trade. The results are also in line with the findings of Phipps and Prieto (2015: 34) who found that creativity is positively allied to personal attitude and is one of those abilities that individuals are determined to associate with entrepreneurial success. Lastly, the results are in line with findings of Greve and Saleff (2003: 20) who confirmed that one of the social cultural factors, namely family business background, may minimise barriers to personal attitude to start a business because persons can take advantage of their networks and available social capital.

**Table 5.11: Model summary of personal attitude and predictors**

Model Summary <sup>b</sup>									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.585 <sup>a</sup>	0,342	0,325	0,71897	0,342	20,119	10	387	0,000

a. Predictors: (Constant), Taking responsibility, Access to resources, Motivation, Political skills, Access to land, Proactiveness, Socio cultural forces, Creativity, Human capital and skills, Social networking

b. Dependent Variable: Personal attitude

**Table 5.12: ANOVA test on personal attitude and predictors**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	103,998	10	10,400	20,119	.000 <sup>b</sup>
	Residual	200,046	387	0,517		
	Total	304,044	397			

a. Dependent Variable: Personal attitude

b. Predictors: (Constant), Taking responsibility, Access to resources, Motivation, Political skills, Access to land, Proactiveness, Socio cultural forces, Creativity, Human capital and skills, Social networking

The combination of independent variables explained 34.2% of the variance in the dependent variable. Inspection of the coefficients show only three predictors at the 5% level. These were motivation (B=0.102, p <0.05), creativity (B=0.435, p<0.05) and socio-cultural forces (B= -0.147, p<0.05) as shown in Table 5.13.

**Table 5.13: Coefficients on personal attitude and predictors**

Coefficients <sup>a</sup>								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3,265	0,452		7,225	0,000		
	Political skills	0,020	0,031	0,033	0,657	0,512	0,687	1,456
	Creativity	0,438	0,050	0,417	8,683	0,000	0,738	1,355
	Social networking	0,021	0,032	0,033	0,652	0,515	0,649	1,540
	Access to resources	0,022	0,030	0,033	0,732	0,464	0,863	1,158
	Socio cultural forces	-0,145	0,030	-0,216	-4,812	0,000	0,847	1,180
	Social human capital and skills	-0,043	0,033	-0,063	-1,300	0,194	0,736	1,359
	Access to land	0,035	0,033	0,048	1,058	0,291	0,831	1,203
	Proactiveness	0,008	0,028	0,012	0,273	0,785	0,887	1,128
	Motivation	0,096	0,041	0,102	2,370	0,018	0,917	1,091
	Taking responsibility	-0,075	0,043	-0,085	-1,747	0,081	0,715	1,399

a. Dependent Variable: Personal attitude

The sign of the Beta coefficients suggest that an increase in motivation and creativity are associated with an increase in personal attitude to start a business, while an increase in socio-cultural forces is associated with a decrease in personal attitude to start a business. The findings of (H5:2, H5:4 and H5:8) reflect that prospective farmers with a high level of motivation and creativity have higher level intention to start a business, while those that value socio-cultural forces have a low level intention to start a farming business. The results of (H5:1, H5:3, H5:5, H5:6, H5:7, H5:9, H5:10 and H5:11) were rejected because the overall models were not significant.

#### **5.4.3.2 Taking responsibility**

For the purposes of this study, taking responsibility is associated with leadership and the drive to be innovative in future projects, which is in line with the principles of EI. Szczepańska-Woszczyna, Dacko-Pikiewicz and Lis (2015:547) confirmed that responsible leaders manage cultural changes that enhance efficiency and effectiveness while complementing the force of transformational leadership. According to Khadhraoui, Plaisent, Lakhal and Bernard (2016:687), taking responsibility is considered as one of the critical traits of entrepreneurship. Van de Poel and Sand (2018:2) state that “responsible innovation implies the attribution of a range of new responsibilities to innovators”. Reijonen *et al.* (2015: 37) report that innovativeness manifests in an individual's abilities to find new opportunities and solutions and it also encompasses creativity, experimentation, technological leadership and novelty, as well as research and development that brings about new or improved products, services and processes that enhance efficiency and effectiveness. According to Mueller *et al.* (2014:251), commitment to new business start-up is associated with taking responsibility because entrepreneurs are accountable for their actions. Dmitrieva and Lyutikova (2013:322) also state that entrepreneurs tend to take responsibility for their action.

##### **5.4.3.2.1 Taking responsibility and predictors**

The hypothesis (H6) states that:

Taking responsibility to start a business is predicted by the following business start-up factors: H6:1 motivation, H6:2 proactiveness, H6:3 creativity, H6:4 social networking, H6:5 socio-cultural forces, H6:6 human capital and skills, H6:7 access to land, and H6:8 political skills.

The step test in the linear regression process was used to test the cause-effect between two variables where the dependent variable was represented by taking responsibility and the remainder of the factors (political skills, motivation, proactiveness, access to land, socio-cultural forces, creativity, social human capital and skills and social networking) as independent variables. The assumptions of the homoscedasticity, linearity and normality of residuals were tested and met. The overall model was significant (F [8.401] 21.320,  $p=0.000<0.01$ ) as shown in Tables 5.14 and 5.15.

**Table 5.14: Model summary of taking responsibility and predictors**

Model Summary <sup>b</sup>									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.546 <sup>a</sup>	0,298	0,284	0,84694	0,298	21,320	8	401	0,000

a. Predictors: (Constant), Political skills, Motivation, Proactiveness, Access to land, Socio cultural forces, Creativity, Human capital and skills, Social networking

b. Dependent Variable: Taking responsibility

**Table 5.15: ANOVA test on taking responsibility and predictors**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	122,347	8	15,293	21,320	.000 <sup>b</sup>
	Residual	287,643	401	0,717		
	Total	409,989	409			

a. Dependent Variable: Taking responsibility

b. Predictors: (Constant), Political skills, Motivation, Proactiveness, Access to land, Socio cultural forces, Creativity, Human capital and skills, Social networking

Inspection of the coefficients show only four predictors were at the 5% level. The combination of independent variables explained 29.8% of the variance in the dependent variable. According to Ellis and Steyn (2003), the effect size of this value renders it practically important. These were motivation (B= -0.101,  $p < 0.05$ ), proactiveness (B= 0.163,  $p < 0.05$ ), creativity (B= 0.412,  $p < 0.05$ ) and socio-cultural forces (B= 0.090,  $p < 0.05$ ) as shown in Table 5.16.

**Table 5.16: Coefficients on taking responsibility and predictors**

Coefficients <sup>a</sup>								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4,021	0,455		8,838	0,000		
	Motivation	-0,101	0,044	-0,099	-2,293	0,022	0,938	1,066
	Proactiveness	0,163	0,032	0,219	5,076	0,000	0,937	1,067
	Creativity	-0,412	0,054	-0,343	-7,569	0,000	0,852	1,173
	Social networking	0,026	0,036	0,036	0,705	0,481	0,669	1,494
	Socio cultural forces	0,090	0,034	0,119	2,662	0,008	0,883	1,133
	Human capital and skills	0,024	0,036	0,031	0,646	0,519	0,781	1,280
	Access to land	0,059	0,037	0,071	1,569	0,117	0,845	1,184
	Political skills	0,022	0,035	0,031	0,628	0,530	0,707	1,414

a. Dependent Variable: Taking responsibility

The sign of the Beta coefficients suggest that a decrease in motivation and creativity was associated with the increase in taking responsibility, while the increase in proactiveness and socio-cultural forces was associated with the increase in taking responsibility. The results (H6:1, H6:2, H6:3 and H6:5) show that prospective farmers with a high level of motivation and creativity are entrepreneurially-orientated, while those that value the importance of socio-cultural forces with a high level of proactiveness are also entrepreneurially-orientated. Therefore, hypotheses (H6:1, H6:2, H6:3, H6:5) were accepted because taking responsibility to start a business is predicted by the following business start-up factors: motivation, creativity, proactiveness, social networking and socio-cultural forces. The hypotheses (H6:4, H6:7 and H6:7) were rejected because all the overall models were not significant.

These results are in line with the findings of Rauch and Frese (2000: 102) who pointed out that for the entrepreneur to establish a new business start-up, a strong desire for need for achievement is necessary. Chaudhary (2016: 181) further affirmed that need for achievement relate significantly to entrepreneurial inclination. The results are also in line with the finding of Fakoti (2010: 88) who established that creativity is one of five motivators of entrepreneurial intentions. Furthermore, Reijonen *et al.* (2015: 37) associate proactiveness to an individual's ability to take the initiative to pursue market opportunities with the primary objective of actively seeking and anticipating



opportunities, to acquire first-mover advantages and nurture the direction of the setting. Lastly, these results are in line with the findings by Hopp and Stephan (2012: 918) who pointed out that strongly motivated and highly self-efficacious entrepreneurs are indeed likely to flourish in performance-based socio-cultural atmospheres.

### 5.4.3.3 Motivation

Raising the motivation and self-esteem of persons to become entrepreneurs is vital to enable them to develop self-empowerment and to promote a positive attitude towards taking the risk of starting a business (Mavhungu, 2011). According to Sikhwari (2007:520), confidence and positive self-concept are the building blocks of motivation. Rugutt and Chemosit (2009:17) reported that motivation theory has a role to play because of the influence it has on human success in any trade. McClelland (1965:321) considered need for achievement as an important human motivational attribute, which is well thought out as a desire for success or achieving one’s set goals or objectives.

#### 5.4.3.3.1 Motivation and predictors

The hypothesis (H7) states that:

Motivation to start a business is predicted by the following business start-up factors: H7:1 creativity, H7:2 socio-cultural forces, H7:3 human capital and skills, and H7:4 political skills.

The step test in the linear regression process was used to test the cause-effect between two variables where the dependent variable was represented by motivation and the remainder of the factors (creativity, socio-cultural forces, human capital and skills) as independent variables. The assumptions of the homoscedasticity, linearity and normality of residuals were tested and met. The overall model was significant (F [4.410] 2.564,  $p < 0.01$ ) as shown in Tables 5.17 and 5.18.

**Table 5.17: Model summary of motivation and predictors**

Model Summary <sup>b</sup>									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.160 <sup>a</sup>	0,025	0,016	0,97829	0,025	2,679	4	410	0,031

a. Predictors: (Constant), Political skills, Socio cultural forces, Human capital and skills, Social networking

b. Dependent Variable: Motivation

**Table 5.18: ANOVA test on motivation and predictors**

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10,256	4	2,564	2,679	.031 <sup>b</sup>
	Residual	392,388	410	0,957		
	Total	402,644	414			

a. Dependent Variable: Motivation  
b. Predictors: (Constant), Political skills, Socio cultural forces, Human capital and skills, Social networking

Inspection of the coefficients show only one predictor was at the 5% level. The combination of independent variables explained 0.25% of the variance in the dependent variable. According to Ellis and Steyn (2003), the effect size of this value renders it practically important. This was only socio-cultural forces (B= -0.105, p <0.05) as shown in Table 5.19.

**Table 5.19: Coefficients on motivation and predictors**

Coefficients <sup>a</sup>								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	6,390	0,185		34,474	0,000		
	Social networking	0,031	0,040	0,045	0,775	0,439	0,719	1,390
	Socio cultural forces	-0,105	0,038	-0,140	-2,725	0,007	0,902	1,109
	Human capital and skills	-0,002	0,040	-0,003	-0,048	0,962	0,837	1,194
	Political skills	-0,051	0,039	-0,074	-1,291	0,197	0,725	1,380

a. Dependent Variable: Motivation

The signs of the Beta coefficients suggested that an increase in socio-cultural forces was associated with an increase in motivation. The results (H7:2) reflect that prospective farmers who value socio-cultural forces have higher level intention to start a farming business. Therefore, hypothesis (H7:2) is accepted because motivation to start a business is predicted by socio-cultural forces and hypotheses (H7:1 H7:3 and H7:4) were rejected because the overall models were not significant. Social networking, human capital and skills and political skills do not therefore predict motivation to start a business.

These results are in line to the finding by Greve and Saleff (2003: 20) who confirmed that socio-cultural forces e.g. family business background may minimise barriers to entrepreneurial intention because persons can take advantage of these factors to establish a business. Castaño *et al.* (2015: 1437) further highlight that socially, the structure, social development and culture of a country are some of the important factors that affect entrepreneurial decision to start new businesses. To establish a correlation among the factors in this study (taking responsibility, motivation, proactiveness, creativity, personal attitude, social networking, access to resources, socio-cultural forces, human capital and skills, access to land and political skills) a correlation analysis was undertaken. It is important to note that the terms 'prospective farmers' and 'agricultural students' were used interchangeably when referring to final year students studying agricultural programmes. The results of the correlation test are reported and discussed below.

#### **5.4.4 Correlations**

The main objective of conducting a correlation test is to find the degree of association between two variables (Asuero *et al.*, 2006:41). According to Takona (2002), there are two types of correlation tests, namely Pearson correlation, which is known as a parametric test, and the Spearman correlation, which is known as a non-parametric test. The results of correlation analysis is expressed by coefficient which ranges ( $-1 \leq r \leq +1$ ) and the direction of change is indicated by a sign. The researcher paired the factors and performed correlation analysis to measure the degree and direction of the relationship between (1) personal attitude and business start-up factors of taking responsibility, access to resources, motivation, political skills, access to land, proactiveness, socio-cultural forces, creativity, human capital and skills and social networking. A correlation test was also conducted between (2) taking responsibility and factors of access to resources, motivation, political skills, access to land, proactiveness, socio-cultural forces, creativity, human capital and skills and social networking. In this study, the researcher decided to use Spearman's correlation rather than Pearson. Spearman's correlation deemed suitable because factors were not normally distributed. Table 5.20 reflects Lilliefors significance correlation (Kolmogorov-Smirnov and Shapiro-Wilk tests of normality) tests of normality results that substantiate the reason for not going the Pearson correlation route. As indicated below

in Table 5.20, factors were not normally distributed. Spearman's coefficient is considered as robust and it can be used when one of the variables is ordinal in nature (Gogtay & Thatte, 2017).

**Table 5.20: Tests of normality**

Tests of Normality						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Taking responsibility	0,128	406	0,000	0,892	406	0,000
Motivation	0,203	406	0,000	0,816	406	0,000
Proactiveness	0,207	406	0,000	0,852	406	0,000
Creativity	0,117	406	0,000	0,948	406	0,000
Personal attitude	0,170	406	0,000	0,826	406	0,000
Social networking	0,048	406	0,023	0,984	406	0,000
Access to resources	0,116	406	0,000	0,940	406	0,000
Socio cultural forces	0,197	406	0,000	0,847	406	0,000
Human capital and skills	0,064	406	0,000	0,986	406	0,001
Access to land	0,059	406	0,002	0,986	406	0,001
Political skills	0,083	406	0,000	0,978	406	0,000

a. Lilliefors Significance Correction

This study further aimed to determine how EI and EO factors relate to a number of business start-up factors. The relationship between EI and these factors was explored and thereafter the relationship between EO and the same factors were analysed. The study's hypotheses and related discussions were structured in this order.

#### **5.4.4.1 Entrepreneurial intention**

Debarliev *et al.* (2015:145) report that entrepreneurial research has acknowledged the intention of entrepreneurial behaviour extensively and is considered as the proximal predictor of the choice to participate in entrepreneurial behaviour. Attitudes to new business start-up exert positive influences on EI (Robledo *et al.*, 2015:106) and attitudes are considered as the best predictor of entrepreneurial behaviour (Chipeta *et al.*, 2016:6896). Douglas and Shepherd (2002:83) ascertained that attitude impacts entrepreneurship via intentions. This study sought to determine the relationship between the EI of prospective farmers and business start-up intention.

##### **5.4.4.1.1 Personal attitude and taking responsibility**

The hypothesis (H8:1) states that:

There is no significant positive correlation between personal attitude and taking responsibility to start a business among prospective farmers.

**Table 5.21: Spearman’s correlation personal attitude and taking responsibility**

Correlations				
			Personal Attitude	Taking Responsibility
Spearman's rho	Personal Attitude	Correlation Coefficient	1,000	
		Sig. (2-tailed)		
		N	419	
	Taking Responsibility	Correlation Coefficient	<b>-0,297**</b>	1,000
		Sig. (2-tailed)	<b>0,000</b>	
		N	419	421

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

The results as shown in Table 5.21 indicate that there is a significant but negative correlation between personal attitude and taking responsibility. The correlation coefficient between personal attitude and taking responsibility is -0.297 with p-value of 0.000 <0.01. Based on these results, hypothesis (H8:1) is accepted because there is no positive significant correlation between these two variables, although there is a statistically significant but negative relationship between two variables among prospective farmers. The correlation results reflect that prospective farmers with of high level of taking responsibility for their actions have low EI to start a business. According to Brinkmann (2012:3), taking responsibility is associated to risk taking. The findings of this study are contrary to the findings of Chatterjee and Das (2015:110), who reported that taking responsibility is a primary element that should concern every entrepreneur when establishing a business start-up. This is also confirmed by Marlow and Swail (2014:84), who opine that the concept and theory of risk is vital to entrepreneurship because risk tolerance and risk-averse are conceptual bridges that link opportunity recognition and entrepreneurial enactment. Furthermore, it was proven by Frese, Bantjies and Hoorn (2002:260) that EO positively contributes to the

success of new business establishments. Prospective farmers have a low-level understanding of the relationship between EI and taking responsibility. The results show that prospective farmers with a high level of taking responsibility have a low intention to establish a business. The reason for this might be that prospective farmers with high levels of taking responsibility for their actions need another factor(s) that will increase their intention level to business start-up because taking responsibility is associated with the intention to business start-up.

#### 5.4.4.1.2 Personal attitude and motivation

The hypothesis (H8:2) states that:

There is no significant positive correlation between personal attitude and motivation to start a farming business among prospective farmers.

**Table 5.22: Spearman’s correlation personal attitude and motivation**

Correlations				
			Personal Attitude	Motivation
Spearman's rho	Personal Attitude	Correlation Coefficient	1,000	
		Sig. (2-tailed)		
		N	419	
	Motivation	Correlation Coefficient	.298**	1,000
		Sig. (2-tailed)	0,000	
		N	418	418
** . Correlation is significant at the 0.01 level (2-tailed).				
* . Correlation is significant at the 0.05 level (2-tailed).				

Table 5.22 indicates that there is a significant and positive correlation between personal attitude and motivation. The correlation coefficient between personal attitude and motivation is 0.298 with p-value of 0.000 < 0.01. Based on this result, hypothesis (H8:2) is rejected because there is a positive and significant correlation between these two variables. The correlation results show that prospective farmers who have a high level of motivation have EI to establish a business start-up. This is in line with the findings of Chatterjee and Das (2015:110) who reported that motivation drives individual interest in entrepreneurship. Thapa *et al.* (2008: 86) confirm these findings

by stating that motivation is one of the factors that leads to successful entrepreneurial activities. Furthermore, Rauch and Frese (2000:102) indicated that for an entrepreneur to establish a successful business start-up, a strong desire and motivation is necessary. Prospective farmers are motivated to establish a business start-up. The results reveal that prospective farmers have the drive to establish businesses after completing their studies as entrepreneurs or to be employed within existing businesses and implement their entrepreneurial skills as intrapreneurs.

#### 5.4.4.1.3 Personal attitude and proactiveness

The hypothesis (H8:3) states that:

There is no significant positive relationship between personal attitude and proactiveness of prospective farmers to start a business.

**Table 5.23: Spearman’s correlation on personal attitude and proactiveness**

Correlations				
			Personal Attitude	Proactiveness
Spearman's rho	Personal Attitude	Correlation Coefficient	1,000	
		Sig. (2-tailed)		
		N	421	
	Proactiveness	Correlation Coefficient	-.158**	1,000
		Sig. (2-tailed)	0,001	
		N	419	419

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Table 5.23 indicates that there is a significant but negative relationship between personal attitude and proactiveness. The results show that the influence of proactiveness on personal attitude to start a business is significant. The correlation coefficient between personal attitude and proactiveness is -0.158 with p-value of 0.001 <0.01. Based on these results, the hypothesis (H8:3) is accepted because there is no positive significant relationship between these two variables although there is a statistically significant but negative relationship between them. The correlation results reveal that prospective farmers with the intention to establish a business start-up have

a low level of proactivity. The results are contrary to the findings of Shan *et al.* (2016:685), who found that proactive entrepreneurs are those individuals that have the will to lead and seize new opportunities. Callaghan and Venter (2011:31) also revealed that proactiveness is associated with leadership because leaders should be able to take the initiative by anticipating and pursuing new business opportunities. Furthermore, the findings by Quaye *et al.* (2015:130) indicate that proactiveness has a direct impact on business start-up and its success. The results reflect that prospective farmers rated proactiveness low in entrepreneurship. Their level of proactiveness is also low when compared with their intention to start a business initiative. The results show that prospective farmers lack entrepreneurial education that may assist them to understand the role of proactiveness in entrepreneurship. Therefore, this finding indicates that prospective farmers with the intention to establish a business need other factor(s) that will increase their level of proactiveness . Proactiveness is one of the most important dimensions that entrepreneurs should possess to be successful in their endeavours to pursue entrepreneurial activities.

#### 5.4.4.1.4 Personal attitude and creativity

The hypothesis (H8:4) that applies to testing the relationship between the two barriers states that:

There is no significant relationship between personal attitude and creativity of prospective farmers to start a business.

**Table 5.24: Spearman’s correlation on personal attitude and creativity**

Correlations			Personal Attitude	Creativity
Spearman's rho	Personal Attitude	Correlation Coefficient	1,000	
		Sig. (2-tailed)		
		N	419	
	Creativity	Correlation Coefficient	.540**	1,000
		Sig. (2-tailed)	<b>0,000</b>	
		N	418	419
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				



Table 5.24 indicates that there is a significant and positive correlation between personal attitude and creativity. The correlation coefficient between personal attitude and creativity is 0.540 with p-value of  $0.000 < 0.01$ . Based on these results, hypothesis (H8:4) is rejected because there is a positive and significant correlation between these variables among prospective farmers. Phipps and Prieto (2015b:34) found that creativity is positively allied to EI and is one of those abilities that individuals are determined to associate with entrepreneurial success. Da Costa *et al.* (2015:165) further highlight that creativity is a human skill that persons can use to deal with challenges of life and to support psychological and social adaptation. The results show that prospective farmers with the intention to establish a business start-up are creative. Therefore, prospective farmers may use their creativity skills to their advantage when dealing with EI activities.

#### 5.4.4.1.5 Personal attitude and social networking

The hypothesis (H8:5) states that:

There is no significant positive correlation between personal attitude and social networking of prospective farmers.

**Table 5.25: Spearman’s correlation on personal attitude and social networking**

Correlations				
			Personal Attitude	Social Networking
Spearman's rho	Personal Attitude	Correlation Coefficient	1,000	
		Sig. (2-tailed)		
		N	419	
	Social Networking	Correlation Coefficient	-0,075	1,000
		Sig. (2-tailed)	0,125	
		N	416	417
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

Table 5.25 indicates that there is a negative and non-significant correlation between personal attitude and social networking. The correlation coefficient between personal attitude and social networking is -0.075 with p-value of 0.125 >0.01. Based on these results, hypothesis (H8:5) is accepted because there is a negative non-significant relationship between personal attitude and social networking among prospective farmers. The correlation results reveal that prospective farmers who believe that social networking plays a minimal role in entrepreneurship have low EI to start a business. The results are contrary to the findings of Milanov and Fernhaber (2009:47) who reported that social networking has surfaced as a vital new area of interest in the field of entrepreneurship, especially its role in new businesses establishment and support. Milanov and Fernhaber further mentioned that for a new business to succeed in its operation, alliance networks are important in overcoming difficulties commonly associated with liabilities of newness. In addition, Semrau and Sigmund (2012:335) found that entrepreneurial success in new business start-up relies on the social network that they should embed to achieve their set goals. Steier and Greenwood (2000:163) further highlight that networking is the final arbiter of competitive success. These results reflect that in current times, and especially among students, social networks are used for chatting. Prospective farmers are not yet business owners, therefore they might not yet have learnt that social networks are critical in conducting business, for example, setting up appointments, arranging interviews, negotiating deals and distributing important documents. Internet use is now crucial in starting and running any business. Prospective farmers might face the challenge of limited access to data, which is expensive in South Africa. Access to social networks for business start-up may be restricted by limited data accessibility.

#### *5.4.4.1.6 Personal attitude and social cultural forces*

The hypothesis (H8:6) that applies to testing this relationship states that:

There is no significant positive relationship between personal attitude and socio-cultural forces of prospective farmers.

**Table 5.26: Spearman’s correlation on personal attitude and socio-cultural forces**

Correlations				
			Personal Attitude	Socio Cultural Forces
Spearman's rho	Personal Attitude	Correlation Coefficient	1,000	
		Sig. (2-tailed)		
		N	419	
	Socio Cultural Forces	Correlation Coefficient	<b>-0,270**</b>	1,000
		Sig. (2-tailed)	<b>0,000</b>	
		N	419	420
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

Table 5.26 indicates that there is a significant but negative relationship between personal attitude and socio-cultural forces. The correlation coefficient between personal attitude and socio-cultural forces is -0.270 with p-value of 0.000 < 0.01. Based on these results, hypothesis (H8:6) is accepted because there is a negative statistically significant relationship between these two variables. These results are contrary to the study done by Castaño *et al.* (2015:1497) who found that socially, the structure, social development and culture of a country are some of the most important factors that affect entrepreneurial decision to start new businesses. Tanveer *et al.* (2011:74) also found that the existences of social-cultural constraints are liable to influence the participation of persons in entrepreneurial activities. The reason socio-cultural forces have a negative effect on a prospective farmer’s personal attitude to start a business might be because very few entrepreneurs in their communities are successful in their businesses operation and the rest do not set a positive example for the youth to aspire to entrepreneurship. Another reason substantiated by Figure 5.4, “Summary of students’ family business”, is that 72% of respondents come from families that do not own businesses. This might affect their low-level intention to start a business because they are not exposed to the same environment at an early age. Therefore, these findings might require that prospective farmers with the intention to establish a business need another factor(s) that will raise the level so that social-cultural forces may influence their business start-up initiatives.

#### 5.4.4.1.7 Personal attitude and access to resources

The hypothesis (H8:7) that applies to testing this correlation states that:

There is no significant positive correlation between personal attitude and access to resources of prospective farmers.

**Table 5.27: Spearman's correlation on personal attitude and access to resources**

Correlations				
			Personal Attitude	Access to Resources
Spearman's rho	Personal Attitude	Correlation Coefficient	1,000	
		Sig. (2-tailed)		
		N	419	
	Access to Resources	Correlation Coefficient	.101*	1,000
		Sig. (2-tailed)	<b>0,039</b>	
		N	419	420
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

Table 5.27 indicates that there is a positive significant correlation between personal attitude and access to resources. The correlation coefficient between personal attitude and access to resources is 0.101 with p-value of 0.039 < 0.05. Based on these results, hypothesis (H8:7) is accepted because there is no significant and positive correlation between these two variables at the 0.001 level at which the other related sub-hypotheses were tested. However, the correlation is positive and significant at the < 0.005 significant level. The results of correlation show that prospective farmers with the intention to start a business value the importance of access to resources in entrepreneurship. These results are in line with Kim *et al.* (2006:07) who found that access to resources is paramount for new business start-up. Hormiga *et al.* (2011:617) reported that establishing a new business initiative is a complex process that entails accumulating a variety of resources before executing any business transaction. According to Staniewski *et al.* (2015:2111), entrepreneurs who are inspired to undertake a new business start-up use their own saved capital that they have to earn or a loan that they need to repay at a later stage with interest. It is

therefore evident that available capital is an important aspect of new business establishment. The relationship between these two variables is not significant at the higher 99% significant level because prospective farmers might think that access to resources for business start-up may not be a challenge. They are aware of a number of government incentive schemes or funds that promote start-ups in agriculture, for example the Isivande Women’s Fund, National Development Agency and National Empowerment Fund that will guarantee funding for business establishments, forgetting that they still have to apply to determine their eligibility.

#### 5.4.4.1.8 Personal attitude and human capital and skills

The hypothesis (H8:8) that applies to testing this correlation states that:

There is no significant positive correlation between personal attitude and human capital and skills of prospective farmers.

**Table 5.28: Spearman’s correlation on personal attitude and human capital and skills**

Correlations				
			Personal Attitude	Human Capital and Skills
Spearman's rho	Personal Attitude	Correlation Coefficient	1,000	
		Sig. (2-tailed)		
		N	419	
	Human Capital and Skills	Correlation Coefficient	-.162**	1,000
		Sig. (2-tailed)	0,001	
		N	418	419
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

Table 5.28 indicates that there is a significant but negative correlation between personal attitude and human capital and skills. The correlation coefficient between personal attitude and human capital and skills is -0.162 with p-value of 0.001 <0.01. Based on these results, hypothesis (H8:8) is accepted because there is no positive significant correlation between these two variables. The results of the correlation

confirm that prospective farmers who have the intention to start a business believe that human capital and skills play a minimal role in entrepreneurship. Marvel, Davis & Sproul (2014:600) argue that human capital is the primary source in starting a business. These results are contrary to the findings of Mueller *et al.* (2014:261) who confirm that persons who are confident about their knowledge, skills and expertise that are useful for new business start-up will believe that they have what it takes to establish a business start-up. Botha *et al.* (2015:56) further indicate that there is a constructive relationship between human capital and entrepreneurial performance, which is supported by progressive and efficient running of established businesses, including those that are considered complex. Prospective farmers' lack an understanding of the important role that human capital and skills play in entrepreneurship because they lack entrepreneurial education.

#### 5.4.4.1.9 Personal attitude and access to land

The hypothesis (H8:9) that applies to testing this correlation states that:

There is no significant positive relationship between personal attitude and access to land.

**Table 5.29: Spearman's correlation on personal attitude and access to land**

<b>Correlations</b>				
			Personal Attitude	Access to Land
Spearman's rho	Personal Attitude	Correlation Coefficient	1,000	
		Sig. (2-tailed)		
		N	419	
	Access to Land	Correlation Coefficient	0,029	1,000
		Sig. (2-tailed)	0,559	
		N	411	412
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

Table 5.29 indicates that there is a non-significant positive relationship between personal attitude and access to land. The correlation coefficient between personal

attitude and access to resources is 0.029 with p-value of 0.559,  $>0.05$ . Based on these results, hypothesis (H8:9) is accepted because there is no positive significant correlation between personal attitude and access to land. The correlation results indicate that prospective farmers with high intention to establish a business have a minimal understanding of the processes to be followed to access land for farming. According to Ngotho (2017), other countries on the African continent are introducing land lease models to attract youth to participate in agriculture-related activities. Land is an important commodity for farming but prospective farmers lack an understanding of the importance of land in farming. Therefore, this finding might require that prospective farmers with the intention to establish a business need other factor(s) that will increase their understanding of the process to access land and its importance for farming because no land, no farming. Prospective farmers might be of the opinion that the amendment of Section 23 of the Constitution of the Republic of South Africa to allow the government to expropriate land without compensation will give them free access to land for farming purposes.

#### *5.4.4.1.10 Personal attitude and political skills*

Hypothesis (H8:10) states:

There is no significant positive correlation between personal attitude and political skills.

**Table 5.30: Spearman's correlation on personal attitude and political skills**

Correlations				
			Personal Attitude	Political Skills
Spearman's rho	Personal Attitude	Correlation Coefficient	1,000	
		Sig. (2-tailed)		
		N	419	
	Political Skills	Correlation Coefficient	-0,085	1,000
		Sig. (2-tailed)	0,083	
		N	416	417
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

Table 5.30 indicates that there is a non-significant and negative relationship between personal attitude and political skills. The correlation coefficient between personal attitude and political skills is -0.085 with p-value of 0.083 >0.01. Based on these results, hypothesis (H8:10) is accepted because there is no positive significant relationship between personal attitude and political skills. Ferris *et al.* (2005:127) and Chen and Lin (2013:34) state that political skill consists of four key dimensions, namely social astuteness, interpersonal influence, networking ability and apparent sincerity and they were found to correlate positively with EI. Phipps and Prieto (2015a:76) found that entrepreneurs with higher EI possess political skills to successfully facilitate entrepreneurial behaviour and introduce new business start-ups to serve a particular need. One of the reasons behind these findings might be that prospective farmers are exposed to politics at a student level. Students at institutions of higher learning are members of different student organisations such as SASCO, PASMA and EFFSC. Therefore, political experience shared by student leaders with their members plays a crucial role in enhancing political knowledge and skills at institutions of higher learning but not at business level. This result might also indicate that students use politics for interpersonal influence at their institutions of higher learning. They are not yet business owners so might not have learnt that political skill



is vital for business owners. They might not yet understand that political skill plays a key strategic role in running a business, for example that persuasion, manipulation and negotiating business deals all influencing decision making. They might also not be aware that political skill is the best predictor of managerial job performance when examined in competitive prediction with other social effectiveness constructs, for example self-monitoring and leadership self-efficacy because they are not yet business owners.

#### *5.4.4.1.11 Personal attitude and business start-up factors*

The results of H8:2, H8:4 and H8:7 reflect that prospective farmers' intention to start a business significantly and positively drives their level of motivation, creativity and the importance of access to resources in entrepreneurship higher. Secondly, the results of H8:1, H8:3, H8:6 and H8:8 show that prospective farmers' intention to start a business drives their ability to take responsibility for their actions, their level of proactiveness and how they place lower value on the role of socio-cultural forces in entrepreneurship (significant and negative correlation). It is evident, based on the literature, that taking responsibility, proactiveness and socio-cultural forces are some of the important factors that entrepreneurs should possess to drive entrepreneurial success. The results also reflect that there is a significant but negative correlation in (H8:1, H8:3, H8:6 and H8:8), a significant and positive correlation in (H8:2, H8:4 and H8:7). There is a non-significant but positive correlation in (H8:9) and a non-significant and negative correlation in (H8:5 and H8:10).

#### **5.4.4.2 Taking responsibility**

It is paramount that persons should be entrepreneurially orientated to have the drive to participate in entrepreneurship. Independent and autonomous actions are the key variables of EO since intentions have to be executed (Callaghan & Venter, 2011:31). Runyan *et al.* (2006:459) define EO as "the processes, practices, and decision-making activities that lead to new entry". The correlation between taking responsibility and other start-up factors is tested and discussed next.

#### 5.4.4.2.1 Taking responsibility and motivation

The hypothesis (H9:1) states that:

There is no significant positive correlation between taking responsibility and motivation of prospective farmers to start a business.

**Table 5.31: Spearman's correlation on taking responsibility and motivation**

Correlations			Taking Responsibility	Motivation
Spearman's rho	Taking Responsibility	Correlation Coefficient	1,000	
		Sig. (2-tailed)		
		N	421	
	Motivation	Correlation Coefficient	<b>-0,220**</b>	1,000
		Sig. (2-tailed)	<b>0,000</b>	
		N	418	418

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Table 5.31 indicates that there is a significant but negative correlation between taking responsibility and motivation. The correlation coefficient between taking responsibility and motivation is -0.220 with p-value of 0.000 < 0.01. Based on this result, hypothesis (H9:1) is accepted because there is no positive significant correlation between these two variables. The results confirm that prospective farmers who are motivated have a low degree of taking responsibility. The correlation results are contrary to the findings of Figueroa-Armijos and Johnson, (2013:3) who report that entrepreneurship is positively related to employment, depending on the motivation or the drive to pursue it. EO is influenced by motivation. Therefore, this finding might require that prospective farmers who are motivated to start a business need other factor(s) that will increase their degree of taking responsibility for their actions. Entrepreneurs need to have a high level of taking responsibility because they need to build trust with others and learn from their mistakes.

#### 5.4.4.2.2 Taking responsibility and proactiveness

The hypothesis (H9:2) states that:

There is a no significant positive correlation between taking responsibility and proactiveness of prospective farmers.

**Table 5.32: Spearman’s correlation on taking responsibility and proactiveness**

Correlations				
			Taking Responsibility	Proactiveness
Spearman's rho	Taking Responsibility	Correlation Coefficient	1,000	
		Sig. (2-tailed)		
		N	421	
	Proactiveness	Correlation Coefficient	.325**	1,000
		Sig. (2-tailed)	<b>0,000</b>	
		N	421	421

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Table 5.32 indicates that there is a significant and positive correlation between taking responsibility and proactiveness. The correlation coefficient between taking responsibility and proactiveness is 0.325 with p-value of 0.000 <0.01. Based on this result, hypothesis (H9:2) is rejected because there is a positive correlation between these two variables and this relationship is confirmed by a statistically significant relationship among prospective farmers. This result is supported by Chipeta *et al.* (2016:6894) who confirm that proactiveness influences the intention to start a business. The correlation results confirm that prospective farmers who are proactive have a higher degree of taking responsibility. These results are in line with findings of Shan *et al.* (2016:685) who reported that proactive entrepreneurs are those individuals that have the will to lead and seize new business opportunities. Masona *et al.* (2015:1657) found that greater entrepreneur proactiveness leads to competitive business performance. Lumpkin and Dess (1996:146) highlight that proactiveness may be vital to EO since it proposes a progressive perspective that is accompanied by new business start-up. The results show that proactive prospective farmers are

entrepreneurially orientated. Therefore, proactiveness can be viewed as an important attribute that prospective farmers should possess because its absence can hinder them in taking the initiative to pursue new market opportunities and taking leadership.

#### 5.4.4.2.3 Taking responsibility and creativity

Hypothesis (H9:3) states that:

There is no significant positive correlation between taking responsibility and creativity of prospective farmers.

**Table 5.33: Spearman’s correlation on taking responsibility and creativity**

Correlations				
			Taking Responsibility	Creativity
Spearman's rho	Taking Responsibility	Correlation Coefficient	1,000	
		Sig. (2-tailed)		
		N	421	
	Creativity	Correlation Coefficient	<b>-.382**</b>	1,000
		Sig. (2-tailed)	<b>0,000</b>	
		N	419	419
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

Table 5.33 indicates that there is a significant but negative correlation between taking responsibility and creativity. The correlation coefficient between taking responsibility and creativity is -0.382 with p-value of 0.000 <0.01. Based on these results, hypothesis (H9:3) is accepted because there is no positive significant correlation between these two variables. In addition, this correlation is confirmed by a statistically significant but negative relationship between them among prospective farmers. These findings are in line with Kickul *et al.* (2004) who found that self-confidence contributes to entrepreneurial career interest and behaviour. The correlation results show that prospective farmers who are creative have a low degree of accepting responsibility. In this study, the researcher associated taking responsibility with innovation creativity. Innovation could play a vital role in the sense

that it could foster new business models by defining new or improved services, products or processes and it could provide a pillar of strength for a sustainable and competitive economy (Shukla *et al.*, 2014:1). The results are in line with Reijonen *et al.* (2015:37) who reported that innovativeness manifests in an individuals' ability to find new opportunities and solutions. Blaškováa (2014:424) found that individuals with high level of responsibility, motivation and creativity are determined to achieve their set objectives. High responsibility and creativity also increase individual competences to perform their duties (Blaškováa, 2014:424). Whitbeck (2003:95) mentioned that persons are required to be creative in order for them to be able to exercise responsibility in what they do. Innovativeness also encompasses creativity, experimentation, technological leadership, novelty as well as research and development that bring about new or improved products, services and processes that enhance efficiency and effectiveness. Entrepreneurially oriented prospective farmers lack entrepreneurial education to assist them to understand the role of creativity in entrepreneurship. The results show that entrepreneurially orientated prospective farmers have a low creativity level. Therefore, this finding might require intervention that will increase their creativity level since it (creativity) is one of the most important dimensions of entrepreneurship.

#### *5.4.4.2.4 Taking responsibility and social networking*

The hypothesis (H9:4) that applies to testing this correlation states that:

There is no significant positive relationship between taking responsibility and social networking of prospective farmers.

**Table 5.34: Spearman’s correlation on taking responsibility and social networking**

Correlations			Taking Responsibility	Social Networking
Spearman's rho	Taking Responsibility	Correlation Coefficient	1,000	
		Sig. (2-tailed)		
		N	421	
	Social Networking	Correlation Coefficient	<b>.214**</b>	1,000
		Sig. (2-tailed)	<b>0,000</b>	
		N	417	417
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

Table 5.34 indicates that there is a significant positive relationship between taking responsibility and social networking. The correlation coefficient between taking responsibility and social networking is 0.214 with p-value of 0.000 < 0.01. Based on these results, hypothesis (H9:4) is rejected because there is a positive relationship between these two variables and this relationship is confirmed by a statistically significant relationship between them and prospective farmers. The correlation results confirm that prospective farmers who demonstrate high understanding of the role of social networking in entrepreneurship have a higher degree of taking responsibility. The results are in line with Griffin-EI (2015:80) who found that networking has a crucial role to play in entrepreneurial practice because it provides a range of means to entrepreneurial experience. Westlund *et al.* (2014:975) further found that an individual entrepreneur requires a network of supporters while entrepreneurship involves mobilising community support. It is therefore evident that social networking has a vital role to play in entrepreneurship activities because according to Hoang and Antoncic (2003:165), social networking is a channel through which an entrepreneur gains access to a variety of resources that are required for entrepreneurial success. The results show that prospective farmers who are entrepreneurially orientated are familiar with the importance of social networking in entrepreneurship. Even if prospective farmers are not yet business owners they are aware that social networks are critical in conducting business, for example setting up appointments, arranging interviews,

negotiating deals and distributing sending important documents. Prospective farmers who are entrepreneurially orientated are aware that Internet access is key to starting and running any business.

#### 5.4.4.2.5 Taking responsibility and access to resources

The hypothesis (H9:5) that applies to testing this correlation states that:

There is no significant positive correlation between taking responsibility and access to resources of prospective farmers.

**Table 5.35: Spearman’s correlation on taking responsibility and access to resources**

Correlations				
			Taking Responsibility	Access to Resources
Spearman's rho	Taking Responsibility	Correlation Coefficient	1,000	
		Sig. (2-tailed)		
		N	421	
	Access to Resources	Correlation Coefficient	0,021	1,000
		Sig. (2-tailed)	0,671	
		N	420	420
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

Table 5.35 indicates that there is a non-significant and negative correlation between taking responsibility and access to resources. The correlation coefficient between taking responsibility and access to resources is 0.021 with p-value of 0.671 >0.01. Based on these results, hypothesis (H9:5) is accepted because there is no positive significant correlation between taking responsibility and access to resources, and there is no statistically significant relationship between these two variables and prospective farmers. The correlation results confirm that prospective farmers who have low understanding of the methods for accessing resources for business establishment have a low intention to start a business. These results are contrary to the findings of Hormiga *et al.* (2011:617) who reported that establishing a new business initiative is a complex process that entails accessing a variety of resources before actually executing any trade and any other activities required for

business transaction processes. Furthermore, Pretorius and Shaw (2004:222) found that lack of access to capital for starting a business is a global challenge for many entrepreneurs. The results reflect that prospective farmers who have a low entrepreneurial orientated also have ranked the importance of access to resources low. Prospective farmers need entrepreneurial education because they have not yet established businesses and might have not learnt that access to resources is important in entrepreneurship. They are unaware that access to resources would enable them to aggressively exploit opportunities before their competitors do.

#### 5.4.4.2.6 Taking responsibility and socio-cultural forces

The hypothesis (H9:6) that applies to testing this correlation states that:

There is no significant positive correlation between taking responsibility and socio-cultural forces of prospective farmers.

**Table 5.36: Spearman’s correlation on taking responsibility and socio-cultural forces**

Correlations			Taking Responsibility	Socio Cultural Forces
Spearman's rho	Taking Responsibility	Correlation Coefficient	1,000	
		Sig. (2-tailed)		
		N	421	
	Socio Cultural Forces	Correlation Coefficient	.211**	1,000
		Sig. (2-tailed)	<b>0,000</b>	
		N	420	420
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

Table 5.36 indicates that there is a significant positive correlation between taking responsibility and socio-cultural forces. The correlation coefficient between taking responsibility and socio-cultural forces is 0.211 with p-value of 0.000 <0.01. Based on these results, hypothesis (H9:6) is rejected because there is a positive significant correlation between these two variables. This correlation is confirmed by a statistically significant relationship between them and prospective farmers. The



correlation results confirm that prospective farmers who believe that their families, friends and those that are close to them will give them support in business start-up, have a higher degree of taking responsibilities. Culture is considered as a vital element in the study of entrepreneurship. This is in line with Castaño *et al.* (2015:1497) who found that socially, the structure, social development and culture of a country are some of the important factors that affect entrepreneurial decisions to start new businesses. According to Spigel (2013:804), culture is an important element within the entrepreneurship literature because it highlights differences in the entrepreneurship process in different regions, industries and socio-cultural groups. Hopp and Stephan (2012:918) stated that a socially supportive institutional environment could facilitate emerging entrepreneurs to access important resources required to establish their own businesses. It is therefore evident based from these results that entrepreneurially orientated prospective farmers understand the importance of socio-cultural forces in entrepreneurship. Prospective farmers are aware that socio-cultural forces such as culture, society, family and friends, influence EO behaviour.

5.4.4.2.7 *Taking responsibility and human capital and skills*

The hypothesis (H9:7) that applies to testing this relationship states that:

There is no significant positive relationship between taking responsibility and human capital and skills of prospective farmers.

**Table 5.37: Spearman’s correlation on taking responsibility and human capital and skills**

Correlations				
			Taking Responsibility	Social Human Capital and Skills
Spearman's rho	Taking Responsibility	Correlation Coefficient	1,000	
		Sig. (2-tailed)		
		N	421	
	Social Human Capital and Skills	Correlation Coefficient	.214**	1,000
		Sig. (2-tailed)	<b>0,000</b>	
		N	419	419
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

Table 5.37 indicates that there is a positive significant correlation between taking responsibility and human capital and skills. The correlation coefficient between taking responsibility and human capital and skills is 0.214 with p-value of 0.000 <0.01. Based on these results, hypothesis (H9:7) is rejected because there is a positive significant correlation between these two variables. This correlation is confirmed by their statistically significant relationship among prospective farmers. The correlation results confirm that prospective farmers who rate human capital and skills as being important for business start-up have a higher degree of taking responsibility. An entrepreneurship educational programme is a desired platform that could play a crucial role in the development of competences related to entrepreneurship, social and civic skills, and cultural awareness (do Paço *et al.*, 2011:20). Erikson (2002:275) argued that entrepreneurial capital is important for entrepreneurial success, hence it is considered as a multiplicative function of entrepreneurial competence and commitment. Erikson maintains that competences related to entrepreneurship such as social and civic skills, and cultural awareness are important. Prospective farmers believe that having entrepreneurial knowledge and skills in many cases will assist them to pursue business ventures, hence a lack of business skills and information will hinder them from entering entrepreneurially related business activities.

#### 5.4.4.2.8 *Taking responsibility and barriers to business start-up correlation results*

The results of (H9:1 and H9:3,) reflect that prospective farmers' low levels of taking responsibility reduces their motivational drive to engage in entrepreneurial activities and reduces their creativity levels.

Therefore, prospective farmers need other factor(s) that will increase their level of responsibility and creativity. Secondly, the results of (H9:2, H9:4, H9:6 and H9:7) reflect that prospective farmers level of taking responsibility increases their level of proactiveness, the importance of social networking, their perceptions of the influence of socio-cultural forces and human capital and skills for business start-up. Lastly the results of (H9:5) reflect that prospective farmers' low level of taking responsibility reduces their access to resources for business start-up. Therefore, other components

are required to increase their levels of taking responsibility, thereby increasing their access to resources.

The results also reflect that there is significant but negative correlation in (H9:1 and H9:3), and a significant and positive correlation in (H9:2, H9:4, H9:6 and H9:7). There is a non-significant and negative correlation in H9:5. Correlation results reflect that a significant and positive correlation between taking responsibility and proactiveness (dependent variables) is related to the cause-effect results as discussed in paragraph 5.4.3.2.1, where proactiveness is represented by ( $B=0.163$ ,  $p<0.05$ ), as shown in Table 5.16. The signs of the Beta coefficients suggest that an increase in proactiveness and socio-cultural forces is associated with the increase in taking responsibility.

## **5.5 Conclusion**

This chapter interpreted and presented the results of the survey. The study found that there was no statistically significant difference between gender, field of study, area raised and family business status, and the factors of taking responsibility, motivation, proactiveness, personal attitude, creativity, social networking, access to resources, socio-cultural forces, human, capital and skills, access to land and political skills, because their alpha values were ( $p>0.05$ ). A statistically significant difference was found between creativity and areas where prospective farmers were raised, as well as between their family business status and human capital and skills ( $p<0.05$ ).

The results of the study also revealed a cause-effect relationship between personal attitude and three key variables, namely socio-cultural forces, motivation and creativity. A cause-effect relationship was established between taking responsibility and the four key variables of motivation, proactiveness, creativity and socio-cultural forces. A cause-effect relationship was also established between motivation and only one key variable, namely socio-cultural forces. Correlation results reflect that there is significant but negative correlation between personal attitude and the barriers of taking responsibility, proactiveness, socio-cultural forces and human capital and skills. Significant and positive correlations were found between motivation, creativity and socio-cultural forces. There is a negative and non-significant correlation between personal attitude and access to land and a non-significant and negative correlation

between personal attitude and the barriers to business start-up of social networking, access to resources and political skills. The results also reflect that there is a significant but negative correlation between taking responsibility and the business start-up factors of motivation and creativity, and a significant and positive correlation between taking responsibility and proactiveness, social networking, socio-cultural forces and human capital and skills. There is a non-significant and negative correlation between taking responsibility and access to resources.

The final chapter, Chapter 6, presents the conclusions of the study and makes recommendations based on the findings presented in this chapter.

## **CHAPTER 6**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **6.1 Introduction**

Perceived gender-based barriers to business start-up amongst prospective farmers were investigated and the results presented in Chapter 5.

This chapter presents the conclusions drawn from the results. The chapter addresses the research objectives and whether they have been achieved and the contribution of this study to the body of knowledge is stated. The limitations of the study are presented. Furthermore, recommendations are made in respect of the actions that should be taken to inspire EO and EI in the agricultural sector. The chapter concludes with suggestions for further research.

#### **6.2 Conclusions**

The purpose of this study was to investigate perceived gender-based barriers to business start-up amongst prospective farmers in SA.

The objectives of this study were to determine the influence of gender on barriers to business start-up, to determine the influence of field of study, area raised and family business status on barriers to business start-up, to establish whether business start-up is influenced by gender, to identify external and internal barriers facing prospective farmers, to establish the dependencies between business start-up factors and to determine the relationships between EO and EI, and business start-up factors. These objectives were achieved through the development of a research instrument from the literature reviewed and testing of the research hypotheses. A summary of the results is presented in the following sections.

##### **6.2.1 Literature overview**

The study sought to investigate gender-based barriers to business start-up amongst prospective farmers in South Africa. The focus of the literature review was the gender comparison to a number of business start-up factors. Goktan and Gupta (2015:109) report that the complexity and various influences of gender identity on men and women's affinity for entrepreneurship is an area of concern. For example, studies over

the past years show a definite gap between men and women in the level of entrepreneurial activity, EO and motivation, desire, and intention to become an entrepreneur (Mueller & Dato-On, 2013:02). Studies on women's enterprises done by Pfefferman and Frenkel (2015:536) confirmed that businesses established by women are small in volume and limited in number compared to those owned by men. Key topics covered included EI, EO, start-up barriers and a chapter which focused on the South African agricultural sector.

Data were collected using the primary source which was a self-administered questionnaire. The questionnaire was self-developed from the literature reviewed and was called the Prospective Farmers Profile Questionnaire (PFPQ). The questionnaire contained questions on respondents' demographic profiles, entrepreneurial knowledge and intrinsic and extrinsic barriers to business start-up amongst prospective farmers. The instrument was used to collect data and to test the study's aims and objectives. The following section discusses the study objectives and research questions.

## **6.2.2 The study objectives and research questions**

The primary and secondary objectives of this study as well as hypotheses that were derived from these objectives are re-examined below. The achievement of these objectives is discussed.

### **6.2.2.1 *Primary objective***

The primary objective was to make a comparison between gender and barriers to business start-up amongst prospective farmers in SA. Measured on five internal (intrinsic) and six external (extrinsic) factors, the findings showed no statistically significant difference between gender and any of the factors. There was a significant difference between the family business status of prospective farmers on only one factor, namely social human capital and skills. The findings also reflected that there is no difference between genders and all barriers to business start-up. The primary objective was met.

## **6.2.2.2 Hypotheses**

### **6.2.2.2.1 Comparisons**

Comparison was done between the variable gender and the barriers to business start-up (taking responsibility, motivation, proactiveness, creativity, social networking, access to resources, socio-cultural forces, human, capital and skills, access to land and political skills).

The objective was to determine the influence of gender on barriers to business start-up, to determine the influence of field of study, area raised and family business status on barriers to business start-up, to establish whether business start-up is moderated by gender and to identify external and internal barriers facing prospective farmers. This was tested by regression analysis.

- The hypothesis (H1) states that:  
There is no statistically significant difference between the mean values of males and females with regard to the following barriers to business start-up: H1:1 taking responsibility, H1:2 motivation, H1:3 proactiveness, H1:4 creativity, H1:5 personal attitude, H1:6 social networking, H1:7 access to resources, H1:8 socio-cultural forces, H1:9 human capital and skills, H1:10 access to land, H1:11 political skills.

The study found that there was no statistically significant difference between gender, field of study, area raised and family business status and any of the factors (taking responsibility, motivation, proactiveness, personal attitude, creativity, social networking, access to resources, socio-cultural forces, human capital and skills, access to land and political skills) because their alpha values were ( $p > 0.05$ ). A statistically significant difference was found between creativity and area where prospective farmers were raised, as well as between their family business status and human capital and skills ( $p < 0.05$ ). The objectives were met.

### **6.2.2.2.2 Dependencies**

Cause-effect was investigated between personal attitude and the following factors: taking responsibility, motivation, proactiveness, creativity, social networking, access to resources, socio-cultural forces, social human capital and skills, access to land and lastly political skills. Secondly, cause-effect was investigated between taking responsibility and the following factors: political skills, motivation, proactiveness,

access to land, socio-cultural forces, creativity, social human capital and skills, and social networking. Lastly, dependency between motivation and the factors of creativity, socio-cultural forces, human capital and skills was investigated.

The objective was to determine dependencies between business start-up factors. This was tested by means of regression analysis. The hypotheses were:

- (H5) states that:  
Personal attitude to start a business is predicted by the following business start-up factors: H5:1 taking responsibility, H5:2 motivation, H5:3 proactiveness, H5:4 creativity, H5:5 social networking, H5:6 access to resources, H5:8 socio-cultural forces, H5:9 human capital and skills, H5:10 access to land, H5:11 political skills.
- (H6) states that:  
Taking responsibility to start a business is predicted by the following business start-up factors: H6:1 motivation, H6:2 proactiveness, H6:3 creativity, H6:4 social networking, H6:5 socio-cultural forces, H6:6 human capital and skills, H6:7 access to land, H6:8 political skills.
- (H7) states that:  
Motivation to start a business is predicted by the following business start-up factors: H7:1 creativity, H7:2 socio-cultural forces, H7:3 human capital and skills, and political skills.

The findings of the study revealed that there is a cause-effect relationship between personal attitude and three key variables, namely socio-cultural forces, motivation and creativity. Furthermore, a cause-effect relationship was established between taking responsibility and the four key variables of motivation, proactiveness, creativity and socio-cultural forces. Lastly, a cause-effect relationship was also established between motivation and only one key variable, namely socio-cultural forces. The objective was met.

#### 6.2.2.2.3 *Correlations*

Correlation was conducted between all identified barriers (taking responsibility, motivation, proactiveness, personal attitude, creativity, social networking, access to resources, socio-cultural forces, human, capital and skills, access to land and political skills) to business start-up. The objective was to determine the relationships between EO and EI and business start-up factors. This was tested by means of regression analysis.



The hypotheses were:

- (H8:1) states that:  
There is no significant positive correlation between personal attitude and taking responsibility to start a business among prospective farmers.
- (H8:2) states that:  
There is no significant positive correlation between personal attitude and motivation to start a farming business among prospective farmers.
- (H8:3) states that:  
There is no significant positive correlation between personal attitude and proactiveness of prospective farmers to start a business.
- (H8:4) that applies to testing the correlation between the two barriers states that:  
There is no significant correlation between personal attitude and creativity of prospective farmers to start a business.
- (H8:5) states that:  
There is no significant positive correlation between personal attitude and social networking of prospective farmers.
- (H8:6) that applies to testing this correlation states that:  
There is no significant positive correlation between personal attitude and socio-cultural forces of prospective farmers.
- (H8:7) that applies to testing this correlation states that:  
There is no significant positive correlation between personal attitude and access to resources of prospective farmers.
- (H8:8) that applies to testing this correlation states that:  
There is no significant positive correlation between personal attitude and human capital and skills of prospective farmers.
- (H8:9) that applies to testing this correlation states that:  
There is no significant positive correlation between personal attitude and access to land.
- (H8:10) states that:  
There is no significant positive correlation between personal attitude and political skills.
- (H9:1) states that:

There is no significant positive relationship between taking responsibility and motivation of prospective farmers to start a business.

- (H9:2) states that:

There is a no significant positive relationship between taking responsibility and proactiveness of prospective farmers.

- (H9:3) states that:

There is no significant positive relationship between taking responsibility and creativity of prospective farmers.

- (H9:4) that applies to testing this relationship states that:

There is no significant positive relationship between taking responsibility and social networking of prospective farmers.

- (H9:5) that applies to testing this relationship states that:

There is no significant positive relationship between taking responsibility and access to resources of prospective farmers.

- (H9:6) that applies to testing this relationship states that:

There is no significant positive relationship between taking responsibility and socio-cultural forces of prospective farmers.

- (H9:7) that applies to testing this relationship states that:

There is no significant positive relationship between taking responsibility and human capital and skills of prospective farmers.

Correlation results reflect that there is a significant but negative relationship between personal attitude and the following barriers: taking responsibility, proactiveness, socio-cultural forces and human capital and skills. A significant and positive relationship was found between motivation, creativity and socio-cultural forces. There is a negative and non-significant relationship between personal attitude and access to land and a non-significant and negative relationship between personal attitude and the following barriers to business start-up: social networking, access to resources and political skills. The results further reflect that there is a significant but negative relationship between taking responsibility and the following business start-up factors: motivation and creativity. The results show a significant and positive relationship between taking responsibility and proactiveness, social networking, socio-cultural forces and human capital and skills. There is a non-significant and negative relationship between taking responsibility and access to resources. The objective was met.

### 6.3 Recommendations

Guided by the analysis of the literature and a thorough analysis of the data collected at North West University, Tshwane University of Technology, University of Free State, University of Fort Hare, University of Venda and University of Mpumalanga and research findings as outlined in the previous section, the study proposes the following recommendations:

- In section 5.4.3.1 it was reported that personal attitude is predicted by the following business start-up factors: motivation, creativity and socio-cultural forces. On the other hand, personal attitude is not predicted by the business start-up factors of proactiveness, social networking, access to resources, human capital and skills, access to land and political skills. All these business start-up factors are important for EI but prospective farmers do not consider them important. Therefore, prospective farmers should be orientated to these factors and their roles in entrepreneurship through entrepreneurial education. The government, institutions of higher learning and agricultural sector in general may educate students through different platform for example roadshows, exhibitions, career guidance and other events to familiarise them with the roles that these factors may play in entrepreneurship.
- Taking responsibility is predicted by the following business start-up factors: motivation, creativity, proactiveness and socio-cultural forces as reported in section 5.4.3.2. However, the level of taking responsibility of prospective farmers is not predicted by proactiveness, social networking, human capital and skills, access to land and political skills. Therefore, in EO, it is recommended that more focus should be placed on educating prospective farmers about the importance of proactiveness, social networking, human capital and skills, access to land and political skills.
- As reported in section 5.4.3.3, motivation to establish a business is predicted by socio-cultural forces and not creativity, human capital and skills. However, creativity, human capital and skills are important factors in influencing motivation to establish a business start-up. Without these factors, the survival of the business is at stake. Skill and expertise are crucial for business success.

Education support programmes are required to educate prospective farmers on the important roles of creativity, human capital and skills in entrepreneurship.

- In section 5.4.3.2 it was reported that taking responsibility is predicted by motivation, creativity, proactiveness and socio-cultural forces not by political skills, access to land and social networking. Political skills, access to land and social networking are important factors in influencing business start-up initiative. Education support programmes are required to educate prospective farmers on the important roles of political skills, access to land and social networking in entrepreneurship
- Prospective farmers with a low proactivity level have a high EI to start a business as reported in section 5.4.4.1.3. Proactiveness is associated with EI because entrepreneurs are expected to be proactive in what they do as business owners. Therefore institutions of higher learning have a role to play in educating prospective farmers through entrepreneurial support programmes about the benefits of proactivity in entrepreneurship to establish a business.
- The results as per section 5.4.4.1.5 show that prospective farmers who believe that social networking plays a minimal role in entrepreneurship have low EI to start a business. Educational support programmes are essential to familiarise prospective farmers with the role of social networking in entrepreneurship. Programmes should include e.g. the importance of social networks in promoting innovation and reducing uncertainty in entrepreneurship and the benefits of social networking in entrepreneurship.
- The results reflect that prospective farmers lack entrepreneurial education. Therefore, the curriculum should be designed in such a way that it clearly addresses how entrepreneurship should be taught to students in different fields of study with different levels of education. This will assist students to develop an understanding of entrepreneurship from their own discipline perspective.
- The study found that prospective farmers have the intention to start a business but do not consider access to land and resources, creativity and motivation as barriers to business start-up. These are some of the barriers that hinder EI.

Therefore, entrepreneurial education is required in institutions of higher learning to teach prospective farmers about the influence of access to land and resources, creativity and motivation in business start-up.

#### **6.4 Contribution of the study**

This study investigated the comparison between gender and barriers to business start-up amongst prospective farmers in SA. The study established that personal attitude was the best construct for measuring EI of prospective farmers. The researcher concluded that personal attitude drives the intention to pursue a business move. The study confirms the findings of Debarliev *et al.* (2015:147) who established that attitude towards the act reflects the person's valuation of the individual desirability of establishing a new business start-up. The study also confirms the findings of Robledo *et al.* (2015:106), who report that attitude towards new business start-ups exerts a positive influence on EI and attitudes are the best predictor of entrepreneurial behaviour.

The study treated EO and EI factors as intrinsic and extrinsic barriers that prospective farmers might face during the process of business start-up. There is no evidence of this having been done before, therefore this becomes a significant contribution of this study. EO and EI are usually treated as motivators or drivers to business start ups. From the existing literature grounding of EO and EI, new constructs "taking responsibility" and "personal attitude", among many others were developed. These factors as barriers were validated through factoring and reliability tests

The results show no statistically significant difference between gender, field of study, area raised and family business status with the factors (taking responsibility, motivation, proactiveness, personal attitude, creativity, social networking, access to resources, socio-cultural forces, human capital and skills, access to land and political skills). Therefore prospective farmers irrespective of gender are entrepreneurial orientated and have the intention to establish a business.

The findings further established that there was a cause-effect relationship between personal attitude and the three key variables of socio-cultural forces, motivation and creativity. A cause-effect relationship was also established between taking responsibility and motivation, proactiveness, creativity and socio-cultural forces.

Lastly, cause-effect relationship was established between motivation and socio-cultural factors.

## **6.5 Limitations of the study**

Like most other studies, this investigation is not free of limitations. The following limitations should be taken into account.

- The study only focused on third year students studying agricultural programmes at selected universities and colleges. Therefore, the findings of the study cannot be considered as representative of all third year students in different programmes in SA.
- The sample used is considered adequate to represent third year agriculture students in SA. However, a larger sample inclusive of first and second year students might have yielded different results.
- A larger number, over more time, could provide a clear and more nuanced correlation, comparison and cause-effect relationship between variables and groups on different factors. It is important to always use the largest sample possible because the greater the sample the more representative it is going to be. Smaller samples produce less accurate results because they are likely to be less representative of the population (LoBiondo-Wood & Haber 1998:263).
- Any recommendations made arising from the findings are pertinent to the population sampled. Therefore, larger sample could have generated different results.
- Data used in this study were purely perceptual and not actual experiences of farmers, therefore this was likely to have influenced responses. Man, Lau and Chan (2002:133) indicate that individuals do not become competent entrepreneurs by merely possessing competences but by demonstrating these competences through their behaviour and actions in their working environment.

## **6.6 Suggestions for further research**

- A study on a sample of graduate farmers in SA should be done. The investigation would assist to establish the real barriers they face on the ground.

- A study on the comparison between gender and barriers to business start-up among grade 12 agricultural learners is required. The investigation would assist in identifying EI and orientation gap between different genders of grade 12 learners. Amendments to the grade 10, 11 and 12 curricula should be made to address the importance of EO and intention at those levels. This would encourage the interest of youth in the agricultural field of study to establish businesses in the future.
- A comparison between prospective farmers and prospective entrepreneurs from other disciplines should be done on gender-based barriers in business start-up. This will assist to identify the differences between disciplines regarding gender-based barriers to the intention to establish businesses. Therefore, benchmarking of different prospective entrepreneurs from diverse disciplines should be done to enhance EI to start businesses.
- This is a South African study (that is the cultural/geographical context of the study) and the results cannot be generalised. Therefore, the study could be expanded to other regions and future comparative studies could be done.

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# APPENDIX A: ETHICAL CLEARANCE



## UNISA DESTTL ETHICS REVIEW COMMITTEE

Date: 22/03/2018

Dear Mr ML Mavhungu

Reference number : 2018\_CEMS\_ESTTL\_001

Name: Mbulaheni Lordwin Mavhungu

Student number: 084 806 1134

Staff number:

**Decision: Ethics Approval from  
03/2018 to 03/2021**

**Researcher(s):** Mr Mbulaheni Lordwin Mavhungu  
mbulaheni.mavhungu@ump.ac.za  
084 806 1134  
**Supervisor (s):** Prof Shepard Dhliwayo  
sdhliwayo@uj.ac.za  
083 733 7675

### Working title of research:

**The Relationship between Gender and Barriers to Business Start-up among  
Prospective Farmers in South Africa**

**Qualification:** PhD Management Studies

Thank you for the application for research ethics clearance by the Unisa DESTTL Ethics Review Committee for the above mentioned research. Ethics approval is granted for three years.

*The **low risk application** was **reviewed** by the DESTTL Ethics Review Committee in December in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment. The decision was approved on the 19<sup>th</sup> of March 2018.*

The proposed research may now commence with the provisions that:

1. The researcher provides the committee with all permission letters from other institutions mentioned in the application where data will be collected.
2. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.



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PO Box 392 UNISA 0003 South Africa  
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3. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the DESTTL Committee.
4. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
5. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.
6. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
7. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.
8. No field work activities may continue after the expiry date (03/2021). Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

*Note:*

*The reference number **2018\_CEMS\_ESTTL\_001** should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Yours sincerely,



Signature

Chair of DESTTL-RERC

**E-mail: loedoc@unisa.ac.za**

**Tel: (012) 433-4668**



Signature

Executive Dean: CEMS

**E-mail: mogalmt@unisa.ac.za**

**Tel: (012) 429-4419**

URERC.25.04.17 - Decision template (V2) - Approve

University of South Africa  
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## APPENDIX B: INFORMED CONSENT LETTER



### PROSPECTIVE FARMERS' PROFILE QUESTIONNAIRE

Dear Prospective Participant,

My name is Mbulaheni Lordwin Mavhungu and I am a PhD student at the University of South Africa (UNISA). The research I wish to conduct for my Doctoral thesis is entitled *The relationship between gender and barriers to business start-up among prospective farmers in South Africa*.

You have been selected to participate in this survey because the research population comprises a group of final year students who are enrolled solely for agriculture at all the universities and agricultural colleges in South Africa.

You are under no obligation to complete the survey and can withdraw at any time prior to submitting the survey. Furthermore, note that the survey is anonymous and the researcher has no way of connecting the information you provide to you personally. If you choose to participate in this survey, it will take up no more than 45 minutes of your time.

The researcher undertakes to keep all information provided strictly confidential, accessible solely by the researcher, and to analyse the feedback received only on a group level. The records will be kept for five years for publication purposes, whereafter it will be destroyed. Hard copies will be shredded and electronic versions will be permanently deleted from the hard drive of the computer.

Should you require any further information, want feedback on the study, or need to contact the researcher about any aspect of this study, please contact Mbulaheni Mavhungu on 084 806 1134 or 013 002 0229 or by email on [Mbulaheni.Mavhungu@ump.ac.za](mailto:Mbulaheni.Mavhungu@ump.ac.za). You may also contact my supervisor, Prof S. Dhliwayo, on 083 733 7675 or [sdhliwayo@uj.ac.za](mailto:sdhliwayo@uj.ac.za).

**By completing this questionnaire, you agree that you have understood the purpose of the survey and that your participation in the survey is voluntarily.**

**Thank You**

## APPENDIX C: LETTER OF APPROVAL – NORTH WEST UNIVERSITY



17Private Bag X6001, Potchefstroom  
South Africa 2520

Tel: (018) 299-4900  
Faks: (018) 299-4910  
Web: <http://www.nwu.ac.za>

### NWU RDGC PERMISSION GRANTED / DENIED LETTER

Based on the documentation provided by the researcher specified below, on **24/04/2018** the **NWU Research Data Gatekeeper Committee (NWU-RDGC)** hereby grants permission for the specific project (as indicated below) to be conducted at the North-West University (NWU):

**Project title:** The relationship between gender and barriers to business start-up among prospective farmers in South Africa.

**Project leader:** Prof S Dhliwayo

**Student:** M Mavhungu

**NWU reference no:** NWU-GK-2018-21

**Ethical Clearance no:** 2018-CEM-ESTTL-001

**Specific Conditions:**

- Appoint an independent mediator to recruit and distribute the questionnaires to the designated participants.
- Please provide the poster and flier advert that will be used to invite students to participate in the study.
- Questionnaires should not be distributed and answered during academic class sessions.

**Approval date:** 24/04/2018

**Expiry date:** 23/04/2019

#### General Conditions of Approval:

- The NWU-RDGC will not take the responsibility to recruit research participants or to gather data on behalf of the researcher. This committee can therefore not guarantee the participation of our relevant stakeholders.
- Any changes to the research protocol within the permission period (for a maximum of 1 year) must be communicated to the NWU-RDGC. Failure to do so will lead to withdrawal of the permission.
- The NWU-RDGC should be provided with a report or document in which the results of said project are disseminated.

Please note that under no circumstances will any personal information of possible research subjects be provided to the researcher by the NWU RDGC. The NWU complies with the Promotion of Access to Information Act 2 of 2000 (PAIA) as well as the Protection of Personal Information Act 4 of 2013 (POPI). For an application to access such information please contact Ms Amanda van der Merwe (018 299 4942) for the relevant enquiry form or more information on how the NWU complies with PAIA and POPI.

The NWU RDGC would like to remain at your service as scientist and researcher, and wishes you well with your project. Please do not hesitate to contact the NWU RDGC for any further enquiries or requests for assistance.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'M. Verhoef', is written over a light grey rectangular background.

Prof. Marlene Verhoef  
Chair: NWU-RDGC

# APPENDIX D: LETTER OF APPROVAL – TSHWANE UNIVERSITY OF TECHNOLOGY



## Research Ethics Committee

*The TUT Research Ethics Committee is a registered Institutional Review Board (IRB 00005968) with the US Office for Human Research Protections (IORG# 0004997) (Expires 30 Jan 2020). Also, it has Federal Wide Assurance for the Protection of Human Subjects for International Institutions (FWA 00011501) (Expires 22 Jan 2019). In South Africa it is registered with the National Health Research Ethics Council (REC-160509-21).*

May 21, 2018

Ref #: REC/2018/04/002  
Name: Mavhungu M  
Student #: 38465566, UNISA

Mr ML Mavhungu  
C/o Prof S Dhlwayo  
College of Economics and Management Sciences  
University of South Africa

Dear Mr Mavhungu,

**Decision: Final Approval**

**Name:** Mavhungu ML

**Project title:** *The relationship between gender and barriers to business start-up among prospective farmers in South Africa*

**Qualification:** PhD Management Studies, University of South Africa

**Supervisor:** Prof S Dhlwayo

Thank you for submitting the revised project documents for ethics clearance by the Research Ethics Committee (REC), Tshwane University of Technology (TUT). In reviewing the documents, the comments and notes below are tabled for your consideration, attention and/or notification:

- **Proposal**

- **Questionnaire Data Collection (Section 6.3).** The REC took note of the researcher's assurance that the data collection activities will not negatively impact and /or interfere with the targeted students formal learning and teaching activities. Also, the REC took note that the data will not be collected during lecturing time, and that due arrangements for data collection will be made during students' free time. Lastly, the REC took note that an independent research assistant will assist the researcher during the data collection process.



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- **Questionnaire**

- **Original Source.** The REC took note that the questionnaire is a self-developed instrument from the literature reviewed.
- **Demographics, Gender (Section A).** The REC took note that a third gender category, namely "other", has been added to the response options.
- **Question B3.3.** The REC took note of the reformulated item.
- **"Access to Land".** The REC took due note of the five items related to "Access to land" that have been added to the questionnaire.

The Chairperson of the Research Ethics Committee, Tshwane University of Technology, reviewed the revised project documents on May 21, 2018. **Final Approval** is granted to the study.

The proposed research project may now continue with the proviso that:

- 1) The researcher/s will conduct the study according to the procedures and methods indicated in the approved proposal, particularly in terms of any undertakings and/or assurances made regarding the confidentiality of the collected data.
- 2) The proposal will again be submitted to the Committee for prospective ethical clearance if there are any substantial changes from the approved proposal.
- 3) The researcher/s will act within the parameters of any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Strict adherence to the following South African legislation, where applicable, is especially important: Protection of Personal Information Act (Act 4 of 2013), Children's Act (Act 38 of 2005) and the National Health Act (Act 61 of 2003).
- 4) The current ethics approval expiry date for this project is **May 31, 2021**. No research activities may continue after the ethics approval expiry date. Submission of a duly completed Research Ethics Progress Report will constitute an application for renewal of REC ethics approval.

*Note:*

*The reference number [top right corner of this communiqué] should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants.*

Yours sincerely,



WA Hoffmann (Prof)  
Chairperson: Research Ethics Committee  
[TUTRef#2018=04=002=MavhunguM]



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# APPENDIX E: LETTER OF APPROVAL – UNIVERSITY OF THE FREE STATE

UNIVERSITY OF THE  
FREE STATE  
UNIVERSITEIT VAN DIE  
VRYSTAAT  
YUNIVESITHI YA  
FREISTATA



Office of the Vice-Rector: Research and Internationalisation  
Kantoor van die Viserektor: Navorsing en Internasionalisering

08 May 2018

Dear Applicant

## UFS AUTHORITIES APPROVAL

Research Project Title:

**The Relationship Between Gender and Barriers to Business Start-Up Among Prospective Farmers in South Africa**

This letter serves as confirmation that your request to collect data from students and/or staff members at the University of the Free State for your research project has been approved.

Kind regards

A handwritten signature in black ink, appearing to read 'RC Witthuhn'.

**PROF RC WITTHUHN**  
**VICE-RECTOR: RESEARCH & INTERNATIONALISATION**  
**CHAIR: SENATE RESEARCH ETHICS COMMITTEE**

205 Nelson Mandela Drive/Rylaan  
Park West/Parkwes  
Bloemfontein 9301  
South Africa/Suid-Afrika

P.O. Box / Posbus 339  
Bloemfontein 9300  
South Africa / Suid-Afrika  
T:+27(0)51 401 2116  
F:+27(0)51 401 3752  
[WitthuhnRC@ufs.ac.za](mailto:WitthuhnRC@ufs.ac.za)  
[www.ufs.ac.za](http://www.ufs.ac.za)



# APPENDIX F: LETTER OF APPROVAL – UNIVERSITY OF FORT HARE



University of Fort Hare

OFFICE OF UNIVERSITY REGISTRAR

**Alice (main) Campus:**

Private Bag X1314, King William's Town Road, Alice, 5700, RSA  
Tel: +27 (0) 40 602 - 2501 • Fax: +27 (0) 40 602 - 2577  
Email: nmabindisa@ufh.ac.za



May 22, 2018

Mr M L Mavhungu  
Department of Entrepreneurship, Supply Chain, Transport, Tourism and Logistic Management  
University of South Africa  
[Mbulaheni.mavhungu@ump.ac.za](mailto:Mbulaheni.mavhungu@ump.ac.za)

Dear Mr. Mavhungu

### Approval from the Registrar's Office to Conduct Research

Having consulted the Chairperson of the Research Ethics Committee, I hereby grant permission for Mr. M L Mavhungu to conduct research relating to his thesis "The relationship between gender and barriers to business start-up among prospective farmers in South Africa".

We look forward to reading the research report.

Kind regards

Prof M Somniso  
University Registrar

**Bhisho Campus:** P. O Box 1153, KWT 5600, Independence Avenue, Bhisho, 5600, RSA  
Tel: +27 (0) 40 608 - 3407 • Fax: +27 (0) 40 608 - 3408

**East London Campus:** Private Bag X9083, EL 5200, 50 Church Street, East London, 5201, RSA  
Tel: +27 (0) 43 704 - 7000 • Fax: +27 (0) 43 704 - 7095  
V/C Dial Up: +27 (0) 43 704 - 7143/ 7144

[www.ufh.ac.za](http://www.ufh.ac.za)



# APPENDIX G: LETTER OF APPROVAL – UNIVERSITY OF VENDA

Research and Innovation  
Office of the Director

12 April 2018

Mr ML Mavhungu

University of South Africa

Faculty of Management Sciences

Dear Mr. Mavhungu

**Permission to conduct Research at the University of Venda**

You are hereby granted permission to conduct research at the University of Venda.

The Research will be based on your Doctoral Project titled: ***The relationship between gender and barriers to business start-up among prospective farmers in South Africa.***

The conditions are that all the data pertaining to University of Venda will be treated in accordance with the Ethical Principles and that will be shared with the University. In addition consent should be sought by you as a researcher from participants.

Attached is our policy on ethics.

Thank you



Senior Prof. G.E. Ekosse

Director Research and Innovation

Cc: Senior Prof LB Khoza (Acting DVC Academic)

UNIVERSITY OF VENDA DIRECTOR RESEARCH AND INNOVATION 2018 -04- 12
Private Bag X5050 Thohoyandou 0950



UNIVERSITY OF VENDA  
PRIVATE BAG X5050, THOHOYANDOU, 0950. LIMPOPO PROVINCE. SOUTH AFRICA  
TELEPHONE 015 962 8313 / 8504. FAX 015 962 9060  
Email: [research@univen.ac.za](mailto:research@univen.ac.za)

***"A quality driven, financially sustainable, rural-based comprehensive University"***

# APPENDIX H: LETTER OF APPROVAL – UNIVERSITY OF MPUMALANGA



UNIVERSITY OF  
MPUMALANGA

Creating opportunities

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Cnr R40 White River Road & D725, 013 002 0001, [www.ump.ac.za](http://www.ump.ac.za)

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07 May 2018

## LETTER OF CLEARANCE FROM UNIVERSITY OF MPUMALANGA RESEARCH DIRECTORATE

This letter is to confirm that the PhD student Mbulaheni Mavhungu, studying at University of South Africa, is granted permission to conduct a research titled:

The Relationship between Gender and Barriers to Business Start-up among Prospective farmers in South Africa.

I hereby confirm that I am aware the study involves:-

- Voluntary participation of students (School of Agriculture) in a structured questionnaire.
- A report of the study may be submitted for publication.
- This study has received written approval from the Research Ethics Review Committee of the *Department of Entrepreneurship, Supply Chain, Transport, Tourism & Logistics Management (DESTTL) Colloquium Committee*, UNISA.

Mr Mavhungu is granted permission to carry out this study under the following conditions.

1. Sensitive information be shared with UMP Management.
2. A copy of the Thesis be shared with UMP Library.
3. Ethical principles be upheld.

Yours faithfully

A handwritten signature in black ink, appearing to read 'Phindile'.

Professor Phindile Lukhele-Olorunju  
Director Research Management  
Email: [P.Lukheleolorunju@ump.ac.za](mailto:P.Lukheleolorunju@ump.ac.za)  
Tel: 013 002 0230



## TEMPLATE PERMISSION LETTER

### Request for permission to conduct research at University of Mpumalanga

"The Relationship between Gender and Barriers to Business Start-up among Prospective Farmers in South Africa"

28 February 2018

Mbulaheni Mavhungu  
University of Mpumalanga, Mbombela Campus  
Building 4, Room 217  
Faculty of Business  
013 002 0229, [mbulaheni.mavhungu@ump.ac.za](mailto:mbulaheni.mavhungu@ump.ac.za)

Dear Prof Lukhele-Olorunju,

My name is, Mbulaheni Mavhungu. I am doing research as part of my PhD studies at UNISA with Professor Dhliwayo, in the Department of Business Management at the University of Johannesburg. We are inviting you to participate in a study entitled: The Relationship between Gender and Barriers to Business Start-up among Prospective Farmers in South Africa.

The aim of the study is to investigate the relationship between gender and barriers to business start-up among prospective farmers in South Africa.

Your institution has been selected because the research population comprise of a group of third year students who are enrolled solely for agriculture at all the universities and agricultural colleges in South Africa. The benefits of this study are to inform policy makers the value that gender balance in farming may add in building an efficient and internationally competitive agricultural sector and how they can support the emergence of a more diverse structure of production with a large increase in the numbers of successful farming enterprises.

Feedback procedure will entail returning of completed questionnaires.

Yours sincerely



Mbulaheni Mavhungu

Lecturer: Faculty of Commerce



University of South Africa  
Preller Street, Muckleneuk Ridge, City of Tshwane  
PO Box 392 UNISA 0003 South Africa  
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150  
[www.unisa.ac.za](http://www.unisa.ac.za)

**CONSENT TO PARTICIPATE IN THIS STUDY**

I, \_\_\_\_\_ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

Participant Name & Surname..... (Please print)

Participant Signature.....Date.....

Researcher's Name & Surname MBULAHENI MAVHUNGU



Researcher's signature Date: 28 February 2018



University of South Africa  
Preller Street, Muckleneuk Ridge, City of Tshwane  
PO Box 392 UNISA 0003 South Africa  
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150  
[www.unisa.ac.za](http://www.unisa.ac.za)

28 February 2018

Title: The Relationship between Gender and Barriers to Business Start-up among Prospective farmers in South Africa

**Dear Participant**

My name is Mbulaheni Mavhungu. I am doing research study entitled: The Relationship between Gender and Barriers to Business Start-up among Prospective farmers in South Africa as part of my Doctorate studies.

Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. You are free to withdraw at any time and without giving a reason but it is important to note it will not be possible to withdraw once you have submitted the questionnaire.

The benefits of this study are to inform policy makers the value that gender balance in farming may add in building an efficient and internationally competitive agricultural sector and how they can support the emergence of a more diverse structure of production with a large increase in the numbers of successful farming enterprises. Your name will not be recorded anywhere and no one will be able to connect you to the answers you give. A report of the study may be submitted for publication, but individual participants will not be identifiable in such a report.

Hard copies of the questionnaires will be stored in a safe place by the researcher for a period of five years in a locked cupboard at University of Mpumalanga, Mbombela Campus for future research or academic purposes only; electronic information will be stored on a password protected computer. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable.

This study has received written approval from the Research Ethics Review Committee of the *Department of Entrepreneurship, Supply Chain, Transport, Tourism & Logistics Management*



(DESTTL) Colloquium Committee, Unisa. A copy of the approval letter can be obtained from the researcher if you so wish.

If you would like to be informed of the final research findings, please contact Mbulaheni Mavhungu on 084 806 1134 or 013 002 0229 or [mbulaheni.mavhungu@ump.ac.za](mailto:mbulaheni.mavhungu@ump.ac.za). The findings are accessible for two years.

Should you have concerns about the way in which the research has been conducted, you may contact Professor Dhliwayo on 011 559 1689 or 083 733 7675 or [sdhliwayo@uj.ac.za](mailto:sdhliwayo@uj.ac.za). Alternatively, contact the research ethics chairperson of the DESTTL Research Ethics Review Committee Department of Entrepreneurship, Supply Chain, Transport, Tourism and Logistics Management, Mrs. C Poole on 012 433 4668 or [loedoc@unisa.ac.za](mailto:loedoc@unisa.ac.za).

Thank you for taking time to read this information sheet and for participating in this study.

Thank you.

<insert signature>

<type your name>



University of South Africa  
Preller Street, Muckleneuk Ridge, City of Tshwane  
PO Box 392 UNISA 0003 South Africa  
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150  
[www.unisa.ac.za](http://www.unisa.ac.za)

# APPENDIX I: PROSPECTIVE FARMERS PROFILE QUESTIONNAIRE

## Instructions

- Please answer all the questions
- Mark the answer that describes you best with an X

## SECTION A: DEMOGRAPHICS

Kindly place an X in the appropriate box below:

### A1. What is your gender?

Male	1
Female	2

### A2. What is your field of study?

Animal farming/production	1
Field Crop	2
Horticulture	3
Mixed farming	4

### A3. Were you raised in an urban, rural or semi-rural area?

A3.1 Urban referring to town or city,

A3.2 Rural referring to countryside rather than town or city for example village

A3.3 Semi-rural area being an area between urban and rural, or partly urban for example township

Urban	1
Rural	2
Semi-rural	3

### A4. Do any of your family members own a business?

Yes	1
No	2

## SECTION B

This section aims to test the perceptions of prospective farmers in starting a business and is linked to the objectives of determining the entrepreneurial orientation of prospective farmers and determining internal barriers to business start-up.

Kindly indicate to what extent you agree or disagree with each of the following statements. You may indicate your answer by placing a cross (X) over your selected response, using the scale:

**(1) = Strongly disagree; (2) = Disagree; (3) = Somewhat disagree; (4) = Neither agree or disagree; (5) = Somewhat agree; (6) = Agree; (7) = Strongly agree**

The statements below relate to what you think about yourself and starting a business	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree or disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
<b>B1. RISK-AVERSION</b>							
<b>B1.1</b> I do not value new plans even if I believe that they will work.	1	2	3	4	5	6	7
<b>B1.2</b> I do not encourage people to take risks.	1	2	3	4	5	6	7
<b>B1.3</b> I am scared of possible financial losses associated with starting a farming business.	1	2	3	4	5	6	7
<b>B1.4</b> The possibility of not receiving a regular income bothers me.	1	2	3	4	5	6	7
<b>B1.5</b> I think that business start-ups are uncertain and risky.	1	2	3	4	5	6	7
<b>B2. INNOVATION</b>							
<b>B2.1</b> I do not consider myself an innovative person.	1	2	3	4	5	6	7
<b>B2.2</b> When it comes to problem solving, I rely on conventional wisdom.	1	2	3	4	5	6	7
<b>B2.3</b> I place little value on developing new business ideas.	1	2	3	4	5	6	7
<b>B2.4</b> I am not comfortable marketing new products and services.	1	2	3	4	5	6	7
<b>B2.5</b> I do not think I will be a market leader in innovation in the future.	1	2	3	4	5	6	7
<b>B2.6</b> When attempting to do something new I prefer to do	1	2	3	4	5	6	7

it in the same way as everyone else.							
<b>The statements below relate to what you think about yourself and starting a business</b>	<b>Strongly disagree</b> (1)	<b>Disagree</b> (2)	<b>Somewhat disagree</b> (3)	<b>Neither agree or disagree</b> (4)	<b>Somewhat agree</b> (5)	<b>Agree</b> (6)	<b>Strongly agree</b> (7)
<b>B3. PROACTIVENESS</b>							
<b>B3.1</b> I rarely search for new business opportunities.	1	2	3	4	5	6	7
<b>B3.2</b> I am not willing to invest time in identifying new farming-related business opportunities or markets to target now or when I complete my studies.	1	2	3	4	5	6	7
<b>B3.3</b> It is unnecessary to continuously monitor any unarticulated or evolving needs when it comes to consumers.	1	2	3	4	5	6	7
<b>B3.4</b> It is not important to proactively anticipate customer needs when considering products and services.	1	2	3	4	5	6	7
<b>B3.5</b> I do not plan ahead when it comes to projects.	1	2	3	4	5	6	7
<b>B3.6</b> I prefer not to plan projects in a short space of time.	1	2	3	4	5	6	7
<b>B3.7</b> When working on projects, I prefer to wait for someone else to take the lead.	1	2	3	4	5	6	7
<b>B4. MOTIVATION</b>							
<b>B4.1</b> I enjoy having freedom to choose my own activities.	1	2	3	4	5	6	7
<b>B4.2</b> I value my independence regarding business operations.	1	2	3	4	5	6	7
<b>B4.3</b> I appreciate being my own boss.	1	2	3	4	5	6	7
<b>B4.4</b> I prefer being a follower to being a leader.	1	2	3	4	5	6	7
<b>B4.5</b> I enjoy having authority.	1	2	3	4	5	6	7
<b>B4.6</b> Having the power to make my own decisions is important to me.	1	2	3	4	5	6	7

<b>B4.7</b> I value realisation of my personal ambitions.	1	2	3	4	5	6	7
---	---	---	---	---	---	---	---

The statements below relate to what you think about yourself and starting a business	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree or disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
<b>B5. COMPETITIVE AGGRESSIVENESS</b>							
<b>B5.1</b> I do not enjoy competing when pursuing my goals.	1	2	3	4	5	6	7
<b>B5.2</b> I lack the ability to help people respond to challenges that already exist in their lives.	1	2	3	4	5	6	7
<b>B5.3</b> <u>Aggressiveness is not an important element in how I plan to achieve my goals.</u>	1	2	3	4	5	6	7
<b>B5.4</b> An individual's attitude towards entrepreneurship bears no direct relation to their level of aggression.	1	2	3	4	5	6	7
<b>B5.5</b> I consider competitiveness to be of little importance when it comes to personal development and growth.	1	2	3	4	5	6	7
<b>B5.6</b> I believe that competing aggressively is not a characteristic of successful individuals.	1	2	3	4	5	6	7



## SECTION C

This section aims to test individual intentions of prospective farmers on business start-up and is linked to the objective of determining the individual intention of prospective farmers in business start-up.

Kindly indicate to what extent you agree or disagree with each of the following statements. You may indicate your answer by placing a cross (X) over your selected response, using the scale:

**(1) = Strongly disagree; (2) = Disagree; (3) = Somewhat disagree; (4) = Neither agree or disagree; (5) = Somewhat agree; (6) = Agree; (7) = Strongly agree**

The statements below relate to what you think about your individual intention towards business start-up	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree or disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
<b>C1. PERSONAL ATTITUDE</b>							
<b>C1.1</b> A career as an entrepreneur is attractive to me.	1	2	3	4	5	6	7
<b>C1.2</b> Being an entrepreneur would give me great satisfaction.	1	2	3	4	5	6	7
<b>C1.3</b> If I had the opportunity and resources, I would love to start my own business.	1	2	3	4	5	6	7
<b>C1.4</b> Being an entrepreneur brings with it more advantages than disadvantages, in my opinion.	1	2	3	4	5	6	7
<b>C2. SUBJECTIVE NORM</b>							
<b>C2.1</b> My family plays a crucial role in my life.	1	2	3	4	5	6	7
<b>C2.2</b> I think it is important to meet colleagues in official settings to exchange information.	1	2	3	4	5	6	7
<b>C2.3</b> My friends will approve of a decision on my part to start a business.	1	2	3	4	5	6	7
<b>C2.4</b> I can identify with the goals of the farming industry.	1	2	3	4	5	6	7
<b>C2.5</b> I am inspired by role models in the industry to start a business.	1	2	3	4	5	6	7
<b>C2.6</b> My community will support any entrepreneurial activities I engage in.	1	2	3	4	5	6	7

The statements below relate to what you think about your individual intention towards business start-up	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree or disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
<b>C3. PERCEIVED BEHAVIOURAL CONTROL</b>							
<b>C3.1</b> I feel confident that I would be able to control the process involved in starting a business.	1	2	3	4	5	6	7
<b>C3.2</b> I think It will be easy to start a farming business and keep it viable.	1	2	3	4	5	6	7
<b>C3.3</b> I do not become anxious when I imagine starting a business on my own.	1	2	3	4	5	6	7
<b>C3.4</b> If I tried to start a business, I think it is likely that I would be successful.	1	2	3	4	5	6	7
<b>C3.5</b> I think it would be easy for me to come up with an idea for a business.	1	2	3	4	5	6	7
<b>C3.6</b> I am familiar with all the practical aspects of starting a business.	1	2	3	4	5	6	7
<b>C4. CREATIVITY</b>							
<b>C4.1</b> I am determined to deal with the challenges of life.	1	2	3	4	5	6	7
<b>C4.2</b> I consider myself a creative person.	1	2	3	4	5	6	7
<b>C4.3</b> I enjoy performing challenging tasks and setting high goals.	1	2	3	4	5	6	7
<b>C4.4</b> I have the ability to discover original and novel ideas that lead to feasible courses of action.	1	2	3	4	5	6	7
<b>C4.5</b> Building a shared vision is important for the success of a business.	1	2	3	4	5	6	7
<b>C4.6</b> I make use of and encourage the process of approaching complex and persistent problems more effectively.	1	2	3	4	5	6	7

The statements below relate to what you think about your individual intention towards business start-up	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree or disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
<b>C5. LOCUS OF CONTROL</b>							
<b>C5.1</b> Outside forces are responsible for what happens to me and my environment.	1	2	3	4	5	6	7
<b>C5.2</b> I believe that I am responsible for my own fate.	1	2	3	4	5	6	7
<b>C5.3</b> I control my own destiny.	1	2	3	4	5	6	7
<b>C5.4</b> I make decisions regardless of what people say.	1	2	3	4	5	6	7
<b>C5.5</b> I believe that success depends on competence and hard work.	1	2	3	4	5	6	7
<b>C5.6</b> I am certain that plans that I make always work.	1	2	3	4	5	6	7

## SECTION D

This section aims to test the perception of prospective farmers of external barriers to business start-up and is linked to the objective to identify external barriers facing prospective farmers

Kindly indicate to what extent you agree or disagree with each of the following statements. You may indicate your answer by placing a cross (X) over your selected response, using the scale:

**(1) = Strongly disagree; (2) = Disagree; (3) = Somewhat disagree; (4) = Neither agree or disagree; (5) = Somewhat agree; (6) = Agree; (7) = Strongly agree**

These statements relate to how some factors (in the statements) affect your intention to start a business	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree or disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
<b>D1. HUMAN CAPITAL AND SKILLS</b>							
<b>D1.1</b> I think a lack of business skills is a barrier to a new business start-up.	1	2	3	4	5	6	7
<b>D1.2</b> I am convinced that I do not have a clear idea about the kind of a farming business I want to start.	1	2	3	4	5	6	7
<b>D1.3</b> I am not able to write a business plan for a new business start-up.	1	2	3	4	5	6	7
<b>D1.4</b> My not having knowledge of the farming sector and related markets will be a barrier to a new business start-up.	1	2	3	4	5	6	7
<b>D1.5</b> I am not able to identify openings or opportunities in the market and this will be a barrier to a new business start-up.	1	2	3	4	5	6	7
<b>D2. ACCESS TO RESOURCES</b>							
<b>D2.1</b> I do not have enough capital to start a farming business.	1	2	3	4	5	6	7
<b>D2.2</b> I think that it will be difficult to obtain a loan from any bank for me to start a farming business.	1	2	3	4	5	6	7
<b>D2.3</b> A strict credit check may prevent me from securing capital to start a farming business.	1	2	3	4	5	6	7
<b>D2.4</b> Without sufficient assets to provide a financial guarantee (collateral) for loans it will be difficult to start a farming business.	1	2	3	4	5	6	7

These statements relate to how some factors (in the statements) affect your intention to start a business	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree or disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
<b>D3. SOCIOCULTURAL FORCES</b>							
<b>D3.1</b> Family and friends do not approve of me starting a farming business.	1	2	3	4	5	6	7
<b>D3.2</b> My culture discourages starting a farming business.	1	2	3	4	5	6	7
<b>D3.3</b> It would be difficult to start a farming business because the people close to me do not encourage entrepreneurship.	1	2	3	4	5	6	7
<b>D3.4</b> The unavailability of legal assistance and business advice discourages me from starting a business.	1	2	3	4	5	6	7
<b>D4. SOCIAL NETWORKING</b>							
<b>D4.1</b> Due to lack of direct contact with successful entrepreneurs I would be hesitant to start a business.	1	2	3	4	5	6	7
<b>D4.2</b> Due to lack of social networking it would be difficult for me to acquire any new skills.	1	2	3	4	5	6	7
<b>D4.3</b> A lack of social networking will make it impossible for me to get relevant information on the business start-up process.	1	2	3	4	5	6	7
<b>D4.4</b> It would be extremely difficult to get entrepreneurial advice from entrepreneurs without social networks.	1	2	3	4	5	6	7
<b>D4.5</b> Without financial support from other entrepreneurs in my social network, I would not consider starting a business.	1	2	3	4	5	6	7

These statements relate to how some factors (in the statements) affect your intention to start a business	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree or disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
<b>D5. POLITICAL SKILLS</b>							
<b>D5.1</b> I lack the ability to effectively influence others and gain their support for my business decisions.	1	2	3	4	5	6	7
<b>D5.2</b> My lack of negotiating skills would seriously hamper my ability to generate resources.	1	2	3	4	5	6	7
<b>D5.3</b> My lack of skills to manage the uncertainty of others would be a barrier for me to run a business.	1	2	3	4	5	6	7
<b>D5.4</b> Having minimal knowledge and expertise in creating new farming business would be a barrier to me starting one.	1	2	3	4	5	6	7
<b>D5.5</b> My lack of confidence will hamper my control of others in starting and running a successful business operation.	1	2	3	4	5	6	7
<b>D6. ACCESS TO LAND</b>							
<b>D6.1</b> I am not familiar with the process of acquiring land for business start-up.	1	2	3	4	5	6	7
<b>D6.2</b> I think it will be difficult for me to access land for farming.	1	2	3	4	5	6	7
<b>D6.3</b> It will be very difficult for me to establish a farming business if there is no land available for farming.	1	2	3	4	5	6	7
<b>D6.4</b> I don't think South Africa has enough land allocated for new business start-ups in farming.	1	2	3	4	5	6	7
<b>D6.5</b> I think the Land Act of South Africa may prohibit my access to land for farming business start-up.	1	2	3	4	5	6	7
<b>D6.6</b> The amendment of the Expropriation Bill may disadvantage my chances of accessing land for business start-up.	1	2	3	4	5	6	7

Thank you for your time

## APPENDIX J: LETTER FROM GRAMMARIAN

22 Krag Street  
Napier  
7270  
Overberg  
Western Cape

26 September 2019

University of South Africa (UNISA)  
PO Box 392  
Unisa  
0003

### LANGUAGE & TECHNICAL EDITING

Cheryl M. Thomson

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#### PERCEIVED GENDER-BASED BARRIERS TO BUSINESS START-UP AMONGST PROSPECTIVE FARMERS IN SOUTH AFRICA

Supervisor: Prof S Dhlwayo

This is to confirm that I, Cheryl Thomson, executed the language and technical editing of the above-titled Doctoral thesis of **MBULAHENI MAVHUNGU**, student number **38465566**, at the **UNIVERSITY OF SOUTH AFRICA (UNISA)**, in preparation for submission of this thesis for assessment.

Yours faithfully



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