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The role of enabling environment in the promotion of entrepreneurship intent of youth in Technical Vocational Education and Training colleges

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A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management in Entrepreneurship and New Venture Creation

Johannesburg, 2020

ABSTRACT

The South African government is aiming at using entrepreneurship to address the challenges of chronic youth unemployment and underemployment facing the country. Technical Vocational Education and Training (TVET) colleges are targeted at remedying this youth unemployment pandemic by imparting skills development training and entrepreneurial education to students as a means of promoting entrepreneurship. Literature reports that skills development and entrepreneurial education can play an important role in driving students' desires towards entrepreneurship; however, a favourable environment created through policy is required.

The study, therefore, investigated the extent to which the South African environment, focusing on the National Youth Policy and entrepreneurship policies, enables the promotion of entrepreneurial intent among youth at TVET colleges. An enabling environment created for students through the TVET colleges, the ease of embarking upon entrepreneurship in the country, and support structures set up by government to support youth entrepreneurial initiatives were assessed. The skills development and entrepreneurial education imparted by TVET colleges to influence the students' entrepreneurial intent were included in the study.

Multiple regression was employed for data analysis. Primary data were collected from final-year students, and those students who had completed two or more skills development and entrepreneurship-related modules, in TVET colleges in Gauteng, South Africa. A self-administered seven-point Likert scale questionnaire was distributed, and a sample size of 216 was collected of which 206 were valid for analysis. Findings exhibited that an enabling environment, skills development, and entrepreneurial education positively influenced the entrepreneurial intent of students in TVET colleges, though this effect was minimal.

The study therefore recommended that entrepreneurial education and skills development policies should seek to provide an encouraging entrepreneurial

environment in order for entrepreneurship to be an attractive option for students and must ensure alignment of the TVET system to the South African developmental state.

DECLARATION

I, Hlengiwe Nombuso Kunene, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management in Entrepreneurship and New Venture Creation at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other university.

Signed at ……Gauteng…….

On the …21……..day of ……September…….2020

DEDICATION

Through this report, I give all my praise to God Almighty, from where my help cometh. I would not have come this far if not for Him.

To my husband, my love, thank you for your endless support and patience. You were there for me throughout the journey. To my son, who at times slept late because he did not want mommy to sit alone at night, thank you, mommy loves you.

To my parents, thank you for believing in me and teaching me that the sky is not the limit, but my own imagination and hunger for excellence is.

To my brother and sister (my co-owls), we were all in this book race. Thank you for your continuous support and the night calls checking if we are all up and studying.

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Various individuals tried to assist me with the process of receiving approval to conduct my research at the TVET colleges; your efforts and support are appreciated. My humble gratitude is extended to the Ekurhuleni East College for granting me permission to conduct my research at their college. Your assistance and the professionalism of your staff members humbled me.

To my employer, I am grateful for your financial contributions and affording me time off (study leave) to attend classes. Prof Letseka, Prof Phaswana, and Dr Netshitomboni, thank you for your continued support. You believed in me and continuously encouraged me to excel in all I do.

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CHAPTER 1: INTRODUCTION

1.1 Purpose of the study

The purpose of this study was to investigate the extent to which the South African environment, focusing on the National Youth Policy (NYP) (RSA, 2015) and entrepreneurship policies, enables the promotion of entrepreneurial intent among youth at TVET colleges. TVET colleges are crucial in addressing the skills shortages affecting the country (National Treasury, 2016; RSA, 2016) and can play a significant role in imparting entrepreneurial education to students (Bukula, 2015).

Although several government policies address skills development, the focus of this study was on the NYP and entrepreneurial policies. The NYP, together with its strategic document, the African Youth Charter, share an objective of holistically empowering young people by prioritising, among other things, "education, skills and competence development" (RSA, 2015:7). Government has also set up several institutions like the National Youth Development Agency (NYDA) to create an enabling environment.

This study therefore looked at the importance of setting up a TVET system that responds to the developmental state of the country, and creating supportive institutions that would create an enabling environment for the youth to move towards self-employment. This would enable the government to use TVET colleges effectively as a vehicle for responding to the country's socio-economic challenges of chronic youth unemployment and underemployment (Beukes, Fransman, Murozvi, & Yu, 2017; ILO, 2010: Stats SA, 2019a, and facilitate skills development, thus leading to the eradication of poverty.

1.2 Context of the study

The South African schooling system is dysfunctional (Bergman, 2013; Mlatsheni and Leibbrandt, 2011; Pretorius, 2014; Wilkinson, 2015), and the country is faced

with chronic unemployment rates, which had reached highs of 29,1 per cent in the third quarter of 2019, and underemployment (Stats SA, 2019b). The high unemployment and underemployment rates are contributory factors to the poverty and inequality that face the country's people (Beukes et al., 2017; Venter, Urban & Rwigema, 2008), with the current youth unemployment rate being 63.4 per cent in the first quarter of 2019 (Stats SA, 2019a).

The graduates produced through the dysfunctional South African school system are ill equipped for the world of work, with many rendered practically untrainable by the time they exit school (Herrington et al., 2017; Mlatsheni & Leibbrandt, 2011). The problem is not only a result of low levels of school completion, resulting from young people dropping out of education and training avenues, skills mismatch is also an issue which disadvantages those attempting to start business ventures. This is due to a deficiency in managerial, technical, and marketing skills, including experience (Graham, Williams & Chisoro, 2019; Herrington et al., 2017; Ngcwangu, 2015).

Akoojee (2010:261) asserted "the importance of skills development as contestably vital to debates regarding the efficacy of a developmental state." Furthermore, in the light of historical skills shortages in South Africa, implementation of skills development programmes can either advance or retard development efforts (Akoojee, 2010). Skills shortages negatively affect small businesses, leading to constraints regarding employment and growth (Botha & Rasool, 2011; DTI, 2008; Mlatsheni & Leibbrandt, 2011). Human capital has been identified by several sources of academic literature as a source of economic growth (Barreira, 2016; Lucas, 1998), with the prioritisation of education being regarded as the basis of economic growth (Tan, 2014).

The South African government perceives TVET colleges as an essential vehicle to address skills shortages in the country (National Treasury, 2016; RSA, 2017) thus, technical and vocational education become progressively vital policy issues (Allais, 2012). Inadequate partnerships with businesses and industries are a hindrance to the ability of vocational training to respond to the skills required by employers (Terblanche & Bitzer, 2018). Herrington et al. (2017), and Rasool and Mahembe (2014) extolled the virtues of expanding interventions that deal with key skills gaps

such as apprenticeships, technical and vocational education facilities, and note Germany as one of the countries that was able to lower its youth unemployment through vocational training schemes tied to enterprises.

As stipulated in the NYP, the NYDA has a responsibility, as a support institution, to create an environment that will enable the development of the youth by overseeing and monitoring youth entrepreneurship programmes. In addition, it would provide grants for young entrepreneurs, services for business development, possible support for youth cooperatives, and introduce entrepreneurial training for the youth at schools (RSA, 2015). Skosana (2012) posited that the creation of an enabling environment through government policies and support institutions, relevant skills and small business practices could facilitate a business environment that is supportive of entrepreneurial activity.

Rasool and Mahembe (2014) stipulated that skills development and relevant partnerships for apprenticeship can be realised through the theoretical grounding of the South Africa TVET policy, which shifts from the human capital approach, and expands to comprise the human capital, human capability, and sustainable development approaches. The White Paper for Post-School Education and Training (RSA, 2013) placed emphasis on the importance of developing TVET students and enabling them to maintain a close working relationship with employers in their areas of study. Akoojee (2010) expressed the view that the success of a developmental state is related to its success in skills development.

1.3 Background to the study

The South African Technical Vocational Education and Training TVET sector was established in 2002 under the Further Education and Training Act (RSA, 1998), and it experienced a steady paradigm shift after the advent of democracy in 1994. The White Paper for Post School Education and Training (RSA, 2013) elucidates government expectations for the TVET sector as the basis of the country's skills development system (DHET, 2012). The policies governing the TVET sector have often been dominated by economic and equity perspectives because of their

historic connection to the process of industrialisation and economic development (Rasool & Mahembe, 2014; UNESCO, 2012).

Post 1994, the South African Government set out key policies for TVET colleges. The common factor was the concept of a developmental state, namely:

- Reconstruction and Development Plan in 1994;
- Growth, Employment and Redistribution in 1996;
- National Development Plan in 2012;
- New Growth Path in 2011;
- Industrial Policy Action Plan 2 in 2011;
- Human Resource Development Strategy for South Africa 2010-2030 in 2009;
- Skills Accord in 2010; and
- National Skills Development Strategy III in 2010 (Rasool & Mahembe, 2014:8).

Raposo and Do Paço (2011) posited that the government could influence the rate of entrepreneurship not only through legislation, but also through the educational systems. As expounded by several scholars, education is a type of human capital investment, which yields compensation in returns, especially in countries like South Africa with low average income, where education becomes the greatest return (Barreira, 2016; McMahon, 2004; Psacharopoulos, 1994; Psacharopoulos & Patrons 2004). Vazquez, Lanero, Gutierrez and Garcia (2011) reported that several authors agree on the espousal of an eclectic concept of entrepreneurship education, because of an amalgamation of codified teaching and institutional support. Thus, it is commonly accepted in literature that entrepreneurship knowledge and skills can be imparted and advanced in a fitting environment (Packham, Jones, Miller, Pickernell & Thomas, 2010; Sondari, 2014).

Therefore, imparting of entrepreneurial education and skills development in TVET colleges can be used to promote entrepreneurial intention.

1.4 Theoretical foundation

During apartheid, a systematic exclusion and subjugation was enforced on South Africans, which resulted in a two-tiered labour force with austere inequality in skills, which saw white workers occupying supervisory and management positions while low-skilled work was performed by black workers (Van Zyl, 2018). A bequest of a prejudiced racial system subjected the South African FET college system (Akoojee, 2008). Post-apartheid, the South African government endeavoured to move the skills system away from the apartheid origins of low skills towards a free market regulation framework with a restored apprenticeship system and a new institutional environment (Allais, 2012; Kraak, 2004; Van Zyl, 2018). There has been support from international organisations and international agencies on education with the focus on human development and rights-based approaches as alternatives to the human capital precept (Zancajo & Valiente, 2019).

Intellectual, social, and emotional capital are three interrelated fundamentals of human capital (Barreira, 2016). Although they are all imperative in ensuring an entrepreneur gains a competitive advantage, the focus of this study was on intellectual capital, which consists of knowledge, skills, and expertise. The study concentrated on human capital theory, focusing on an enabling environment for the entrepreneurship framework, thus the promotion of entrepreneurial intent. Entrepreneurial intent was underpinned by the entrepreneurship intent theory. According to Schultz (1961) and Becker (1964), individuals are rewarded by the market in accordance with their investment in skills, thus increasing their output, resulting in lucrative jobs (Zancajo & Valiente, 2019); however, unemployment challenges and poverty in developing countries are characteristically ascribed to the supposed lack of workforce skills (Almeida, Behrman & Robalino, 2012; Zancajo & Valiente, 2019).

Various scholars have ascertained that a positive correlation exists between education and new venture creation (Charney & Libecap, 2000; Isaacs, Visser, Friedrich & Brijlal, 2007; Lüthje & Franke, 2003; Robinson & Sexton, 1994).

Therefore, human capital is critical in addressing the discovery and creation of entrepreneurial opportunity (Marvel, 2013; Marvel, Davis, & Sproul, 2016). Human capital assists in the acquisition of financial resources and launching ventures by exploiting opportunities (Bruns, Holland, Sheperd, & Wilkund, 2008; Marvel et al., 2016), and aids new knowledge accumulation, thus creating returns for new firms (Bradley, McMullen, Artz, & Simiyu, 2012; Marvel et al., 2016). According to Tan (2014), human capital theory is a means of scrutinising a compendious method, which allows for a vast range of human concerns, taking into consideration a particular mentality and consequently proposing policies. While human capital theory makes use of a similar construct, which indicates that an investment in education leads to an expectancy of higher earnings as a benefit (Eide and Showalter, 2010; Lauder, 2015; Mincer, 1965), education is positioned at the centre and regarded as the root of economic growth (Tan, 2014).

Skills development is one of the ways of enhancing entrepreneurial activity, since education, work experience, and apprenticeship form the basis for sustainable growth (Botha, Nieman & Van Vuuren, 2006; Peters & Brijlal, 2011) and individuals with a higher human capital should be in a better position to perceive existing profitable opportunities for economic activity (Peters & Brijlal, 2011).

According to scholars, entrepreneurship education continues to be the weakest indicator at school level in all economies (Wadee & Padayachee, 2017), with “average values below four out of nine across all development phases” (Singer, Herrington & Menipaz, 2018:17). FET colleges offer mostly business management courses, while to some extent there has been neglect of entrepreneurial education (Davies, 2001; Smith, 2011; Skosana & Urban, 2014). Scholars have argued that confusion exists amid training set for upskilling small businesses and entrepreneurial studies (Zeithaml & Rice, 2005; Isaacs et al., 2007) as entrepreneurial education directs towards new venture creation with focus on success and evolution. A trivial business management course is about

management and survival of an existing business (Isaacs et al., 2007; Ladzani & Van Vuuren). This has been the case for training institutions as they focus mostly on one practical area, with little offering pertaining to entrepreneurship (Isaacs et al., 2007; Ladzani & Van Vuuren, 2002).

McIntyre and Roche (1999) defined entrepreneurship education as the process of providing individuals with the concepts and skills to identify opportunities that have been unheeded by others, and to have the intuition and confidence to act where others have wavered. Entrepreneurship education plays a vital role in the promotion of positive entrepreneurial attitudes that encourage actual entrepreneurial activity and solidify entrepreneurial aspirations (Bukula, 2015). Developing human capital can advance competitiveness and innovation in a country, thus leading to economic growth (Co & Mitchell, 2006; DED, 2011). To incite recognition of increased levels of economic activity, governments employ entrepreneurial education, so that through entrepreneurship, economic development can be realised (O'Connor, 2013). The majority of policymakers contemplate the possibility of entrepreneurship education and training as an effective mechanism for intensifying entrepreneurial activity (Martinez, Levie, Kelly, Saemundsson & Schott, 2010).

If technical and business skills are low, it can result in the prevention of motivated entrepreneurs from starting businesses (Davidsson, 1991; Toutain, Fayolle, Pittaway & Politis, 2017; Vesper 1990). However, according to Abimbola and Agboola (2011), various environmental factors – including infrastructure, cultural, economic, social, and political environments – could impede or facilitate entrepreneurial activities in society.

1.5 Problem statement

The South African school system is dysfunctional (Bergman, 2013; Mlatsheni & Leibbrandt, 2011; Pretorius, 2014; Wilkinson, 2015). Despite several policies (National Skills Development Strategy III, 2010; Skills Accord, 2010; National Youth Policy, 2015–2020; New Growth Path, 2012; Entrepreneurship policies), formulated to promote skills development and entrepreneurship education through TVET

colleges and support SMMEs, unemployment and underemployment persist (Bernstein, 2008; Herrington et al., 2017; Livingstone, 2018). The problem of unemployment has negatively affected the South African youth because of a rise in unemployment rates and a decrease in entrepreneurial intent (Herrington et al., 2017). Government has drafted several policies and support institutions geared towards responding to the chronic youth unemployment and underemployment rates facing the country. The South African FET colleges face the challenge of increasing the number of their graduates thus developing qualitative skills which are required and relevant to the industries' and country's needs. However, adequate support is required to ensure graduates produced by these FETs are suitable for employment as well as self-employment (entrepreneurial ventures) (DBSA, 2011; Skosana & Urban, 2014).

The White Paper for Post School Education and Training (RSA, 2013:xi) stipulates a number of key aspects.

> … improvement of management and governance, development of quality teaching and learning, increasing responsiveness to local labour markets, improvement of student support services and development of infrastructure as key objectives that will strengthen the TVET colleges.

However, as revealed, many TVET colleges are still considered dysfunctional (Buthelezi, 2016; RSA, 2013). A review of policy assertions by government revealed a disjuncture between the Green Paper on Post School Education (DHET, 2012:6), which asserts that TVET colleges should not be "all things to all possible learners", and other government policy documents, which would want the purpose of the TVET sector to be broadened (Rasool & Mahembe, 2014).

1.6 Research objectives

To determine the extent to which an enabling environment, created by government intervention through policies (NYP and entrepreneurial policies), enables or constrains entrepreneurial intent among the youth at TVET colleges. Government

intervention in this study included NYP and entrepreneurial policies, skills development, and entrepreneurial education, which was categorised in the following sub objectives.

1.6.1 Sub-objective 1

To determine the extent to which an enabling environment enables or constrains entrepreneurial intent among youth at TVET colleges.

1.6.2 Sub-objective 2

To assess the extent to which skills development training provided to final-year students, or those students who have completed two or more entrepreneurship-related studies at TVET colleges, corresponds with entrepreneurial intent.

1.6.3 Sub-objective 3

To assess the extent to which entrepreneurial education provided to final-year students, or those students who have completed two or more entrepreneurship-related studies at TVET colleges, corresponds with entrepreneurial intent.

1.7 Contribution of the study

Entrepreneurship development has become central to several government policies (Hannon, 2006). Martinez et al. (2010) noted how some policymakers ponder entrepreneurial education and training as an effective means of cumulative entrepreneurial activity. In developing countries, technical and vocational education and skills development are gradually becoming policy issues (Allais, 2012). Skosana (2012) posited that integrated teaching methods are critical for considering the South African environment in order to harness the high entrepreneurial intentions of students. The introduction of the new National Vocational Curriculum (NVC) for TVET colleges was perceived as relevant to the economy's needs due to a shortage of artisans in the country (Akoojee, 2008; Bird, 2010; Buthelezi, 2016 ; Fin24, 2011; McGrath and Akoojee, 2007), but this was faced with numerous challenges (Buthelezi, 2016). Allais (2012) suggested that the skills development

strategy for the TVET sector led to diminutive skills development because of inconsistent quality of provision as policymakers followed a model used in developed countries. While it is vital to align the TVET system with a South African developmental state, it is also crucial that government create an enabling environment for entrepreneurship to be attractive.

The aim of this study was to provide data for the Department of Education and policymakers on the importance of realigning the TVET model to the South African context as a developmental state in order to provide the necessary support required by TVET colleges. It is important for policymakers to be clear about the role of TVET colleges, and for government to create an enabling environment for the implementation of these policies. As posited by Liñán and Fayolle (2015), policymakers at various levels can find relevant material to reconsider and advance their public policies aimed at increasing entrepreneurial intentions among individuals, especially young people.

This study could assist in making a theoretical contribution by encompassing the entrepreneurial intention model as its framework (Liñán & Fayolle, 2015) with human capital theory, focusing on an enabling environment for the entrepreneurship framework. An increasing body of literature puts forth the important role entrepreneurial intentions play in the decision to start a new venture; however, little is known about the factors affecting entrepreneurial intentions, especially in developing countries (Nabi & Liñán, 2013). Schlaegel and Knoenig (2014:1) noted that various contending models of entrepreneurial intention exist and proposed that an integration of these models in order to reduce this problem thereby enhancing the "explanatory power, consistency and theoretical clarity". Hence this study adopted the environmental antecedent from the base model and used it with Ajzen's (1991) theory of planned behaviour (TPB) and Shapero's (1982) model of entrepreneurial event (SEE) (two competing theories of entrepreneurial intention) to assess the entrepreneurial intentions of youth in TVET colleges. As asserted by scholars that an individual's intention to start a venture can be encouraged or discouraged by the environmental context (Lüthje & Franke, 2003; Nabi & Liñán, 2013), hence the adoption of the environment antecedent from the base model. The

study contributes to entrepreneurship adding to the knowledge base of environmental attributes that have an impact on the relationship between starting-up a new venture and entrepreneurial intention of TVET students. It is therefore important to test the relationship between an individual's personal drive in terms of their acuity, attitude, and intentions with contributing factors such as environmental influences in terms of support structures. Shirokova, Osiyevskyy and Bogatyreva (2016) focused on both the individual and environmental attributes that contribute to the relationship between the entrepreneurial intention of students and new venture start-ups. The study also adds to the TPB (Ajzen, 1991) by showing the importance of factors such as the environment in driving intention towards action.

1.8 Delimitations of the study

This study focused on TVET students on two Ekurhuleni East TVET college campuses, whereas Ekurhuleni has five TVET campuses. Therefore, caution was applied in interpreting the findings and making generalisations.

This study focused on final-year students and those who had completed two or three modules in entrepreneurship.

The study made use of two elements/dimensions from the human capital construct, namely, skills development and entrepreneurial education, and excluded experience and knowledge elements.

The study focused on the NYP and entrepreneurial policies. It mentioned those associated with TVET colleges but did not investigate them further.

1.9 Conceptual definition of terms

The study adopted the following definitions:

- *Developmental state*: Defined as "one whose ideological underpinnings are developmental and one that seriously attempts to construct and deploy its

administrative and political resources to the task of economic development" (Mkandawire, 2001:3).

- *Democratic developmental state*: Refers to a state that "not only embodies the principles of electoral democracy, but also ensures citizens' participation in the development and governance processes" (Edigheji, 2005:16).

- *Entrepreneurship education*: The development of certain beliefs, values and attitudes in students in order to instil an entrepreneurial intent, so that rather than looking for employment or remaining unemployed, they consider entrepreneurship as an attractive and effective alternative (Holgren et al., 2004; Sánchez, 2010).

- *Skills development*: The building of a "skill or set of skills which can be held by an individual or a trait of a collective group of individuals and can be formally recognised in terms of formal qualifications, though there is also a high degree of informal skills which can be recognised through the recognition of prior learning (RPL)" (Reddy, Wildschut, Luescher, Petersen, Rust, 2018:i).

- *Technical Vocational Education and Training (TVET):* A learning system in which both "soft" and "hard" skills are developed within a "joined-up", integrated development and delivery framework that seeks to improve livelihoods, promote inclusion into the world of work and that supports community and individual agency (UNESCO, 2007:2).

- *Entrepreneurial intention*: The "self-acknowledged conviction by a person who has intentions of starting a new business venture and intentionally plans to do so at some point in the future" (Thompson, 2009:676).

- *Youth*: Individuals from ages 14 to 35 years are considered youth in South Africa (Stats SA, 2019b).

- *Government policies*: Government is an act or process of leading and a means of enforcing organisational policies and mechanisms for determining

policies. Policies are a statement of intent, applied as a practice or protocol, and therefore, government policies are regulations that guide decisions for a perceived outcome (Ayuba, Charas, & Paul, 2012).

- *Enabling environment*: “The creation and support to an entrepreneurial ecosystem which involves relations amid entrepreneurs and their ventures, universities, industrial partners (potential and actual) finance and government support for entrepreneurs” (Motha, 2015:8; Wright & Stigliani, 2013:7).

1.10 Assumptions

The assumptions that might have influenced the study are as follows:

- All TVET colleges in this study had the same understanding and curriculum on entrepreneurial education.
- The respondents had the capacity to understand all the questions in the questionnaire and enough time to interrogate each question and respond.
- The respondents understood that participation in the survey is voluntary and withdrawal is possible.

1.11 Summary of the chapter

This chapter laid a foundation for this study. The purpose of the study was to assess the extent to which an enabling environment created by government through policies and support structures enables or constrains the promotion of entrepreneurial intent among students in TVET colleges.

The theoretical foundation that underpinned this study was human capital, focusing on entrepreneurial education, skills development, entrepreneurial intent, and an enabling environment. The problem addressed was that of unemployment and underemployment facing the country, despite the numerous policies that have been drafted to address these issues. The TVET sector, which was established in 2002,

has experienced a steady paradigm shift since the advent of democracy and the government is aiming to use this sector as South Africa's skills development system and an avenue for the promotion of entrepreneurship.

The anticipated contribution of this study was to add to the academic body of knowledge by integrating entrepreneurial intentions with human capital and an enabling environment at TVET colleges and assist policymakers and the Department of Education with decisions pertaining to TVET colleges. The delimitations of the study were outlined, and key concepts that make up the study were defined, as were the assumptions.

The next chapter reviews the literature that underpinned this study.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Chapter 1 provided a general view of the study and its underpinnings. Chapter 2 encapsulates the constructs that guided the discussion on an enabling environment and human capital, focusing on skills development, entrepreneurial education, and entrepreneurial intent. Hypotheses were formulated based on the literature.

2.2 TVET sector in South Africa

The TVET sector has been impacted by mammoth challenges, with scholars agreeing that this sector is inadequately prepared to respond to the skills required by employers because of scant partnerships with businesses and industries (Badenhorst & Radile, 2018). While Hallinger and Lee (2013), Nkosi (2012), and Mohlokoane and Coetzer (2007) acknowledged that, globally, quality issues of vocational systems thrive, Field, Musset and Álvarez-Galván (2014) argued that in South Africa, it is difficult to address imperative issues because of the quality of vocational systems. The OECD report (Field et al., 2014) postulated that the shortage of skills would be addressed by the development of an effective vocational system that will allow the youth to be redirected back into training. Over the years, TVET systems and the process of their transformation have evolved based on a perceived role of the TVET sector in relation to economic and human developments (Tikly, 2013).

Countries like Korea and Singapore have successful vocational education and training (VET) systems because of government involvement in ensuring the reformation of the purpose of VET systems is on par with the countries' economic development phases (Field et al., 2014). The medium- and long-term developmental needs of a developing country are economic growth, equity, and transformation (Field et al., 2014). McGrath (2011) argued that the existing VET method is grounded in an obsolete model of development, while in developing

countries; the academic critique is long obsolete. This corresponds with Chang's (2010) argument that it would be a mistake to view all developmental states as having a similar course because of the distinctiveness of different developmental contexts. The developmental state model of Southeast Asia consists of basic elements such as sustained high GDP growth, trade barriers, transfer of technology, accumulation of capital, central planning and swift industrial development (Chang, 2010; Dumond, 2012; Gumede, 2009). Anderson (1991) added to the argument by asserting that these states were driven by their need for economic growth and industrialisation, as a means of catching up with the West or industrialised neighbours.

The OECD report asserts that because South Africa is a constitutional democratic country, a developmental state can only be delivered within an expansion of democratic tradition (Field et al., 2014). Akoojee (2016) argued for the need to realise key elements of responsive and inclusive development; from a policy perspective, a lot still needs to be done to align the adopted priorities with the numerous implementation challenges to be resolved. Rasool and Mahembe (2014) also argued for the need to reconceptualise the role of TVET colleges because of the process of industrialisation and economic development that was historically tied to the formal TVET sector, thereby having economic and equity perspectives dominating TVET policies.

2.3 Enabling environment

Entrepreneurial activities have been acknowledged as capable of positively influencing a nation's economy as well as the quality of life of individuals (Hezekiah & Agboola, 2011; Schumpeter, 1934). The attitude of potential entrepreneurs towards venturing into entrepreneurship is highly impacted by their environment (Liñán & Fayolle, 2015). Therefore, an enabling environment is required that consists of a combination of economic, socio-cultural, and political factors, which play a role in entrepreneurship development by swaying people's disposition to assume entrepreneurial activities (Crnogaj & Rebernik, 2013; Motha, 2015). This enabling environment in the promotion of entrepreneurial intentions can be

investigated using a GEM conceptual framework by looking at factors or dimensions that play a role in entrepreneurship development. These factors include entrepreneurial finance, government policy, entrepreneurial education, research and development transfer, commercial and legal infrastructure, internal market dynamics, entry regulation, physical infrastructure, and cultural and social norms. Though this study adopted the antecedent of environment from the base model by Autio, Keeley, Klofsten, and Ulfstedt (1997), adjusted from Davidsson's (1991) model, it intended to examine the entrepreneurial intent of university students to start their own ventures. An environment conducive to entrepreneurial activity can raise entrepreneurial conviction and intent.

Akhter and Sumi (2014), and Dana (1990) reported that in various countries, empirical studies of entrepreneurial environments revealed that if rules and regulations are kept at a minimum, tax breaks and incentives are offered, and training and counselling services are provided to budding entrepreneurs; chances of new venture start-ups are increased. Various scholars observed the environment at the macro level of the ecosystem, while Motoyama and Knowlton (2016) pointed out that the extent to which an incentive-based regional policy inspires erudition is through the expansion of association and reciprocal aid networks. In addition, extensive access to existing resources such as mentorship and finance ameliorate the survival rates of new businesses (Dodd & Hynes, 2010; Mosakowski, Calic & Earley, 2013; Toutain et al., 2017).

Autio and Fu (2015) asserted that formal entrepreneurship could be enhanced through economic and political institutions, thus reducing the tendency towards informal entrepreneurship. Therefore, regardless of inconsistencies on the point of focus, support for start-ups cannot be ignored by policymakers, and countries aiming at expanding and reinforcing their economies need to maintain an inspiring entrepreneurial environment that encourages entrepreneurial ideas and intentions (Mason & Brown, 2013; Van Vuuren & Alemayehu, 2018).

2.3.1 TVET sector policies

Post 1994, the South African government set out key policies for TVETs that would influence the future of the state, with the concept of a developmental state as a common factor (Rasool & Mahembe, 2014). While policymakers debated among themselves what constitutes a South African developmental state (Rasool and Mahembe, 2014), Lolwana (2014) pointed out that global debates, policies, and models influence almost all South African government interventions regarding the TVET sector. He further stated that the country still finds it difficult to retire the Outcomes Based Education (OBE), National Qualification Framework (NQF) policies, and the current version of the skills development strategies, which are failing, as the country will be seen as going against global wisdom (Lolwana, 2014). Ngcwangu (2015) maintained that OBE, as an education and training reform in the country, and analogous policies had catastrophic outcomes in the schooling sector, as well as in the post-school state-structured training system.

The South African government has proposed the vocational models of Germany, Korea, Taiwan, and Singapore because of high employment rates from their TVET colleges (Rasool & Mahembe, 2014). However, other scholars highlight that the Southeast Asian developmental states were under undemocratic conditions when they achieved their developmental goals (Akoojee, 2010; Chang, 2010; Edigheji, 2005; Gumede, 2009). The Global Entrepreneurship Monitor (Herrington et al., 2017) stated that policymakers want to successfully inspire and support new entrepreneurs; therefore, factors that hinder entrepreneurial intention should be identified and reduced.

2.3.2 National Youth Policy 2015–2020

The NYP (RSA, 2015) was developed for the South African youth with the aim of redressing past injustices and addressing the specific existing challenges and immediate needs of the country (Ntoyanto, 2016). Interventions by the NYP (RSA, 2015), which targeted the South African youth, are required to enable the youth to actively participate and engage in society and the economy (Ntoyanto, 2016). The Industrial Policy Action Plan and the New Growth Path acknowledge the importance

of prioritising the youth in job creation and strengthening entrepreneurship. The African Youth Charter (AU, 2006), which serves as a strategic framework for directing youth empowerment and development at continental, regional and national levels, is tasked with priorities like education, skills, and competence development (RSA, 2015). The NYP (RSA, 2015) posited that South Africa's high rate of youth unemployment is mainly attributed to the skills shortage among the youth. Ntoyanto (2016) highlights that youth development policies are continuously updated, instead of being assessed for outcomes and impact, as information on the performance of policies, programmes, and projects plays a vital role in government planning.

2.3.3 Skills development and entrepreneurial education

The promotion of entrepreneurship has been identified as a tool to inspire economic development and employment generation, with entrepreneurial education considered a vital means of improving entrepreneurial attitudes among both potential and nascent entrepreneurs (Liñán, 2011). According to the Green Paper on Post School Education (DHET, 2012), lack of adequate information about the labour market needs and future growth possibilities leads to difficulty in planning and targeting of provisions. However, the level of entrepreneurship can be influenced by policy measures, and the influence of entrepreneurship can be exerted by public policy through education (Raposo & Do Paço, 2011). These scholars further posited that the rate of entrepreneurship could be influenced by the government not only through legislation but also through educational systems (Raposo & Do Paço, 2011). Therefore, a favourable attitude towards entrepreneurship needs to be created among students through entrepreneurial education. As asserted by Ajzen (1991) that the intention to carry out a given behaviour depends on an individual's attitude towards that behaviour.

Therefore, if the government creates a favourable environment for entrepreneurship and provides necessary support to TVET colleges to teach entrepreneurial education, it can improve the attitude of students towards entrepreneurial intention. It is therefore important to study the antecedents of entrepreneurial intention that are detrimental to developing potential entrepreneurs (TVET students) creating new

ventures. Scholars have highlighted that the term ‘entrepreneurial intent’ has been loosely used to cover an array of related but disparate concepts, like career orientation, vocational aspirations, emerging entrepreneurs, attitude on self-employment, and the desire to own a business (Francis & Banning, 2001; Thompson, 2009).

Sadler’s effectiveness triangle (Baker & McLelland, 2003) is one of the frameworks used to measure the overall effectiveness of policy as it focuses on the relationship between policy, application (practice), and the results (performance). Baker and McLelland’s (2003) expanded framework (Figure 1) characterises a circular effectiveness cycle, which focuses on the aspects of practice, performance, proficiency, and purpose, linking them to policy by their respective efficacy measurements, with the overall policy effectiveness reflected by the extent to which policy works from all four aspects. Though this model has been used to test policy effectiveness on environmental assessment (EA), it can be applied when assessing the effectiveness of TVET policies, starting by looking at practice and its application, moving in an anti-clockwise direction until reaching purpose, which will check what goals were achieved. This study did not test the efficacy of the model or its components, but it has incorporated some aspects of the model to form the basis of its conceptual framework.

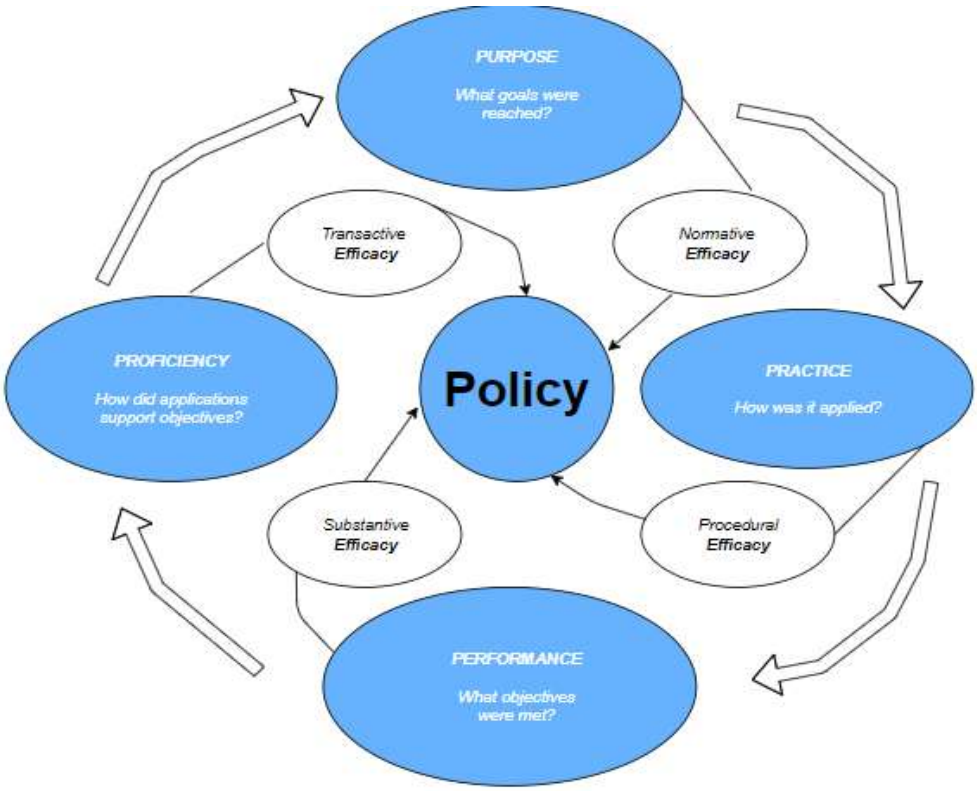


Figure 1: Components of policy effectiveness

(Baker & McLelland, 2003:585)

Several models test entrepreneurial intentions, but this study focused on Ajzen's (1991) TPB and Shapero's (1982) SEE model, and adopted the environmental antecedent from the base model, which looked at how the environment affects entrepreneurial intent and human capital. The human capital focus was on entrepreneurial education and skills development. Since the entrepreneurial process occurs because of individuals who are motivated to pursue and exploit ostensible opportunities (Osiyevskyy & Dewald, 2015), it therefore becomes imperative to look at the antecedents that motivate this behaviour. As emphasised by Shirokova, Osiyevskyy and Bogatyreva (2016), students' career plans and attitude towards being self-employed drives their interest in entrepreneurial activities but these are dependent on various factors such as background and the environment in which they operate. Albeit individual backgrounds, which look at age, gender, family background in terms of entrepreneurial activity among family members, and so forth, are important determining factors that contribute towards

an entrepreneurial attitude or motivation, this study focused exclusively on environmental factors. These background aspects include environmental support and influence as well as organisational factors (Skosana, 2014).

2.3.4 Government's role in promoting entrepreneurial intention

Several environmental factors influence the likelihood that an individual will start a business, ranging from easy access to financing, favourable market dynamics, which raise or hinder the desire to develop an idea, education, entry regulation, government policy, and commercial and physical infrastructure (Baliamoune-Lutz & Garello, 2011; Doytch & Epperson, 2012; Sánchez, 2018; Shapero, 1978). Finances are required to start a new venture and the NYDA has a responsibility to create an environment that will enable the development of youth by overseeing and monitoring youth entrepreneurship programmes, providing grants for young entrepreneurs, services for business development, possible youth cooperative support, and introducing entrepreneurial training for the youth at schools (RSA, 2015).

However, this institution has been confronted with mammoth challenges, including incompetence in leadership, lack of financial accountability, irregular and wasteful expenditure, poor planning, lack of management accountability, and lack of compliance with National Treasury Regulations (Ntoyanto, 2016). As Pharm and Sritharan (2013) postulated, the purpose of the creation of government institutions should be to create an enabling environment that will cultivate, reinforce and advance the entrepreneurial capacity of youth who may want to embark on a new venture. The entrepreneurial behaviour of students leading to their entrepreneurial intentions is shaped by the attitude towards entrepreneurship, which is influenced by personal and situational factors (Ajzen, 1991; Krueger, Reilly & Carsrud, 2000; Shirokova, et al., 2016). Institutions channel individuals' behaviour, thus providing agents with a structure of incentives and reduction of transaction challenges (North, 1990). According to findings by Dheer (2017:813) "effects of political freedom and education can be positively moderated by individualism, and effects of corruption can be negatively moderated by individualism"

Entrepreneurship is a process that is, to a large extent, led by policymakers who are responsible for designing and implementing regulations that provide a responsive environment for entrepreneurs to perform well (Audretsch, Grilo & Thurik, 2007; Sánchez, 2018). Therefore, the environment in which students find themselves can offer certain indicators that explicate the relationship between personal factors and entrepreneurial intent (Lüthje & Franke, 2003; Sánchez, 2018; Skosana, 2012).

Based on the literature reviewed, the following hypothesis was formulated:

- *Hypothesis 1:* An enabling environment can increase entrepreneurial intent.

2.4 Youth unemployment rates in South Africa

South Africa is faced with chronic unemployment rates, which have reached highs of 29 per cent, as well as underemployment (Herrington et al., 2017; Stats SA, 2019b). These factors contribute to the poverty and inequality that face the country (Venter et al., 2008). Globally, youth unemployment between the ages of 15 and 24 years reached 71 million in 2017, with most of the youth facing long-term unemployment (Stats SA, 2018). Individuals from ages 14 to 35 years are considered youth in South Africa (Stats SA, 2018). The International Labour Organisation (ILO, 2010) report pointed out that developed and developing countries are faced with youth underemployment as a major challenge. The primary policy challenge of the country continues to be youth unemployment (Bernstein, 2008), and this high rate of youth unemployment is mainly attributed to skills shortage among the youth (Ntoyanto, 2016; RSA, 2015). Herrington et al., (2017), and Peters and Brijlal (2011) posited that strategies which enable economies to benefit from young people should include education and skills development, together with entrepreneurship. Emphasis is also placed on the importance of expanding interventions that deal with the skills gap in apprenticeships and technical and vocational educational facilities (Herrington et al., 2017). Given these chronic unemployment rates, the requirement of skills development, and raising

entrepreneurial intent, there is a need to strengthen entrepreneurial education and have clear goals set out in the policies.

2.5 Human capital

The human capital theory proclaims that entrepreneurs are provided with intellectual abilities when their individual knowledge pool is expanded, resulting in potential entrepreneurial activity that is productive and efficient (Barreira, 2016; Becker, 1964; Mincer, 1974; Schultz, 1959). Through human capital, entrepreneurs or potential entrepreneurs are provided with beneficial assets in the form of preceding knowledge, pertinent experience and vigilance regarding business opportunities (Hickie, 2011). Thus, human capital theory proposes that economic benefits are derived by individuals and society by means of capitalising in people, with education evolving as the key human capital investment for pragmatic analysis (Barreira, 2016; Sweetland, 1996).

2.5.1 Entrepreneurial education and skills development

Human capital theory considers education as relevant in the creation of skills and support to gain expertise, which serves as efficiency of individuals as economic creation factors (Robeyns, 2006). The human capital theory stipulates that as the "individual invests in education, aptitudes, and skills, an increase will be realised in their productivity thus resulting in greater returns on investment for the individual" (Becker, 1993:17).

However, several aspects of entrepreneurial learning continue to be poorly understood, and there is now an effort to comprehend how emerging entrepreneurs mature in terms of knowledge and skills to act entrepreneurially (Cope, 2001; Hickie, 2011). As postulated by several scholars, entrepreneurial courses and allocated incubators for each campus play a crucial role in the expansion of students' desires and intentions towards entrepreneurship (Lüthje & Franke, 2003; Skosana, 2014; Urban & Barreira, 2007).

The capacity for the TVET sector to collaborate with key external stakeholders such as government departments, industries, civil society, occupational bodies, and employer associations is progressively connected to its accomplishment in skills development (Lucci, 2012). However, the Human Resources Development Council (HRDC) of South Africa pointed out the slack usage of the term 'partnerships' by government, and that efforts appear to be concentrated on "the quantitative dimension of partnerships, rather than outputs" (Rasool & Mahembe, 2014:33).

In the United Nations Educational, Scientific and Cultural Organization (UNESCO) agenda for 2030, Bokova (2017) proposed that the TVET sector be equipped to offer entrepreneurial skills to the youth through entrepreneurial education as one of the Sustainable Development Goals. Entrepreneurship education is a process by which concepts and skills are provided to individuals for them to identify opportunities that have been unheeded by others, and to have the intuition and confidence to act where others have wavered (McIntyre & Roche, 1999). It includes instruction in opportunity recognition, marshalling resources in the face of risk, and initiating a business venture (Wasdani & Mathew, 2014). Raposo and Do Paço (2011) posited that an individual could access the skills and knowledge required to start and grow a new business through effective entrepreneurship education. According to Singer et al. (2018:17), entrepreneurship education continues to be the weakest indicator at school level in all economies, with "average values below four out of nine across all development phases".

Entrepreneurship education can be created through fundamental knowledge, which includes the aptitude to identify and pursue opportunities; production of new ideas and discovering the appropriate remedies; the skill to create and operate a new firm; and aptitude to be an inventive and critical thinker (Raposo & Do Paço, 2011). Through effective entrepreneurship education, a person can acquire the skills and knowledge required to start and grow a new business (Raposo & Do Paço, 2011).

The NYDA has a responsibility to oversee and monitor youth entrepreneurship programmes by providing grants for young entrepreneurs, services for business development, possible youth cooperative support, and introducing entrepreneurial training for the youth at schools. However, in 2010 only a small number of youths

accessed these services, indicating a gap in entrepreneurial training among youth (DBSA, 2011). Entrepreneurship education can provide the necessary knowledge for the identification of feasible opportunities, which can be developed into sustainable ventures (Venter & Urban, 2015). An entrepreneurial strategy should fortify the ability of an individual to identify and exploit opportunities, whether in a social, cultural, or economic context (Ndedi, 2013).

However, Maringe and Osman (2016) pointed out that despite the notion in the White Paper of Post-School Education and Training (RSA, 2013) (which includes the TVET sector) regarding knowledge creation as a vital goal, there is still a narrow skills-driven agenda provided for the metamorphosis of the post-school sector in the imminent future. These scholars substantiate their argument through highlighting, among other things, quality, wastage, and curricula issues challenging this sector (Maringe & Osman, 2016). Smith (2011) stressed that though students are trained to become artisans, entrepreneurial education at FET colleges is often overlooked. This agrees with research findings, which assert that a number of students produced through TVET colleges are entrepreneurial (Buthelezi, 2016).

Based on the literature reviewed, the following hypotheses were formulated:

- *Hypothesis 2*: There is a positive correlation between skills development at TVET colleges and entrepreneurial intent.
- *Hypothesis 3*: There is a positive correlation between entrepreneurial education in TVET colleges and entrepreneurial intent.

2.6 Entrepreneurial intent

Entrepreneurial intention is “the conscious state of mind that precedes action and directs attention toward entrepreneurial behaviours such as starting a new venture and becoming an entrepreneur” (Moriano, Gorgievski, Laguna, Stephan & Zarafshani, 2012:165). According to Herrington et al. (2017), there is a highly positive perception of being entrepreneurial in South Africa, though only 2.7 per cent of the population have any intention of being entrepreneurs, and of those, only

10 per cent action their ideas into established businesses. This implies relationships between entrepreneurship, intention, and an environment conducive for doing business, created by government through policy. Ajzen's TPB and Shapero's SEE model explain how entrepreneurial intention works.

2.6.1 Ajzen's TPB

Ajzen's TPB envisages an individual's intention to participate in a specific behaviour at a particular time and place. This theory proposes that individual's behaviour is driven by behavioural intentions, which are determined by their attitude towards that behaviour, subjective norms, and perceived behavioural control (Ajzen, 1991). Venter and Urban (2015) posited that expectations and beliefs about outcomes rely on the attitude towards the act. The subjective social norms are dependent on the support expected from others, and perceived feasibility connects conceptuality with self-efficacy (own abilities) (Venter & Urban, 2015). When entrepreneurs want to raise capital for their ventures, approaching a venture capitalist is the planned behaviour, and the potential economic gain is the goal (Venter & Urban, 2015).

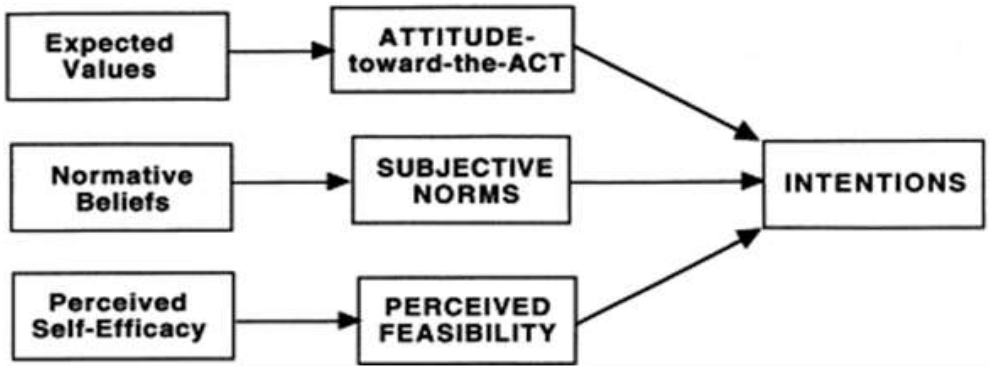


Figure 2: Ajzen's theory of planned behaviour

(Krueger et al., 2000:423)

2.6.2 Shapero's SEE model

Shapero's (1982) SEE model postulates that increased entrepreneurial self-efficacy elevates perceptions of venture feasibility. The overlap of the TPB and SEE model is the point at which perceptions of desirability and feasibility encourage an

individual to start a new venture, and personal circumstances moderate and mediate the intentions. The background of entrepreneurial individuals are determined by their personal circumstances, level of education, and perceptions they have towards new business opportunities (Venter & Urban, 2015).

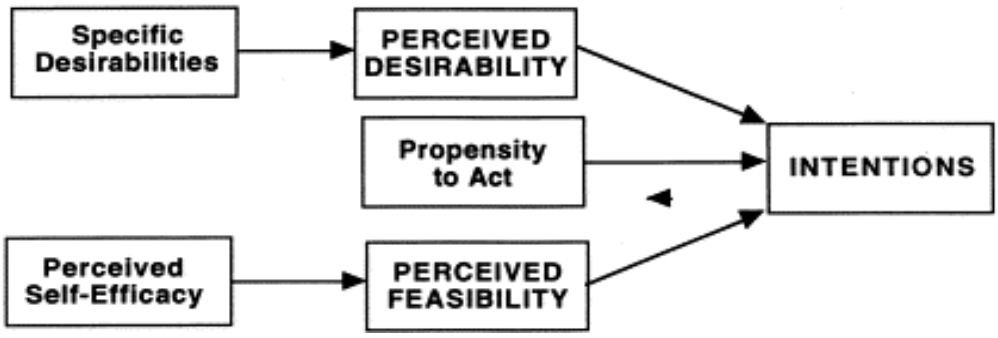


Figure 3: Shapero-Krueger model

(Krueger et al., 2000:424)

2.6.3 Entrepreneurial intention in South Africa

Bandura (2001:2) stated that "to be an agent is to purposefully make things by one's own actions, where efficiency beliefs are the basis of human agency." According to Herrington et al. (2017), South Africa's entrepreneurial intention has dropped and the average entrepreneurial intention in other African regions is four times higher than in South Africa, while in efficiency-driven economies it is more than double that of South Africa. However, the South African Total Entrepreneurial Activity (TEA) rate increased from 4.1 per cent in 2016 to 11 per cent in 2018 (Singer et al., 2018). Even though it has increased, the TEA rate among the South African youth is below the African average (Herrington et al., 2017).

2.7 Conceptual frame work and hypotheses

- *Hypothesis 1*: An enabling environment increases entrepreneurial intent of TVET college students.

- *Hypothesis 2*: There is a positive correlation between skills development at TVET colleges and entrepreneurial intent.

- *Hypothesis 3*: There is a positive correlation between entrepreneurial education in TVET colleges and entrepreneurial intent.

The conceptual model framework of an enabling environment, human capital (entrepreneurial education and skills development) and the influence on entrepreneurial intent is seen in Figure 4

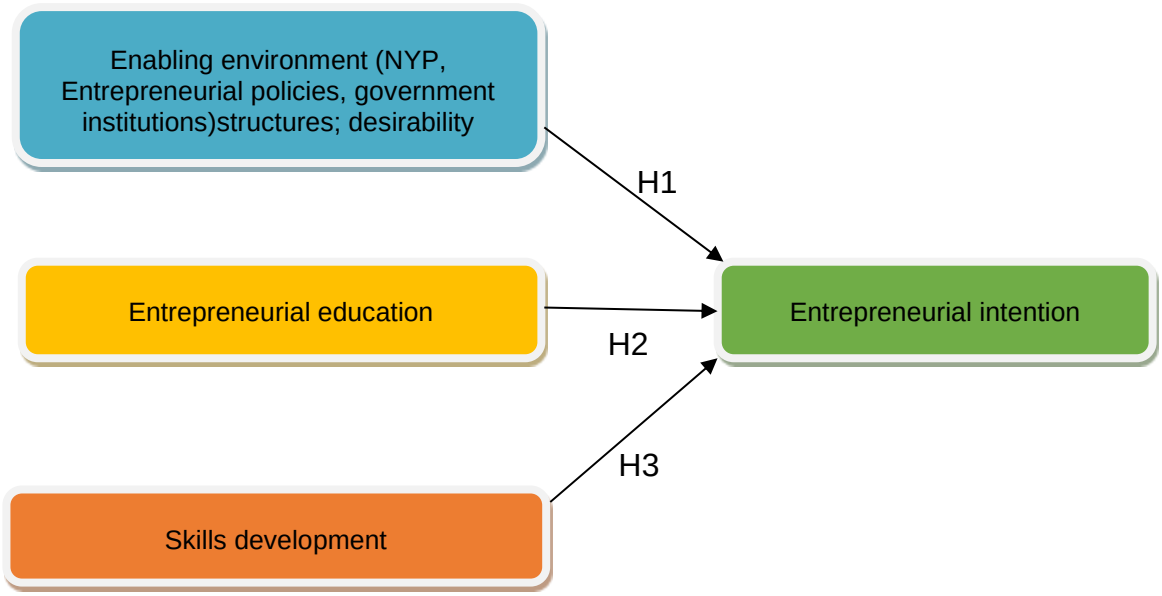


Figure 4: Conceptual model

2.8 Summary of the chapter

Chapter 2 provided a general view of the study and its underpinnings. The constructs underpinning the study are human capital (skills development, entrepreneurial education), and an enabling environment that is guided by the entrepreneurial and the National Youth Policies. The debates around the TVET sector and how TVET colleges in other countries are functioning were briefly discussed. Discussions of an enabling environment, focusing on policies regarding the TVET sector, NYP (RSA, 2015) and government support structures were outlined.

The chapter highlighted Sadler's effectiveness triangle (Baker & McLelland, 2003) as one of the frameworks used to measure the effectiveness of policy by focusing

on relationships between policy, application and results. The study will not assess the efficacy of the model or its components, but aspects of the model assisted with the formation of the conceptual model. The environment antecedent, which was adopted from the base model, was discussed and integrated with literature to formulate Hypothesis 1, which states that an enabling environment can positively influence entrepreneurial intent.

The human capital theory underpinned the discussion of skills development and entrepreneurial education in TVET colleges and linked it to literature, which then led to the formulation of hypotheses two and three. Hypothesis 2 states that there is a positive correlation between skills development and entrepreneurial intent at TVET Colleges, and Hypothesis 3 states that there is a positive correlation between entrepreneurial education and entrepreneurial intent at TVET colleges.

A summary of the main authors and their corresponding entrepreneurial phenomena examined in this literature review is seen in Table 1.

Table 1: Summary of entrepreneurial phenomena

Author(s)	Focal entrepreneurial phenomenon	Locus of entrepreneurship	Relationship between entrepreneurship education and entrepreneurial intent
McGrath (2011)	Educational entrepreneurship leading to skills development	Individual member	Purposes, natures and possibilities of VET as a means of human capital
Raposo and Do Paço (2011)	Skills development through entrepreneurship education	Individual members	Not specified
Allais (2012)	Policies, skills development	Individual members	Not specified
McGrath and Powell (2016)	Skills for sustainability	Individual members	Not specified
Herrington et al. (2017)	Entrepreneurial orientation	Organisational members	Research on the entrepreneurial ecosystem in South Africa
Akoojee (2016)	Policies, skills development	Individual members	

The methodology of the study is discussed in the next chapter.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methodology and the design employed in this research. The research design is an outline for satisfying the objectives of the research (Schindler, 2019), it was used as a guideline for the study, through the description of methods and procedures essential to collect and analyse information (Zikmund, 2003). This chapter comprises the research methodology, research design, sampling, collection of data instruments, validity and reliability, and ethical considerations.

3.2 Research paradigm

This study employed a quantitative approach, which sought to separate and generalise singularities to a hypothetical population (Saunders, Lewis & Thornhill, 2016). The advantage of this approach is that each step is homogenous, which serves to diminish prejudice when gathering and analysing data, and ensure its results are valid, reliable, and generalisable to a larger population (Saunders et al., 2016). The disadvantage of this approach is that a much narrower spectrum of relatively superficial data is collected. Another limitation of the quantitative approach is that results provide numerical descriptions, contrary to an exhaustive narrative, thus providing less intricate accounts of human perception (Bryman, 2008). In this study, the relationship between entrepreneurial intent (dependent variable) and enabling environment (independent variable) were tested through the collection of data, using questionnaires, and data analysis.

The study employed a positivist paradigm, which allowed for the validation of the hypotheses formulated and the testing of entrepreneurial intention theories. This was done by means of survey questionnaires, and in this study it was for the purpose of establishing the entrepreneurial intent of TVET students, looking at the enabling environment (NYP policies, entrepreneurial policies, and government

institution) and entrepreneurial human capital, focusing on entrepreneurial education and skills development at TVET colleges. The disadvantage of this approach is that the social phenomena observed, recorded, and of which an attempt was made to ‘measure’, are created by social actors’ perceptions and actions, and cannot be understood outside of those social interactions (Saunders et al., 2016).

3.3 Research design

Saunders et al. (2016) described descriptive research as those in which information that clarifies relationships, patterns, and associations between variables is gathered, thereby describing peculiarities as they exist. The study employed a descriptive analysis approach when conducting a survey with students at TVET colleges as a means of establishing the relationship between entrepreneurship education, skills development, and an enabling environment in promoting entrepreneurial intent. A cross-sectional quantitative research design was employed as it can define the focus of the study and assist in determining frequency. This is achieved by taking a cross-section of the population and indicating if change occurred at some point in time. The cross-section study does have disadvantages in that the cause and effect cannot be determined; there is no guarantee that the timing of the snapshot will be representative; and challenges may arise when combining the tools for sampling based on the population variables to be studied (Saunders et al., 2016).

3.4 Population and sampling

3.4.1 Population

There are about 700 000 students in 50 registered and accredited public TVET colleges in South Africa (DHET, 2018), and Ekurhuleni East has five registered public TVET colleges (DHET, 2018). The population size for this study was approximately 3 000 students in each college, adding up to 15 000 students. The study focused on youth between the ages of 18 and 35 years, although 14 to 35

years is the youth age range as defined by the South African National Youth Commission Act (RSA, 1996), as they would not require parental consent.

3.4.2 Sampling and sampling method

The study employed simple random probability sampling to select final-year students and those who have completed two or more entrepreneurial modules in the two selected Ekurhuleni East colleges. The advantage of this method is that it is easy to use and provides an accurate presentation of the larger population (Saunders et al., 2016). The population size is 3 000 students, which is represented by *N*. The targeted sample size for this study is expressed as *n*=351, selected because the budget was too limited to reach more students from all of Gauteng TVETs and there was limited time to complete this study.

The Raosoft sample size calculator can be employed to calculate the sample size, or it can be calculated manually (Wilson, 2016). In this study, a five per cent margin of error and 95 per cent confidence were accepted. The proposed sample size is 351 with a response distribution set at 50 per cent.

Therefore, in this approach, the sample was highly representative of the targeted students, and thus it was assumed there was limited data. The disadvantage of this approach is that it is limited by the lack of availability of a complete population list.

Table 2: Profile of respondents

Variables	Description
Target population	Final-year students in two Gauteng TVET colleges
Population size	+/- 3 000
Geographical location	Ekurhuleni, Gauteng
Recommended sample size	351
Sample size	351
Margin of error	5

3.5 Research instrument

A questionnaire was used as the instrument administered to final-year students, those who had completed two or more entrepreneurial modules at the two selected TVET colleges. The seven-point Likert scale was employed to determine the entrepreneurial intention among the TVET students after having embarked on the entrepreneurial education courses through their respective colleges. Primary data were collected and captured at the point of generation, with this study as its specific purpose. Although it was time consuming, it was relevant for determining the effect of an enabling environment on the entrepreneurial intent among youth at TVET colleges and provided control over the accuracy of data (Saunders et al., 2016).

The Likert scale questionnaire (Appendix A) consisted of six main questions, each with sub-questions, which equated to 33 when totalled; the scale was a modification of various seven-point scales created and tested by other researchers. Therefore, external validity risk was reduced, and there was better reliability of the research instrument (Watson, 2012). The research instrument was structured as closed-ended questions in which respondents were requested to answer questions in various categories on a seven-point Likert scale consisting of strongly agree to strongly disagree.

The disadvantages of the Likert scale are that it is based on the supposition of self-governing answers for each item (Prajogo & McDermott, 2005) and that when all quadrant ratings by respondents are either high or low, it results in less distinction (Cameron & Quinn, 2011). In the seven-point scale used, the range was 1= strongly disagree; 2= disagree; 3= somewhat disagree, 4= neither agree nor disagree; 5= somewhat agree, 6=agree and 7= strongly agree. Variables such as age, gender, and entrepreneurial intent formed part of the questionnaire distributed to students to establish if the environment enabled by government through policy and support institutions was able to promote entrepreneurial intention among them. Variables such as environment, human capital (skills development and human capital) and entrepreneurial intent formed part of the online questionnaire administered to the students of the selected TVET colleges.

Table 3 provides a summary of the research instrument.

Table 3: Summary of the research instrument

Section	Description	Literature sources	Type of questions	Comment on instrument
Section A: Demographics	In this section, the following demographic information of respondent is collected: Age, gender and study programme.		Multiple choice	Age, gender, and study programme of respondents were collected for determining youth entrepreneurial activity; though the study does focus on individual traits that contribute to entrepreneurial intention.
Section B: Human capital (entrepreneurial education and skills development)	In this section characteristics of human capital focusing on entrepreneurial education and skills development are collected	Keat, Selvarajah, and Meyer (2011)	Seven-point Likert scale	Entrepreneurial education and skills development are vital in developing students' desires and intention towards entrepreneurship. Students who have undertaken the entrepreneurial education and skills development courses are likely to have a desire and positive attitude for entrepreneurship. Skills development are vital in the promotion if entrepreneurial intent. Determines skills development courses.
Section C: Enabling environment (TVET; entrepreneurship; support structures)	In this section the enabling environment for entrepreneurship created to raise entrepreneurial intent of TVET students is assessed	Davidsson (1995) Autio et al. (1997) Shirokova et al., (2016)		Determines support for entrepreneurial grooming towards creating entrepreneurial intent in students. A correlation exists amid entrepreneurial intention and behaviour, which is fundamentally affected by environmental moderators.
Section D: Entrepreneurial intent	In this section the entrepreneurial intentions of TVET students are assessed	Liñán and Chen (2009)		Determines the entrepreneurial intent of TVET students after all contributing factors are applied. It is important to assess whether the postulated variables are effective in raising entrepreneurial intent at TVET colleges.

3.6 Data collection

In a quantitative study that aims at describing events or discovering inferences or causal relationships, the most suitable method for collecting this information is through surveys or questionnaires (Borg & Gall, 1989; Saunders et al., 2016). The primary data were collected using a questionnaire designed on Qualtrics and analysed using the Statistical Package for the Social Sciences (SPSS) software. Ethical clearance was obtained, and approval granted by the Ekurhuleni and Tshwane East TVET colleges for the collection of data on their campuses (Appendix B).

As many students did not have access to computers and those who did had limited to no data, hardcopy questionnaires were distributed in class and collected immediately after completion. The data were collected in the second week of December 2019 and the first week of January 2020. Questionnaires collected numbered 216, which is acceptable according to Hair, Black, Babin, and Anderson (2010), who stated that a sample size between 150 and 400 is acceptable. This sample size also corresponds with other studies on entrepreneurship environment and entrepreneurship intent. Only 200 questionnaires were collected by Motha (2015), who conducted a similar study on an enabling environment focusing on youth, of which 187 were usable.

Due to the universal nature of electronic data, data quality plays a vital role in all business and government applications (Batini, Cappiello, Francalanci & Maurino, 2009). Therefore, after data collection, the data was checked for missing or invalid information, loaded into Qualtrics and exported to SPSS, which is a statistical program for analysis. The total responses received numbered 216, and after data screening, invalid data, due to incomplete information, was removed and 206 responses remained.

Data screening was conducted to eliminate problems that may have resulted from many missing values and outliers, which may in turn have resulted in inadequate data for conducting an analysis (Kwak & Kim, 2017). When data are not screened,

outliers may disturb the sample estimations of the average and standard deviation, which may result in quantities that are over- or undervalued (Kwak & Kim, 2017). Missing data are realised in different forms. One form occurs when respondents do not provide responses, or they provide multiple responses to one question.

The most common technique of dealing with invalid or missing data is through listwise deletion, which eradicates all data for a case with one or more absent values (Peugh & Enders, 2004). Since the research was distributed in class, data were checked, and invalid data were marked and put aside. In order to avoid mistakes and ensure accuracy, only valid data were loaded into Qualtrics and exported to SPSS for analysis.

3.7 Data analysis

There are different stages employed in the analysis of quantitative data. The study employed descriptive statistics, factor, reliability, correlation, and regression analyses (Schober, Boer & Schwarte, 2018).

3.7.1 Descriptive statistics

The initial step of data analysis is usually sample description, followed by the subcategories in the sample. In describing sample occurrences, descriptive statistics are employed, which are numbers that recap the data and help with the detection of sample features that might influence the conclusions (Thompson, 2009). Using descriptive analysis allows for the description of some of the characteristics of the distribution scores collected, like the average score on one variable or the degree to which one score contrasts with another (Salkind, 2014).

Descriptive statistics are employed as means of organising and describing the elementary characteristics of data collected for the study in order to offer simple summaries and measures in a manageable form (Kwak & Kim, 2017).

3.7.2 Correlation analysis

Correlation analysis is a statistical tool used in the investigation of the relationship and strength between the independent and dependant variables (Saunders et al., 2016). A normality test was done for all the constructs before doing the correlation to determine if a linear relationship exists between the variables being tested in the study (George & Mallery, 2010; Razali & Wah, 2011). The items in the study were normally distributed; hence, Pearson's was used. The correlations are both scaled to range from -1 to +1, with 0 indicating the absence of a linear association, and the relationship strengthens until it reaches a straight line (Pearson correlation) or a curve that is regularly increasing or decreasing (Spearman correlation) (Schober et al., 2018). George and Mallery (2010) asserted that if the lop-sidedness values and kurtosis are within -2 to +2, they are regarded as acceptable and their normality is established. If the Kolmogorov and Shapiro Wilk's tests yield a value greater than 0.05 and the visual examination of normal Q-Q plots shows results close to the line, then there is a normal distribution (Razali & Wah, 2011). However, the Kolmogorov and Shapiro Wilk's tests need to be supported by the kurtosis and skewness results, as they are not reliable on their own. When calculated, the skewness and kurtosis measures must be as close to zero as possible (-1.96 to 1.96) (Doane & Seward, 2011).

3.7.3 Regression analysis

Regression analysis is used to examine the relations in terms of cause and effect between the independent and dependant variables under investigation (Saunders et al., 2016). By employing regression, a study is able to determine the strength and the direction of the relationship. A multilinear regression model was employed because this study consists of one dependent variable (x) and more than one independent variables (y) (Schober et al., 2018). It was used to test the extent to which an enabling environment through government interventions, and skills development and entrepreneurial education offered at TVET colleges enabled or constrained entrepreneurial intent (dependent variable) and to determine if these relationships could be used to make approximations.

The model summary details the intensity of the connection between the model and entrepreneurial intent (dependant variable). The coefficient of determination (R Square) is the value of the multiple correlation coefficient, which measures the adequacy of the model fit to the data (Field, 2013).

3.8 Validity and reliability

3.8.1 Reliability

According to Saunders et al. (2016), reliability is the degree to which the instrument employed consistently measures what should be measured. Cronbach's alpha was employed to test the reliability of the study by testing if internal inconsistency existed. Cronbach's alphas of 0.6 or 0.7 are regarded as adequate indicators for the reliability of amalgamated measures (Van Griethuijsen et al., 2014). It is possible for a test to be dependable and yet still not be valid, which suggests that reliability is a critical but not adequate condition of validity (Salkind, 2014).

3.8.2 Validity

According to Srivastava and Rego (2011), validity refers to whether an instrument measures what is supposed to be measured, meaning it measures the strength and accuracy of a research design. An indication of the extent to which a test depicts the universe of items in which it is drawn is known as content validity, and it is specifically useful when assessing the practicality of accomplishment tests or assessments that sample an expanse of knowledge (Salkind, 2014). To investigate the relationship between variables, factor analysis was conducted to indicate an analogous response between the variables due to its ability to analyse patterns in multiple observed variables and amalgamate them into a few interpretable underlying factors (Rahn, 2019). Table 4 provides a summary of the factor analysis results and they indicate high KMO statistics and significant Bartlett's chi-squared results. Therefore, the data is valid and suitable for factor analysis. Final-year students and those who completed two or more entrepreneurship modules were surveyed to determine their entrepreneurial intention.

Table 4: Statistical validity

Scale	KMO	Bartlett's Chi-squared (df)	Significance
Independent variables: Enabling environment and human capital	0.867	2254.511	P<0.001
Dependant variable: Entrepreneurial intent	0.781	405.019	P<0.001

3.9 Ethical considerations

Several ethical principles need to be considered when carrying out research, such as beneficence (doing good) and non-malfeasance (not doing harm). Therefore, it is crucial to attain consent from the potential participants; to minimise harmful risk to participants; to ensure their confidentiality and obscurity is protected; that participants are not deceived by practices adopted in the study; and that participants have the right to withdraw from the research at any time (Creswell, 2014). In this study, ethical standards were upheld by ensuring participants' confidentiality and anonymity were protected, that participation in the survey was optional, and that participants could withdraw from the study at any time. Ethical clearance was obtained for this study from the University of the Witwatersrand (Appendix C).

3.10 Summary of the chapter

The chapter comprised a pragmatic section of the study. A quantitative approach was taken in order to reduce prejudice when gathering and analysing data and to produce valid results. The study also employed a positivist paradigm, which allows for validation of the formulated hypotheses. A descriptive analysis approach was used as a means of establishing the relationship between human capital (skills development and entrepreneurial education) and an enabling environment in promoting entrepreneurial intent. The research made use of a cross-sectional quantitative design, which was able to assist with determining frequencies.

The study employed a simple random probability sampling approach for final-year students and those who had completed two or more entrepreneurial or skills development modules. The population size was 3 000, with a targeted sample size of 351, which was calculated with a Raosoft sample size calculator. The proposed sample size allowed for a five per cent margin error, with response distribution set at 50 per cent.

The instrument consisted of demographics, which encompassed gender, age and study programme, followed by Likert scale questions divided into four sections, six main questions, and 33 sub-questions in total.

The data were collected by distributing the research instrument to students in class and collecting all questionnaires immediately after completion. All questionnaires were accompanied by a consent form, which students signed as an indication that they were giving consent to partake in the study. Approval letters to conduct research were sought and received before the research commenced. This was to ensure that ethical considerations were applied. The questionnaires were then screened for missing or multiple loaded data and cleaned. Correlation was done to test the strength of the relationship, and multiple linear regression analysis was used to investigate the cause and effect between entrepreneurial intent (dependant variable) and the independent variables, namely the enabling environment and human capital.

In order to do the correlation and multiple linear regression analysis, the research instrument had to be checked for validity and reliability. The results are presented in the next chapter.

CHAPTER 4: PRESENTATION OF RESULTS

4.1 Introduction

The purpose of this chapter is to present the results of the study guided by the hypotheses postulated in Chapter 2, and in alignment with the methodology in Chapter 3. The data for the study, which were gathered through the research instrument that was distributed to TVET students, are presented in this chapter. The chapter commences with the presentation of demographics, followed by the validity and reliability test results. Thirdly, the correlation and regression analysis results are presented. The chapter concludes with a summary that highlights all key findings.

4.2 Demographics of respondents

In this section, the demographic variables of respondents, which included age, gender, and the study programme they were enrolled in, are presented. There were 216 responses received from the TVET students, and after data screening and cleaning, 206 responses were valid for use in the analysis. The invalid results were mostly due to incomplete information.

4.2.1 Gender of students

Table 5 depicts the gender split of the respondents. The total number of student respondents in the survey was 206, and they comprised more males (104, 50.2 per cent) than females (102, 49.3 per cent).

Table 5: Gender of respondents

Variable	Frequency	Per cent	Valid per cent	Cumulative per cent
Males	104	50.2	50.5	50.5
Females	102	49.3	49.5	100.0
Total	206	100.0	100.0	

4.2.2 Age of students

Table 6 describes the age range of respondents who participated in the survey. The majority of students fell into the age bracket of 25 to 34 years (54.1 per cent), followed by 18 to 24 years (44.9 per cent), and 35 to 44 years (0.5 per cent).

Table 6: Age of respondents

Variable	Frequency	Per cent	Valid per cent	Cumulative per cent
18–24 years	93	44.9	45.1	45.1
25–34 years	112	54.1	54.4	99.5
35–44 years	1	.5	.5	100.0
Total	206	100.0	100.0	

4.2.3 Study programme of students

Table 7 describes results of the various programmes in which students who participated in the study were enrolled. Nearly half the students were registered for the skills programme (43.7 per cent), followed by the Nated Report 191 N4-N6 (35.7 per cent), learnerships (13.0 per cent), the National Certificate (Vocational) (2.9 per cent), and the National Higher Certificate (0.5 per cent). All the students had completed two or more entrepreneurial and skills development modules, with most students in their final year of study.

Table 7: Study programme

Variable	Frequency	Per cent	Valid per cent	Cumulative per cent
NC(V)	6	2.9	2.9	2.9
Nated Report 191 N4-N6	74	35.7	35.9	38.8
National Higher Certificate	1	.5	.5	39.3
Learnerships	27	13.0	13.1	52.4
Skills programme	98	47.3	47.6	100.0
Total	206	100.0	100.0	

Table 8: Summary of demographics

Variable	Category	Frequency	Percentage
Gender	Male	104	50.2
	Female	102	49.3
Age	18–24 years	93	44.9
	25–34 years	112	54.1
	35–44 years	1	0.5
Programme	NC(V)	6	2.9
	Nated Report 191 N4-N6	74	35.9
	National Higher Certificate	1	0.5
	Learnerships	27	13.0
	Skills programme	98	47.6

4.3 Descriptive statistics

Descriptive analysis was performed for the enabling environment (TVET, entrepreneurship, support structures), and human capital (skills development and entrepreneurial education) on entrepreneurial intention. Descriptive analysis allows data to be presented in the most significant way, which permits the interpretation of

this data to be much simpler (Saunders et al., 2016). A seven-point Likert scale was used, with possible responses to each item: 1= strongly disagree, 2= disagree, 3= somewhat disagree, 4= neither agree nor disagree, 5=somewhat agree, 6= agree, and 7= strongly agree. The results are presented below.

4.3.1 Enabling environment

The enabling environment was divided into three subsections, namely TVET, entrepreneurship, and support structures.

TVET:

Seven questions addressed the enabling environment in TVET colleges, which assessed the extent to which TVET colleges provide an enabling environment for their students to develop entrepreneurial intent. The majority of respondents (80.32 per cent) strongly agreed with the statement that these colleges actively encourage them to pursue their own business ideas, with mean= 5.26. On the contrary, many students (64.08 per cent) disagreed that they had a guest speaker from the NYDA, with mean= 3.09. Table 9 details the results.

Table 9: Enabling environment (TVET)

Statement	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree	Mean	Std. deviation
In my FET, students are actively encouraged to pursue their own business ideas	3.4%	8.25%	5.34%	15.53%	5.8%	32.52%	29.13%	5.26	1.758
In my FET, you get to meet lots of people with good ideas for a new business	2.43%	15.53%	4.37%	14.56%	11.17%	29.61%	22.33%	4.95	1.819
The courses I take at the FET prepare me well for an entrepreneurial career	4.37%	6.80%	3.88%	8.25%	11.17%	37.38%	28.16%	5.39	1.707
The FET college actively promotes entrepreneurship	8.74%	5.83%	8.25%	11.17%	6.8%	37.38%	21.84%	5.01	1.901
At our FET we have been taught about Government programmes that promote small businesses	10.68%	15.53%	4.37%	16.02%	6.31%	32.04%	15.05%	4.48	2.028
At our FET we have had a guest speaker from NYDA	27.67%	32.04%	4.37%	8.25%	2.91%	13.59%	11.17%	3.09	2.143
At our FET we have been taught about what the NYDA does to promote small businesses	22.33%	27.67%	6.80%	9.22%	4.37%	21.84%	7.77%	43.42	2.119

Entrepreneurship:

Eight questions addressed an enabling environment for entrepreneurship. These assessed the extent to which government provides an enabling environment for entrepreneurship. The majority of respondents (94.18 per cent) strongly agreed with the statement that entrepreneurship creates jobs (mean= 6.43) and that entrepreneurial education and training would enable them to start their own businesses (86.41 per cent), with mean= 6.01. Only 50.01 per cent of respondents believed that government creates a favourable environment for entrepreneurship in order to increase business start-up (mean= 4.56). Table 10 details the results

Table 10: Enabling environment (entrepreneurship)

Statement	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree	Mean	Std. deviation
Entrepreneurship is the best option for economic participation rather than seeking for paying employment	1.46%	0.49%	1.46%	6.80%	5.34%	26.70%	57.77%	6.25	1.191
The South African Government creates an environment that is encouraging entrepreneurship	5.34%	12.62%	4.3%	23.30%	9.71%	28.16%	16.50%	4.70	1.807
Entrepreneurship and business create jobs	0.0%	0.97%	0.97%	3.88%	6.31%	23.79%	64.08%	6.43	0.959
Gauteng is an excellent place to start a business	0.97%	8.74%	3.4%	16.99%	14.08%	23.3%	32.52%	5.34	1.636
Gauteng is an entrepreneurial friendly place	2.91%	6.8%	4.37%	20.39%	10.68%	29.61%	25.24%	5.19	1.655
Government creates a favourable environment for entrepreneurship to increase business start-up	6.31%	11.17%	6.31%	26.21%	7.77%	30.10%	12.14%	4.56	1.771
The country has successful entrepreneurs who inspire me	1.94%	4.37%	3.88%	12.62%	8.7%	35.92%	32.52%	5.60	1.517
Entrepreneurship education and training will enable me to start my own business	2.91%	0.49%	1.94%	8.25%	6.8%	32.52%	47.09%	6.01	1.363

Support structures:

Six questions addressed the enabling environment provided by government support structures to assess the extent to which respondents thought these were important in providing support for entrepreneurial endeavours. The majority of respondents (66.02 per cent) strongly agreed with the statement that there is adequate information on how to start a business (mean= 5.16), and 63.16 per cent strongly agreed that government youth programmes for entrepreneurship are supportive to the youth who want to venture into business (mean= 4.77). Table 11 details the results.

Table 11: Enabling environment (support structures)

Statement	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree	Mean	Std. deviation
There is adequate information on how start a business	1.46%	10.19%	4.37%	17.96%	6.8%	38.83%	20.39%	5.16	1.641
There is adequate access to finance (loans, lending)	11.65%	21.84%	6.8%	16.02%	7.77%	28.16%	7.77%	4.02	1.978
It is easy to register a new business	6.80%	24.27%	7.77%	15.05%	11.65%	18.93%	15.53%	4.19	1.978
There is information of government programmes that support youth entrepreneurship	6.8%	24.27%	7.77%	15.05%	11.65%	18.93%	15.53%	5.00	1.630
The programmes of youth entrepreneurship provided by government are supportive to youth who want to start a business	1.94%	9.22%	7.28%	18.93%	11.17%	34.47%	16.99%	4.77	1.645
Supporting institutions for youth entrepreneurship like the National Youth Development Agency (NYDA) play a big role in developing youth to become entrepreneurs	2.71%	9.71%	7.28%	26.7%	9.22%	30.10%	14.08%	5.02	1.805

4.3.2 Human capital

This section presents descriptives for the human capital construct, which was divided into two subsections, namely skills development and entrepreneurship education.

Skills development:

Four questions sought to assess whether the skills development courses provided by the TVET colleges assisted the students in gaining relevant skills through apprenticeship. Over half of the respondents (59.8 per cent) strongly agreed with the statement that apprenticeship assisted them to gain the necessary skills for their perceived ventures (mean= 4.63). A similar number (58.79 per cent) strongly agreed that, after the skills development courses, their desire to start a business increased (mean= 4.78). Table 12 details the results.

Table 12: Human capital (skills development)

Statement	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree	Mean	Std. deviation
The college sent us to relevant companies for apprenticeship	20.39%	15.05%	2.91%	20.39%	4.85%	22.33%	14.08%	3.98	2.167
Apprenticeship helped me gain the necessary skills and experience	16.02%	11.17%	0.97%	12.14%	3.88%	24.37%	31.55%	4.76	2.280
The apprenticeship programme assisted me to gain necessary skills for my perceived business venture	14.56%	10.19%	3.88%	14.08%	8.25%	24.27%	24.76%	4.63	2.159
After the course, skills development through apprenticeship, my desire to start a business has highly increased	13.59%	12.14%	2.91%	12.14%	5.83%	20.39%	33.01%	4.78	2.237

Entrepreneurial education:

Four questions sought to assess whether the entrepreneurial education courses provided by the TVET colleges assisted the students in gaining entrepreneurial knowledge. The majority of respondents (79.89 per cent) strongly agreed with the statement that the entrepreneurial courses provided them with an opportunity to learn by doing (mean= 5.57). A similar number (77.09 per cent) strongly agreed that the entrepreneurial course enabled them to have a better understanding of business (mean= 5.43). Table 13 details the results.

Table 13: Human capital (entrepreneurial education)

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree	Mean	Std. deviation
This course has enabled me to have a better understanding about business	5.37%	6.83%	2.44%	8.29%	6.34%	42.44%	28.29%	5.43	1.740
This course has enabled me to develop entrepreneurship knowledge	5.37%	9.76%	3.9%	9.76%	10.73%	36.1%	24.39%	5.17	1.821
The course(s) provided a new and different experience about business	5.34%	7.77%	3.4%	9.22%	11.17%	39.32%	23.79%	5.26	1.753
The course(s) provided an opportunity of learning by doing	5.39%	3.92%	4.41%	6.37%	8.82%	35.29%	35.78%	5.57	1.706

4.4 Validity of constructs

The properties of the research instrument for both independent and dependant variables were assessed for validity and reliability. The exploratory factor analysis was employed to determine the underlying relationship between the independent variables (enabling environment, skills development, and entrepreneurial education) and the dependent variable (entrepreneurial intent). This was done through the process of data reduction in which highly interrelated variables were converged. Though the research instrument was compiled from previous research instruments, which were used and validated by other scholars, it was still crucial to retest validity because the scale was an amalgamation of different scales.

The Kaiser-Meyer-Olkin test (KMO) was employed to test the suitability of data for factor analysis by testing the sampling adequacy of an enabling environment, entrepreneurial education, and skills development (Field, 2013). Bartlett's test of sphericity was employed to test the null hypothesis of the item-correlation matrix, which is an identity matrix (Sreejesh & Mohapatra, 2014). The KMO value results were 0.867, indicating high aptness of the sample for factor analysis, and Bartlett's test of sphericity was 0.00, which was regarded as significant (Field, 2013; Sreejesh & Mohapatra, 2014). The results are detailed in Table 14.

Table 14: KMO and Bartlett's test (independent variables)

Test		Result
Kaiser-Meyer-Olkin measure of sampling adequacy		.867
Bartlett's test of sphericity	Approx. Chi-Square	2254.511
	Df	253
	Sig.	.000

To determine the measures of sampling adequacy, the anti-image matrices were employed, as seen in Appendix D. All the diagonal elements in the anti-image correlation matrix marked with "a" were above 0.40, indicating strength of the correlation between each item in the matrix.

An eigenvalue is a number that demonstrates the amount of variance in the data in the direction in which data is spread out (Ledesma & Valero-Mora, 2007). From 23 factors that remained after component analysis, only five had eigenvalues above 1, with the final rotated sum square loadings, which accounted for five items, totalling 63.0 per cent of the variance. Table 15 details the results.

Table 15: Eigenvalue principal axis factoring results (independent variables)

Component	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings[a]
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total
1	7.299	31.733	31.733	7.299	31.733	31.733	4.679
2	2.548	11.080	42.813	2.548	11.080	42.813	4.252
3	1.897	8.247	51.060	1.897	8.247	51.060	4.772
4	1.460	6.347	57.407	1.460	6.347	57.407	4.470
5	1.298	5.642	63.048	1.298	5.642	63.048	3.212
6	.976	4.245	67.293				
7	.840	3.652	70.946				
8	.731	3.180	74.126				
9	.669	2.909	77.035				
10	.606	2.637	79.672				
11	.574	2.498	82.170				
12	.558	2.425	84.595				
13	.510	2.218	86.813				
14	.443	1.926	88.738				
15	.422	1.834	90.572				
16	.381	1.657	92.230				
17	.353	1.533	93.763				
18	.339	1.473	95.235				

Component	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings[a]
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total
19	.296	1.288	96.523				
20	.276	1.199	97.722				
21	.216	.938	98.660				
22	.211	.916	99.575				
23	.098	.425	100.000				

Extraction method: Principal component analysis
a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

To determine the eigenvalue data variance, the item numbers from the scree plot are compared to the variable in Table 15. These items are also seen in the first five components of the steep slope of the scree plot in Figure 5, where, in the preliminary results, the eigenvalue for each component is plotted (Field, 2013). The line in the scree plot represents eigenvalues of the factors in an analysis and indicates the number of factors to keep in an exploratory factor analysis (Ledesma and Valero-Mora, 2007).

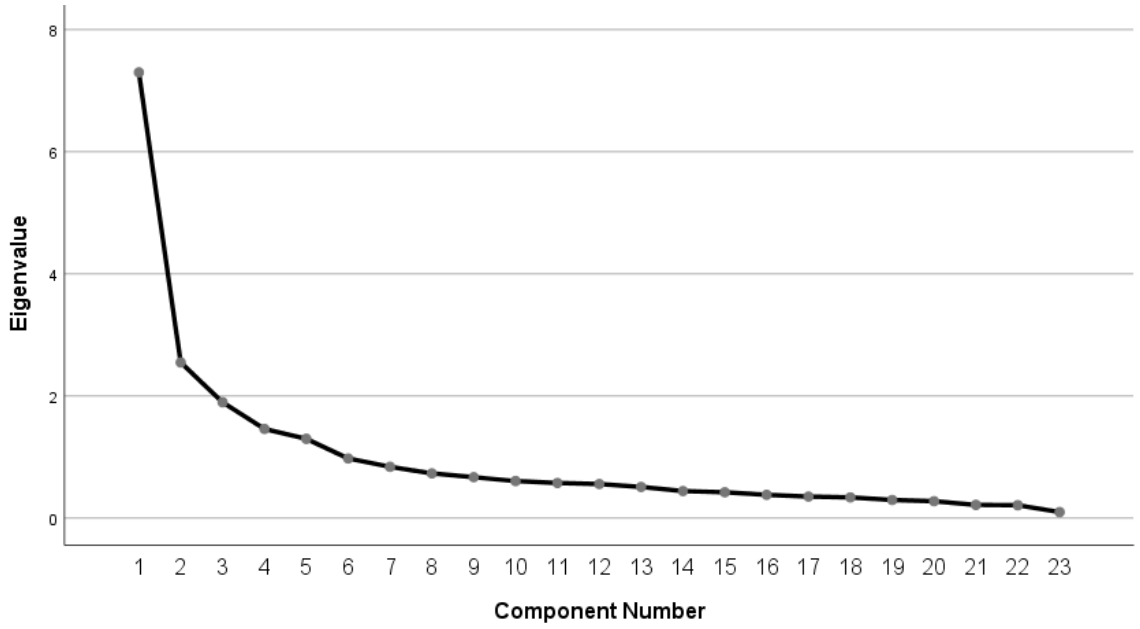


Figure 5: Scree plot – eigenvalue data variance

The purpose of a rotated component matrix was to show the nature of the five factors which were extracted, as depicted in Table 16. All the components in human capital (entrepreneurial education and skills development) and in enabling environment (TVET, entrepreneurship, and support structures) were measured by performing a principal component analysis. All factors with negative factor loadings (or those less than three) and parallel loadings were removed.

According to Hair et al. (2010) and Field (2013), factors with loadings that are 0.3 and above are selected to exemplify a factor as an outcome of its superior influence and position.

In factor loading one, the enabling environment (support structures) was moderately loaded within the range of 0.4 to 0.7. In factor loading two, human capital (skills development) was strongly loaded within the range of 0.8 to 0.9. In factor loading three, the enabling environment (TVET) was moderately loaded within the range of 0.5 to 0.7. In factor loading four, human capital (entrepreneurial education) was moderately-to-strongly loaded within the range of 0.6 to 0.8. Lastly, in factor loading five, enabling environment (entrepreneurship) had two of its components moderately loaded in factor one (0.6 and 0.7), while the rest loaded moderately to strongly within the range of 0.5 to 0.8 in factor five. Table 16 details the results.

Table 16: Factor loading of instrument questions

Pattern matrix[a]					
Statement	**Component**				
	1	**2**	**3**	**4**	**5**
The programmes of youth entrepreneurship provided by government are supportive to youth who want to start a business	.767				
Supporting institutions for youth entrepreneurship like the National Youth Development Agency (NYDA) play a big role in developing youth to become entrepreneurs	.732				
Government creates a favourable environment for entrepreneurship to increase business start-up	.661				

Pattern matrix[a]					
Statement	Component				
	1	2	3	4	5
The South African Government creates an environment that is encouraging entrepreneurship	.647				
There is information about government programmes that support youth entrepreneurship	.617				
There is adequate access to finance (loans, lending)	.598				
It is easy to register a new business	.465				
Apprenticeship helped me gain the necessary skills and experience		.915			
The apprenticeship programme assisted me to gain necessary skills for my perceived business venture		.911			
After the course and skills development through apprenticeship, my desire to start a business has highly increased		.809			
The college sent us to relevant companies for apprenticeship		.808			
The FET college actively promotes entrepreneurship			.790		
At our FET we have been taught about what government programmes that promote small businesses			.663		
In my FET, you get to meet lots of people with good ideas for a new business			.641		
The courses I take at the FET prepare me well for an entrepreneurial career			.594		
In my FET, students are actively encouraged to pursue their own business ideas			.587		
The course(s) provided a new and different experience about business				.878	
This course has enabled me to have a better understanding about business				.774	
The course(s) provided an opportunity of learning by doing				.735	
This course has enabled me to develop entrepreneurship knowledge				.645	

Pattern matrix[a]					
Statement	Component				
	1	2	3	4	5
Entrepreneurship education and training will enable me to start my own business					.828
Entrepreneurship is the best option for economic participation rather than seeking for paying employment					.819
The country has successful entrepreneurs who inspire me					.548

Extraction method: Principal component analysis
Rotation method: Promax with Kaiser normalisation[a]
a. Rotation converged in 8 iterations.

Entrepreneurial intent was the dependant variable, which had four items with an adequate data matrix that allowed for the Kaiser-Meyer-Olkin (KMO) measure of sampling to be conducted. The KMO value was 0.781, indicating high aptness of the sample for factor analysis, and Bartlett's test of sphericity yielded a value of 0.00, which indicated its significance. Table 17 details the results

Table 17: Results of KMO and Bartlett's test (dependent variables)

Test		Result
Kaiser-Meyer-Olkin measure of sampling adequacy		.781
Bartlett's test of sphericity	Approx. Chi-Square	405.019
	Df	6
	Sig.	.000

As depicted in Table 18, only one factor item with an acceptable eigenvalue of 2.811 and final rotated sum square loadings variance at 70 per cent was an appropriate factor structure for the dependent variable scale.

Table 18: Eigenvalues principal axis factoring results (dependent variables)

Component	Initial eigenvalues			Extraction sums of squared loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.811	70.263	70.263	2.811	70.263	70.263
2	.620	15.504	85.767			
3	.341	8.516	94.283			
4	.229	5.717	100.000			

Extraction method: Principal component analysis

There is congruency between the eigenvalue factor in the scree plot (Figure 6) and the exploratory factor analysis, as one factor, which is the same number of the eigenvalue greater than one, was extracted.

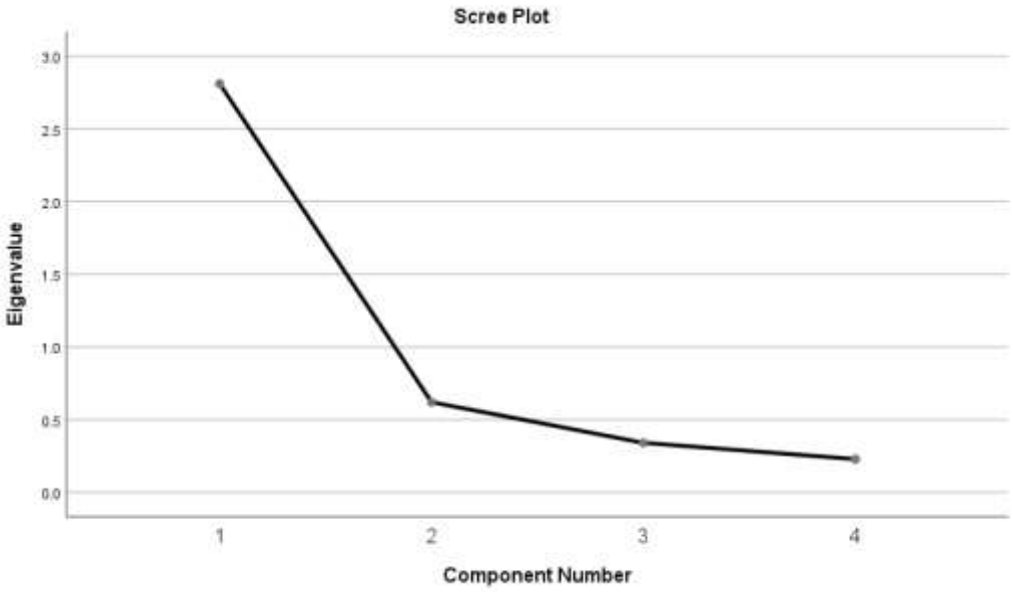


Figure 6: Eigenvalue data variance

4.5 Reliability of research instrument

Cronbach's alpha was used to assess the reliability of the instrument by testing if internal inconsistency existed.

4.5.1 Reliability analysis for enabling environment (TVET)

The results in Table 19 indicate that the enabling environment (TVET) had five items with good reliability.

Table 19: Reliability of enabling environment (TVET)

Cronbach's alpha	Cronbach's alpha based on standardised items	N of items
.811	.811	5

4.5.2 Reliability analysis for enabling environment (entrepreneurship)

The results in Table 20 indicate that enabling environment (entrepreneurship) had five items with adequate reliability.

Table 20: Reliability of enabling environment (entrepreneurship)

Cronbach's alpha	Cronbach's alpha based on standardised items	N of items
.672	.672	5

4.5.3 Reliability analysis for enabling environment (support structures)

The results in Table 21 indicate that enabling environment (support structures) had five items with adequate reliability.

Table 21: Reliability of enabling environment (support structures)

Cronbach's alpha	Cronbach's alpha based on standardised items	N of items
.767	.767	5

4.5.4 Reliability analysis for human capital (skills development)

The results in Table 22 indicate that human capital (skills development) had four items with excellent reliability.

Table 22: Reliability of human capital (skills development)

Cronbach's alpha	Cronbach's alpha based on standardised items	N of items
.913	.913	4

4.5.5 Reliability analysis for human capital (entrepreneurial education)

The results in Table 23 indicate that human capital (entrepreneurial education) had four items with good reliability.

Table 23: Reliability of human capital (entrepreneurial education)

Cronbach's alpha	Cronbach's alpha based on standardised items	N of items
.821	.821	4

Table 24 shows a summary of the reliability analysis that was carried out for all the constructs. Human capital and entrepreneurial intent each had constructs with four items with good and excellent Cronbach's alphas. Enabling environment had five items with good and adequate Cronbach's alphas.

Table 24: Summary of reliability analysis

Composite variables	Cronbach's alpha	N of items	Acceptable Cronbach's alpha
Human capital: Entrepreneurial education	.821	4	Good
Human capital: Skills development	.913	4	Excellent
Enabling environment: TVET	.811	5	Good
Enabling environment: Entrepreneurship	.672	5	Adequate

Composite variables	Cronbach's alpha	N of items	Acceptable Cronbach's alpha
Enabling environment: Support structures	.767	5	Adequate
Entrepreneurial intent	.857	4	Good

4.6 Correlation analysis results

The strength of the association between two quantitative variables is measured through correlation analysis, with high correlations indicating a strong linear relationship between two or more variables and weak correlations indicating an absence of a linear relationship between variables (Bewick, Cheek & Ball, 2003). The range for the correlation coefficient values is -1.0 to 1.0, and the relation is positively strong at 1.0 and negatively strong at -1.0.

The results in Table 25 depict strong positive and significant correlations between entrepreneurial intent and an enabling environment (TVET) ($r=0.595$, $p<0.01$), enabling environment (entrepreneurship) ($r=0.423$, $p<0.01$), enabling environment (support structures) ($r=0.434$, $p<0.01$), and entrepreneurial intent ($r=0.407$, $p<0.01$). There were strong positive correlations between entrepreneurial intent and human capital (skills development) ($r=0.335$, $p<0.01$), and human capital (entrepreneurship education) ($r=0.596$, $p<0.01$).

These correlation results permit further analyses to be performed in order to test all the hypotheses on the promotion of entrepreneurial intent.

Table 25: Results for correlation analysis

Variables	1	2	3	4	5	6
Human capital: Entrepreneurial education	1					
Human capital: Skills development	.317**	1				

Variables	1	2	3	4	5	6
Enabling environment: TVET	.523**	.389**	1			
Enabling environment: Entrepreneurship	.407**	.266**	.483**	1		
Entrepreneurial intent	.596**	.335**	.595**	.423**	1	.434**
Enabling environment: Support structures	.407**	.301**	.510**	.540**	.434**	1

** Correlation is significant at the 0.01

4.7 Multiple linear regression results

In this section, multiple regression analysis was carried out to analyse and test all three hypotheses. The purpose of the study was to assess the extent to which an enabling environment encourages entrepreneurial intent among youth at TVET colleges. Three hypotheses on the enabling environment with three dimensions were tested, namely, TVET, entrepreneurship, support structures, and human capital with two dimensions, namely, skills development and entrepreneurial education. The regression analysis results are followed by the interpretation in accordance with each hypothesis. The assumptions of normality, linearity, and homoscedasticity, and the absence of multicollinearity were assessed.

The Model summary in Table 26 details the intensity of the connection between the model and entrepreneurial intent (dependant variable). The coefficient of determination (R square) is the value of the multiple correlation coefficient which measures the adequacy of the model fit to the data (Field, 2013). The effects of an enabling environment (TVET, entrepreneurship, and support structures) and human capital (skills development and entrepreneurial education) were tested. There was a 0.480 variation of entrepreneurial intent indicated by R square, and the Durbin Watson statistic value of 1.809, which was more than one and closer to two, suggested the absence of correlation between error items. The problem of correlated error items does not exist when the Durbin Watson statistic is two, but if it is less than one and greater than three (1>DW>3), it means there was correlation between error items (Galawe, 2017; Field, 2013). The R-square value of

entrepreneurial intent revealed that an enabling environment and human capital accounted for 48 per cent variance (*R2* = 0.480, *F* = 36.988, *p* < 0.05), as seen in Table 26.

Table 26: Model summary: Entrepreneurial intent

Model	R	R square	Adjusted R square	Std. error of the estimate	Durbin-Watson
1	.693[a]	.480	.467	1.05663	1.809

a. Predictors: (Constant), human capital entrepreneurial education, human capital skills development, entrepreneurial education (entrepreneurship), enabling environment (support structures), enabling environment (TVET)

The F-change significance was measured and was statistically significant at p<0.05, as indicated in Table 27, thus indicating its validity. Therefore, an enabling environment and human capital, in the promotion of entrepreneurial intent among the youth at TVET colleges, were statistically significant at 0.00, with F= 36.988.

Table 27: ANOVA results: Entrepreneurial intent

Model		Sum of squares	Df	Mean square	F	Sig.
1	Regression	206.483	5	41.297	36.988	.000[b]
	Residual	223.294	200	1.116		
	Total	429.777	205			

b. Predictors: (Constant), human capital entrepreneurial education, human capital skills development, enabling environment (entrepreneurship), enabling environment (support structures), enabling environment (TVET)

As illustrated in Figures 7 and 9, normal distribution of data can be observed from the histogram and P-P Plot. Normality is expounded in Chapter 3. Homoscedasticity, referred to as the homogeneity of variances, is shown by the distribution of items in the scatterplot in Figure 8. Its assumption of same variance was vital to linear regression models as it defined a situation in which the error term was similar across all values of the enabling environment (independent variables) (Field, 2013). The error term then became the random disturbance in the relationship between the enabling environment, human capital (independent variables) and the entrepreneurial intent (dependent variable) (Field, 2013). As seen in the scatterplot in Figure 8, not much disturbance is realised. Since normal

distribution and homoscedasticity were realised, checking for linearity (assumption for regression) was not required.

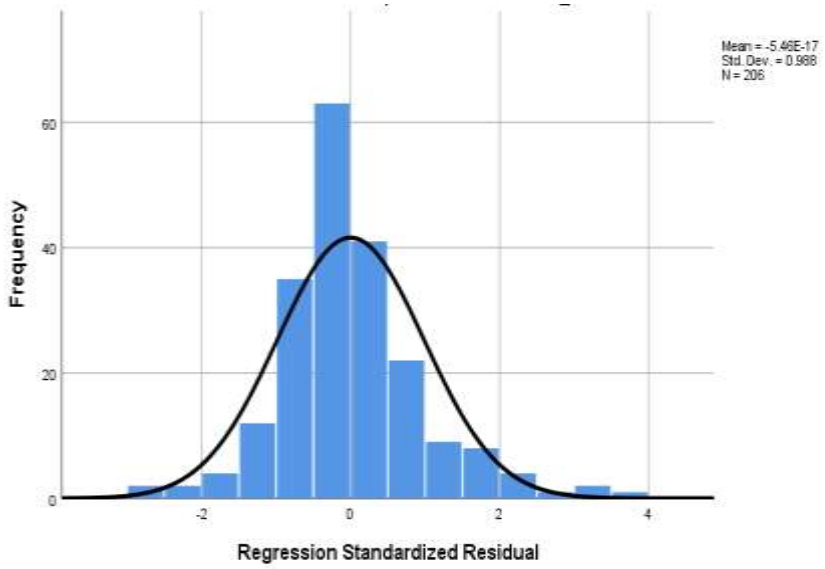


Figure 7: Histogram: Entrepreneurial intent

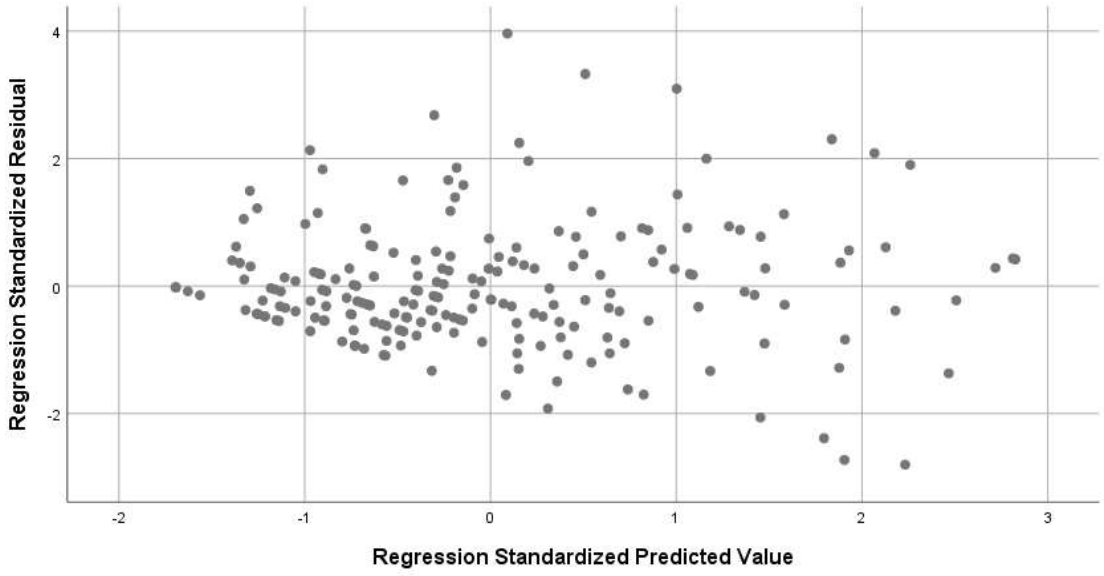


Figure 8: Homoscedasticity: Entrepreneurial intent

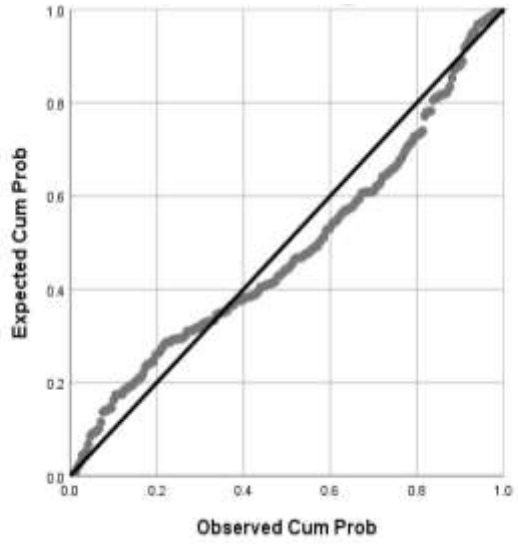


Figure 9: P-P plot: Entrepreneurial intent

Table 28 indicates the effect of the dependent variable on the variance in the independent variable as well as the significance levels. The regression equation was symbolised by β (constant), so when entrepreneurial intention is 0, the enabling environment (support structures) should be 0.072 units, enabling environment (entrepreneurship) should be 0.071 units, enabling environment (TVET) should be 0.316, human capital (skills development) should be 0.059 and human capital (entrepreneurship education) should be 0.354 units. This assisted in testing the relationship between the enabling environment, human capital (independent variables) and entrepreneurial intent (dependent variable), which was the outcome variable (Field, 2013).

If the coefficients beta value is negative or zero, then there is a negative relationship between the construct and the independent variable. The VIF values in Table 28 are below 10 and t is above 0.2, indicating there was no problem with multicollinearity (assumption of regression) (Galawe, 2017).

Table 28: Coefficients for Hypothesis 1

Model		Unstandardised coefficients		Standardised coefficients	t	Sig.	Collinearity statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.107	.239		.447	.655		
	Enabling environment (support structures)	.080	.072	.072	1.113	.267	.613	1.631
	Enabling environment (entrepreneurship)	.101	.091	.071	1.114	.267	.635	1.575
	Enabling environment (TVET)	.328	.070	.316	4.661	.000	.566	1.766
	Human capital (skills development)	.044	.041	.059	1.055	.293	.821	1.219
	Human capital (entrepreneurial education)	.361	.063	.354	5.703	.000	.675	1.482

4.7.1 Hypothesis 1

- *H1*: An enabling environment can increase entrepreneurial intent.

These results indicated that an enabling environment for support structures was responsible for 7.2 per cent of change in entrepreneurial intention at β=0,072, p>0.05, among the youth at TVET colleges and was insignificant.

An enabling environment for entrepreneurship was responsible for 7.1 per cent of change in entrepreneurial intention at β=0.071, p>0.05, among the youth at TVET colleges and was insignificant.

An enabling environment provided by the TVET colleges was responsible for 32 per cent of change in entrepreneurial intention at β=0.316, p<0.05, among the youth at these colleges and was significant.

Enabling environment for support structures and entrepreneurship were both minimal and insignificant, while enabling environment provided by the TVET colleges was not large, but significant. Hypothesis 1, stating that an enabling environment increases entrepreneurial intent, was supported.

4.7.2 Hypothesis 2

- H2: There is a positive correlation between skills development and entrepreneurial intent at TVET colleges

These results indicated that skills development was responsible for 5.9 per cent of change in entrepreneurial intention at β=0,059, p>0.05, among the youth at TVET colleges and was not significant. Skills development was about skills imparted by TVET colleges to students. The change percentage was minimal and insignificant. Hypothesis 2, stating that a positive correlation exists between skills development and entrepreneurial intent at TVET colleges, was supported.

4.7.3 Hypothesis 3

- H3: There is a positive correlation between entrepreneurial education and entrepreneurial intent at TVET colleges

Entrepreneurial education was responsible for 35 per cent of change in entrepreneurial intention at β=0.354, p<0.05, among the youth at TVET colleges and was significant. This was about the entrepreneurial education imparted by TVET colleges to students to promote their entrepreneurial intent. The change percentage is minimal and significant. Hypothesis 3, stating that a positive correlation exists between entrepreneurship education and entrepreneurial intent at TVET colleges, was supported..

4.8 Summary of the chapter

The chapter presented the results of data collected in order to test the hypotheses for this study. The respondents were TVET final-year students (males and females) and those who had completed two or more entrepreneurial and skills development

modules. There were 216 responses for the research instrument, and after data screening and cleaning, the study had a total valid response rate of 206.

Descriptive statistics were employed for the analysis of demographic characteristics, namely age, gender, and the study programme in which students were enrolled. The proportion of respondents was slightly skewed in terms of gender, with more males than females. The majority of respondents were between the ages of 25 and 34 years, followed by 18 to 24 years, and most respondents enrolled for the skills development course and the Nated Report 191 N4-N6.

The validity and reliability of the scales and constructs used for this study were tested to check the structure of factor items and were found to be valid and reliable. The exploratory factor analysis results of items had a resulting structure of five items after convergence of variables, and the scales for all constructs ranged from excellent to good, with strong to moderate loadings.

Correlation analysis was conducted to test the strength of relationships that existed between the variables, and the results depicted strong positive and significant correlations between entrepreneurial intent and all the dimensions of enabling environment. There were also strong positive correlations between entrepreneurial intent and both dimensions of human capital.

Multiple regression analysis was employed to test the hypotheses and all the multiple regression assumptions were checked. The results of Hypothesis 1 were positive and significant, and the hypothesis was supported. The results of both Hypotheses 2 and 3 were positive and insignificant, and the hypotheses were supported. Table 29 shows a summary of these results.

Table 29: Summary of results of hypothesis testing

Hypothesis	Statement	Results	
H1	An enabling environment increases entrepreneurial intent. -ENVTVET	Supported	Significant
	An enabling environment increases entrepreneurial intent. -ENVE		Insignificant
	An enabling environment increases entrepreneurial intent. -ENVSS		Insignificant
H2	There is a positive correlation between skills development at TVET colleges and entrepreneurial intent.	Supported	Insignificant
H3	There is a positive correlation between entrepreneurial education in TVET colleges and entrepreneurial intent.	Supported	Significant

The results presented in this chapter are expounded in Chapter 5.

CHAPTER 5 DISCUSSION OF RESULTS

5.1 Introduction

This chapter analyses and discusses the results presented in Chapter 4 by aligning them with the literature review discussed in Chapter 2. This ensures that the objectives and the problem statement of the study are addressed. The chapter is divided into five sections: one briefly analysing and discussing the demographics, three analysing and discussing findings from the hypotheses, and finally a summary.

5.2 Demographic profile of respondents

5.2.1 Gender profile of respondents

In this study, the representation of males at 50.2 per cent was more than that of females at 49.3 per cent. These results are in line with those of Motha (2015), who, in his study on an enabling environment of entrepreneurship for the youth, had a gender distribution of 67 per cent males, and 33 per cent females while Skosana (2012) had a gender distribution of 45.6 per cent males and 54.4 per cent females. Muhammad, Aliyu and Ahmed (2015), in their study that investigated the entrepreneurial intention among Nigerian university students, had a gender distribution of 23.4 per cent females and 76.6 per cent males. Various studies found that in developing countries, gender distribution among participants consists of more males than females, with a few increases in the number of females undertaking entrepreneurial activities (Premand, Brodmann, Almeida, Grun, & Mahdi, 2016). These scholars stated that in most African regions, men have a greater likelihood of being self-employed than women, and the percentage of employed men and women increases for ages 15 to 40 years (Premand et al., 2016).

5.2.2 Age profile of respondents

The age distribution in this study presented a high percentage of individuals in the age range of 25 to 34 years at 54.1 per cent, followed by 18 to 24 years at 44.9 per cent and only 0.5 per cent for ages 35 to 44 years. Muhammad et al. (2015) did not have an age representation in the results of their study. According to Singer et al. (2018), the age group of 18 to 64 years, individuals with a positive entrepreneurial intention, are 30.3 per cent for factor-driven communities, 26.3 per cent for efficiency-driven communities, and 15.2 per cent for innovation-driven economies. These scholars also stated that the most active entrepreneurs are those aged 25 to 34 years and 35 to 44 years across all growth phases (Singer et al., 2018).

In developing countries, only a few individuals among the youth are self-employed; hence, policymakers contemplate entrepreneurial education as having robust potential to enable the youth to gain skills and thus venture into business (Grindling & Newhouse, 2014; Premand et al., 2016). However, Mlatsheni and Leibbrandt (2011) argued that in South Africa this is not the case as entrepreneurial activity is as low as six per cent for youth between the ages of 15 and 30. The survey results for this study indicated that most individuals in the age group of 25 to 35 years, who participated in this survey believed that entrepreneurship was the best option. Investing in these youngsters would see government initiatives ensure that the youth moves towards entrepreneurship, thus reducing youth unemployment.

5.2.3 Programmes

The following programmes offered by the South African TVET colleges formed part of the research instrument: National Certificate (Vocational) (NVC), Nated Report 191 N4-N6, National Higher Certificate, Learnerships, Skills Programme, National Qualifications Framework (NQF) full time, Non-formal and ABET/AET. The majority of the participants were enrolled for a skills development programme (47.3 per cent), followed by the Nated Report 191 N4-N6 (35.7 per cent), then Learnerships (13.1 per cent), and the fewest were enrolled in the NC(V) (2.9 per cent) and the National Higher Certificate (0.5 per cent). These statistics give a positive indication that many students have a desire to venture into entrepreneurship, given the large

number of students who are enrolled for the skills development programme. As stated by Skosana (2012), TVET colleges are centres for young persons who have a desire to be instilled with new skills, which can have a positive contribution to skills development and small-medium enterprises in the country. A broad skills set is what balances an individual in their skills and human capital, and thus a restrictive factor to venturing into business is a person's weakest skill, resulting from a gap caused by inadequate experience (Moog, Werner, Houweling & Backes-Gellner, 2015).

5.3 Discussions of Hypothesis 1

Hypothesis 1 states that an enabling environment increases entrepreneurial intent. This hypothesis was supported and significant for an enabling environment (TVET, entrepreneurship, and support structures). The results of multiple regression showed that an enabling environment accounted for 48 per cent variance in promoting the students' entrepreneurial intent with R square willingness of 0.480. Therefore, if an inspiring, enabling environment is created for students, their positive outlook on business may strengthen, thus increasing their entrepreneurial intent.

However, for entrepreneurial activity to be realised, all the different forces that contribute to an enabling environment need to be functional. This is ascertained by Sondari (2014), who stated that the majority of scholars agree that for individuals to choose an entrepreneurial career, there are 'push' and 'pull' influences which affect the outcome of the decision (Matlay, 2008; Sánchez, 2018). This is also in line with Shirokova et al. (2016) who asserted that students' attitudes towards being self-employment drives their interest in entrepreneurial activities because of factors such as the environment in which they operate. Some scholars have highlighted factors like easy access to financing or desirable internal market dynamic forces as means of increasing an individual's desire to venture into entrepreneurship (Doytch & Epperson, 2012; Gibb & Ritchie, 1982; Shapero, 1978).

The survey results indicated that 19 per cent of students who participated in the study believed that their respective TVET colleges not only encouraged them to

carry out their own business ideas, but also prepared them for an entrepreneurial career. As asserted by Shirokova et al. (2015), to foster an entrepreneurial process, support services for entrepreneurial endeavours, university support services, and availability of incubators have been identified as critical in this process. Since the South African government is looking at adopting the German IVET system, it is worth noting that Thiel (2015), in his study of the IVET system, found that for the dual system to be successful, there needs to be strong stakeholder relations, which requires a lot of funding. Therefore, economic factors affect the inclination of companies to offer apprenticeships (Thiel, 2015).

Ten per cent of students agreed that government creates a favourable environment for entrepreneurs to generate start-ups and that entrepreneurship is the best option for economic development, while 17 per cent of students believed that there is adequate access to finance and that youth entrepreneurship programmes provided by government are supportive of those who want to venture into business. This aligns with the findings of Motha (2015), in his study on an enabling environment among the youth, which stated that even though structures such as the NYDA (support structures) have been set up, there is minimal recognition of these structures.

According to Beeka and Rimmington (2011), and Buang (2011), one of the possibilities for the youth and graduates is entrepreneurship. Hezekiah and Agboola (2011), and Schumpeter (1934) stated that entrepreneurship can positively influence a nation's economy; however, an enabling environment consisting of economic, socio-cultural, and political factors is vital (Crnogaj & Rebernik, 2013; Motha, 2015). Sánchez (2018) concurred with the above statement, indicating that the more conducive to entrepreneurship an entrepreneurial environment is, the greater the likelihood for entrepreneurial intent.

In the case of TVET colleges, this study indicated that the sector has faced enormous challenges (Badenhorst & Radile, 2018), and the South African government's efforts in trying to collaborate with the private sector as a means of building relations has been more of a superficial act than a value-added initiative for advancing the TVET curriculum (HRDC, 2014).

When observing correlation analysis results, correlation for an enabling environment for TVET was r=0.60, for enabling environment entrepreneurship was r=0.42 and for enabling environment support structures was r=0.423, suggesting that an enabling environment for TVET can increase entrepreneurial intent by 60 per cent, for entrepreneurship by 42 per cent and for support structures by 42 per cent. However, regression analysis results indicated that an enabling environment provided by TVET colleges was responsible for 32 per cent of entrepreneurial intention among its students. The entrepreneurial environment created by the government was responsible for 7.1 per cent of entrepreneurial intent among the students, while support structures were responsible for 7.2 per cent. However, Skosana and Urban (2012:1405) in their study in which they tested their hypothesis, which stated that "the promotion of entrepreneurship at FET colleges through government support of SMME support programmes had a positive effect on entrepreneurial intent", was not supported.

This finding tallies with that of Motha (2015) who found that awareness of entrepreneurial support did not influence young people's decision to become entrepreneurs. According to theoretical and empirical research, Shirokova et al., (2016), Orbell and Sheeran (1998), and Sheeran (2002) pointed out a gap amid the intention-behaviour relationships and having the intention to start a new venture and actually starting it (action). Toutain et al. (2017) indicated that development of an incentive-based regional policy, which will allow entrepreneurs access to existing resources such as mentorship and finance, will enhance the survival rates of businesses. The survival rates of businesses can spur students to develop entrepreneurial intent, as stated in Davidsson's model (Skosana, 2012). This is supported by Raposo and Do Paço (2011), who postulated that public policy has the aptitude to inspire entrepreneurship growth activity through explicit and subliminally generic measures.

Therefore, though Hypothesis 1, stating that an enabling environment can increase entrepreneurial intent was supported, more needs to be done by the South African government through its entrepreneurial support systems and structures, which are set to support the youth who aspire to become entrepreneurs. The creation of an

enabling environment through entrepreneurial activities is vital for the reduction of unemployment among the South African youth.

5.4 Discussions of Hypothesis 2

Hypothesis 2 stated that a positive relationship exists between skills development and entrepreneurial intent at TVET colleges. In the results of the multiple regression analysis, it was depicted that skills development accounted for 48 per cent variance in promoting the students' entrepreneurial intent, with R square willingness at 0.480. The hypothesis was supported and was insignificant ($p>0.05$). Therefore, if skills development knowledge is imparted to the students, their positive outlook on business will strengthen, thus increasing their entrepreneurial intent.

The survey results indicated that 39 per cent of students who participated in the study believed that their respective TVET colleges provided relevant apprenticeship opportunities, which assisted them in enhancing their skills and development, and thus enhanced their desire to start a business.

The correlation analysis results for human capital (skills development) at $r=0.335$ suggests that skills development training offered by TVET colleges can increase the entrepreneurial intent of students by 35 per cent. However, regression analysis results indicated that skills development training provided by the TVET colleges is only responsible for 5.9 per cent of entrepreneurial intention among its students. This indicates that much needs to be done for the South African government to achieve its goal of using TVET colleges as an avenue for skills development and a means of increasing entrepreneurial intent of students.

Sousa (2018) pointed out that technical skills combined with opportunity, competences and resources are a necessity to become an efficacious entrepreneur. In line with the findings of this study, research on human capital has indicated that entrepreneurship can be significantly impacted by human capital (Marvel et al., 2016), with the development of human capital and skills becoming a vital component of any state's socioeconomic evolution (Shabbir, Shariff, Alshaibani, Faisal & Salman, 2018). According to Garavan and O'Cinneide (1994),

most of the objectives that are frequently cited by scholars for training programmes and entrepreneurship education are obtaining skills through the employment of techniques, examining of business situations, and producing action plans.

Raposo and Do Paço (2011) supported this by postulating that entities can obtain skills and knowledge through efficacious entrepreneurial education. However, Lee, Chang and Lim (2005) argued that an individual's disposition and experience is not only idiosyncratically cultivated through education that establishes an entrepreneurial skill, but also through an environment of an individual's determination and education.

Hall and Jones (1999), and Shabbir et al. (2018:6) stated that for socio-economic growth and the development of human capital to be realised, stakeholder and institutional support (enabling environment) becomes an important requisite to assist with the promotion of "skills development and entrepreneurship initiatives" (entrepreneurial intent).

5.5 Discussions of Hypothesis 3

Hypothesis 3 stated that a positive correlation exists between entrepreneurial education and entrepreneurial intent at TVET colleges. In the results of the multiple regression, it was depicted that skills development accounted for 48 per cent variance in promoting student's entrepreneurial intent, with R square willingness at 0.480. The hypothesis was supported and was significant ($p<0.05$). The average variance percentage is an indication that skills development plays a critical role in promoting entrepreneurial intent among students. Therefore, if entrepreneurial education is imparted to students, their outlook on business may improve, thus increasing their entrepreneurial intent.

The correlation analysis results showed that human capital (entrepreneurial education) ($r=0.596$) training at TVET colleges can increase entrepreneurial intent of students by 60 per cent. However, regression analysis results indicated that entrepreneurship education training provided by the TVET colleges was responsible for 35 per cent of entrepreneurial intention among its students. This

indicates that a lot still needs to be done for government to achieve its goal of using TVET colleges as one of its avenues for imparting entrepreneurial education to students in anticipation of creating more entrepreneurs and thus reducing youth unemployment. Ezeuduji and Ntshangase (2017), in their study of entrepreneurial intention among youth, found that 92 per cent of their respondents had a formal or tertiary education, about 55 per cent had been exposed to entrepreneurial education, and 77 per cent had an entrepreneurial intent.

Literature by various scholars supported the findings of this study by indicating that entrepreneurship education increases the likelihood of students displaying entrepreneurial intent and starting their own ventures. Research conducted by Gorman, Hanlon and King (1997), and Raposo and Do Paço (2011) found that the degree to which entrepreneurial education is enforced has the ability to contribute to entrepreneurship. Raposo and Do Paço (2011) also concluded that there might be a possibility of observed links between entrepreneurial education and entrepreneurial activity; however, it might take a while before students move towards entrepreneurship. This might explain the low entrepreneurial activity among the South African youth (Ezeuduji & Ntshangase, 2017). Scholars pointed out that the problem of South Africa in terms of low entrepreneurial inclination is not due to a lack of creativity but results from a deficiency in entrepreneurial edification and skills development, which are vital empowerment tools in an enabling environment (Ezeuduji & Ntshangase, 2017; Maziriri & Madinga, 2016; Steenkamp, Van der Merve & Athayde, 2011).

Valerio, Parton and Robb (2014) argued that there is little evidence, which indicates that starting a business can be facilitated by entrepreneurial education, whereas Premand et al. (2016) found that there was a substantial increase in the rate of university graduates starting their own ventures almost a year after having gone through entrepreneurial education training. Kuttima, Kallaste, Vanessar and Kiis (2014), and Mahendra, Djatmika and Hermawan (2017) also found that students' entrepreneurial intentions increased through involvement in entrepreneurial education. The findings are in line with the literature on entrepreneurial education in Chapter 2.

Hypothesis 3 was supported, entrepreneurial education imparted by TVET colleges can raise entrepreneurial intent of students, though a lot still needs to be done considering the tremendous increase in youth unemployment rates as discussed in the first chapter.

5.6 Summary of the chapter

The purpose of this chapter was to assess the extent to which the South African government enables the promotion of entrepreneurial intent among youth at TVET colleges. Entrepreneurial intent was measured against an enabling environment, which consisted of an enabling environment in TVETs, entrepreneurship, and support structures. It was also measured against human capital, which consisted of skills development and entrepreneurial education.

The chapter reflected on the results of all the empirical findings presented in Chapter 4 and discussed them in relation to the literature review of the study, which is found in Chapter 2. The study concluded that government still has a lot to do in ensuring a favourable environment for entrepreneurship is created.

Hypothesis 1 hypothesised a positive relationship between an enabling environment and entrepreneurial intent, and the results supported the hypothesis. Hypothesis 2 hypothesised a positive relationship between skills development and entrepreneurial intent at TVET colleges and the results supported the hypothesis. Hypothesis 3 hypothesised a positive relationship between entrepreneurial education and entrepreneurial intent at TVET colleges, and the results supported the hypothesis.

The implications of these findings are discussed in the next chapter and recommendations are made.

CHAPTER 6 CONCLUSION, IMPLICATIONS, AND RECOMMENDATIONS

6.1 Introduction

The focus of this study was on an enabling environment in the promotion of entrepreneurship among youth at TVET colleges. This chapter draws the conclusion of the study, puts forth the theoretical and pragmatic implications, and makes recommendations for future research.

6.2 Conclusion of the study

The aim of the study was to investigate the extent to which the South African environment enables the promotion of entrepreneurial intent among the youth at TVET colleges. The results showed a significant correlation between an enabling environment (TVET, entrepreneurship, and support structures), human capital (skills development and entrepreneurial intent) and entrepreneurial intent. This indicated that an enabling environment (provided by the TVET colleges or government for entrepreneurship ventures) and government support structures, such as the NYDA, could promote entrepreneurial intent among the youth at TVET colleges. Human capital growth through skills development and entrepreneurial training also has the ability to promote entrepreneurial intent among youth at TVET colleges.

Provision of entrepreneurial education to ensure students gain entrepreneurial knowledge, skills, and pragmatic capabilities positively affects students' motivation and attitude towards entrepreneurship (Mahendra et al., 2017). Efficacy and expansion of support initiatives offered by government are crucial in creating an enabling environment and promoting entrepreneurship among students in FET colleges (Skosana, 2012). An enabling environment was shown by this study to increase entrepreneurial intent in TVET colleges. Skills development and

entrepreneurial education were also shown to have positive correlation with entrepreneurial intention, though the percentage was significantly low.

6.2.1 Sub-objective 1

- To determine the extent to which an enabling environment enables or constrains entrepreneurial intent among youth at TVET colleges.

Hypothesis 1, stating that an enabling environment can increase entrepreneurial intent, was supported with findings indicating the positive impact of an enabling environment on entrepreneurial intent among students in TVET colleges. Though Hypothesis 1 was supported, results showed that more needs to be done by the South African government through its entrepreneurial support systems and structures, which are set up to support the youth who aspire to become entrepreneurs. This is supported by Gnyawali and Fogel (1994), and Sánchez (2018), who argued that entrepreneurial motivation is not only influenced by the behaviour of individuals but also by enabling environmental conditions. Motha (2015) also found that when government creates an enabling environment through support structures and programmes, entrepreneurial activity increases.

6.2.2 Sub-objective 2

- To assess the extent to which skills development training provided to final-year students, or those students who have completed two or more entrepreneurship-related studies at TVET colleges, corresponds with entrepreneurial intent.

Hypothesis 2, stating that a positive relationship exists between skills development and entrepreneurial intent at TVET colleges, was supported and statistically insignificant, indicating that there is a positive correlation between skills development and entrepreneurial intent at TVET colleges. However, though the hypothesis was supported, the findings indicated minimal impact of skills development on entrepreneurial intent among students in TVET colleges. This is supported by Allais (2012:3), who argued, “the Skills Development Strategy has led to little skills development,” due to poor quality of skills development offered by

these colleges and low throughput rates (Taylor, 2011). McGrath and Powell (2016), and Powell (2014) argued that in vocational education and training colleges, their roles need to be readdressed in order for them to be instrumental in dealing with sustainable growth.

6.2.3 Sub-objective 3

- To assess the extent to which entrepreneurial education provided to final-year students, or those students who have completed two or more entrepreneurship-related studies at TVET colleges, corresponds with entrepreneurial intent.

Hypothesis 3, stating that a positive relationship exists between entrepreneurial education and entrepreneurial intent, was supported and statistically significant, indicating that there was a positive correlation between entrepreneurial education and entrepreneurial intent at TVET colleges. Though the hypothesis was supported, the findings indicated minimal impact of entrepreneurial education on entrepreneurial intent among students at TVET colleges. This is supported by Mahendra et al. (2017), who argued that expertise and entrepreneurial aptitude are gained through entrepreneurial education, which, according to Raposo and Do Paço (2011), motivates students by arousing the desire to become an entrepreneur.

6.3 Implications and recommendations

The task of assessing an enabling environment for the promotion of entrepreneurial intent among youth at TVET colleges was backed by various studies that also undertook research on an enabling environment for entrepreneurship. The discussion of the results in Chapter 5 showed how the findings of this study were congruent with those of other scholars such as Motha (2015), Sánchez (2018), and Skosana (2012). An enabling environment provided by TVETs, entrepreneurial services, support structures provided by government, and skills development and entrepreneurial education are crucial in developing the entrepreneurial intent of students at TVET colleges.

As discussed in Chapter 1, it was established that the country is faced with high youth unemployment, skills shortages, and skills mismatch, and that government is looking at using TVET colleges as one of the avenues to fight this unemployment pandemic by skilling the youth through apprenticeships with relevant companies and channelling them towards entrepreneurship. The study inferred that an enabling environment is vital for the support of any entrepreneurial activity. Since the focus was mainly on the youth at TVET colleges, the research would be beneficial for the government, various TVET colleges, and scholars who wish to look at other dimensions of an enabling environment in the promotion of entrepreneurial intent in this country.

Since government is responsible for creating an enabling environment, mainly through policy, according to Van der Walt, Van Niekerk, Doyle, Knipe and Du Toit (2001:164), South African policies – and in the case of this study those regarding entrepreneurship, youth policies and relevant support structures – should result in "enhanced public service delivery [and be] interpreted into realisable outcomes".

Therefore, as per the findings of this study, an enabling environment enhances the promotion of entrepreneurial intent. However, this enabling environment has to be created by the TVET colleges and by government through entrepreneurship support and relevant support structures. This requires clear policy outlines, which will ensure that the purpose of TVET colleges is clearly articulated to respond to the challenges facing the country. Entrepreneurship is a process that is largely led by policymakers, who are responsible for the design and implementation of regulations that seek to provide an appropriate environment for entrepreneurs to thrive (Audretsch et al., 2007; Sánchez, 2018). Therefore, entrepreneurial and skills development policies should seek to provide an encouraging entrepreneurial environment to assist in the process of making entrepreneurship an attractive option for students.

Government should also play a significant role in ensuring that TVET colleges have partnerships with relevant companies for students to gain further skills through apprenticeships. This will assist TVET colleges in providing an enabling environment for the students. Government support structures, such as the NYDA,

should be more visible in TVET colleges, as they are required to play a supportive role, such as offering start-up finances to the youth aspiring to venture into business. Most importantly, the success of creating an enabling environment for the youth at TVET colleges to develop entrepreneurial intent relies on the government ensuring that the TVET system is aligned with the South African developmental state. Therefore, before seeking to adopt the German model, it is imperative that government learns from the German system and applies concepts that are relevant to the South African developmental state.

6.4 Limitations of the study and suggestions for further research

This study has made contributions to research by showing what an enabling environment for entrepreneurship in TVET colleges encompasses, and integrating this with the entrepreneurial intentions model and human capital theory, focusing on skills development and entrepreneurial education. The entrepreneurial intentions of students were discussed by looking at an enabling environment in South Africa (developing country), in which students develop an entrepreneurial intent.

Collection of data for this study was done at two Ekurhuleni East TVET colleges, and not all college campuses were covered. This is a fraction of Gauteng's TVET colleges. Therefore, findings for Gauteng and other regions are unknown. It is therefore imperative for future research to focus on a larger scale by aiming at Gauteng as a whole, and even spreading to other regions.

Another limitation resulting in some insignificant results could have been that students did not fully understand some of the questions or were not honest. Students might also confuse apprenticeship offered internally by the colleges with external apprenticeships organised by the TVET college once students have completed their coursework.

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APPENDICES

Appendix A: Research Instrument for TVET Students

Section A: Demographics

Please place an “X” in the appropriate box

1.1	What is your gender	Male	Female	Other

1.2	What is your age?	Under 18	18 – 24	25 – 34	35 – 44	Above 35

1.3	Which programme you are enrolled for?	NC(V) Level 4	Nated Report 191 N4-N6	National Higher Certificate	Learner-ships	Skills Programme	NQF Full time	Non-Formal	ABET / AET

How to complete the questionnaire

For each of the questions in the questionnaire, there will be statements in which you will be asked to indicate how much you agree or disagree with each statement. Choose **only one** number for each statement as shown in example below:

Please indicate the extent to which you agree or disagree with the statement by ticking the corresponding number in the 7-point scale below. 1=strongly disagree, 2= somewhat disagree, 3= disagree, 4= neither agree nor disagree, 5= somewhat agree, 6= agree and 7= Strongly agree Statement	Strongly disagree	Somewhat disagree	Disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I find self-employment attractive							×

Section B: Human Capital: Entrepreneurial Education

These questions pertain to Entrepreneurship Education, please indicate the extent to which you agree or disagree with the statement by ticking the corresponding number in the 7- point scale below (Keat *et al*., 2011) Statement	Strongly disagree	Somewhat disagree	Disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
This course has enabled me to have a better understanding about business							
This course has enabled me to develop entrepreneurship knowledge							
The course(s) provided a new and different experience about business							
The course(s) provided an opportunity of learning by doing							

Section B: Human Capital: Skills Development

These questions pertain to Entrepreneurship Intention, please indicate the extent to which you agree or disagree with the statement by ticking the corresponding number in the 7- point scale below Statement	Strongly disagree	Somewhat disagree	Disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
The college sent us to relevant companies for apprenticeship							
Apprenticeship help me gained the necessary skills and experience							
The apprenticeship programme assisted me to gain necessary skills for my perceived business venture							
After the course, skills development through apprenticeship, my desire to start a business has highly increased							

Section C: Enabling environment for entrepreneurship: TVET

These questions pertain to Entrepreneurship Environment, please indicate the extent to which you agree or disagree with the statement by ticking the corresponding number in the 7- point scale below (Davidsson, 1995; Autio et al., 1997) **Statement**	**Strongly disagree**	**Somewhat disagree**	**Disagree**	**Neither agree nor disagree**	**Somewhat agree**	**Agree**	**Strongly agree**
In my FET, students are actively encouraged to pursue their own business ideas							
In my FET, you get to meet lots of people with good ideas for a new business							
The courses I take at the FET prepare me well for an entrepreneurial career							
The FET college actively promotes entrepreneurship							
At our FET we have been taught about Government programmes that promote small businesses							
At our FET we have had a guest speaker from NYDA							
At our FET we have been taught about what the NYDA does to promote small businesses							

Section C: Enabling Environment for entrepreneurship

These questions pertain to Entrepreneurship Intention, please indicate the extent to which you agree or disagree with the statement by ticking the corresponding number in the 7- point scale below Statement	Strongly disagree	Somewhat disagree	Disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Entrepreneurship is the best option for economic participation rather than seeking for pain employment							
The South African Government creates an environment that is encouraging entrepreneurship							
Entrepreneurship and business create jobs							
Gauteng is an excellent place to start a business							
Gauteng is an entrepreneurial friendly place							
Government creates a favourable environment for entrepreneurship to increase business start-up							
The country has successful entrepreneurs who inspire me							
Entrepreneurship education and training will enable me to start my own business							

Section C: Enabling Environment for entrepreneurship: Support structures

These questions pertain to Entrepreneurship Intention, please indicate the extent to which you agree or disagree with the statement by ticking the corresponding number in the 7- point scale below Statement	Strongly disagree	Somewhat disagree	Disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
There is adequate information on how to start a business							
There is adequate access to finance (loans, lending)							
It is easy to register a new business							
There is information of government programmes that support youth entrepreneurship							
The programmes of youth entrepreneurship provided by government are supportive to youth who want to start a business							
Supporting institutions for youth entrepreneurship like the National Youth Development Agency (NYDA) play a big role in developing youth to become entrepreneurs							

Section D: Entrepreneurial Intent

These questions pertain to Entrepreneurship Intention, please indicate the extent to which you agree or disagree with the statement by ticking the corresponding number in the 7- point scale below Statement	Strongly disagree	Somewhat disagree	Agree	Neither agree nor disagree	Somewhat agree	Agree	Strongly Agree
The entrepreneurial course has increased my desirability to venture into business							
The course equipped me with business planning skills							
The course taught me how to identify business opportunities							
The course taught me how to access financing for my perceived venture							

Appendix B: Approval to Conduct Research at TVET East College





HEAD OFFICE
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EEC-DP-CS-Letter

25 November 2019

Ms Hlengiwe N Kunene
37 Bishops Court
Mooinkloof Ridge Estate
PRETORIA
0081

Dear Ms Kunene

APPROVAL TO CONDUCT RESEARCH AT EKURHULENI EAST TVET COLLEGE

This letter serves to acknowledge that we have received and reviewed your request to conduct a research for your **Master's dissertation regarding the Exploration of the South African enabling environment in the promotion of entrepreneurial intent among youth in TVET Colleges**, and we are pleased to inform you that we approve of this research to be conducted at our institution.

Thank you for showing interest in our College, we are happy to participate in this study and to contribute to this important research.

Yours in Higher Education and Training.

Dr MM Muswaba (FCIS)
Deputy Principal: Corporate Services
MMM/ed

25/11/2019
Date

Appendix C: Ethical Clearance Certificate

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg

Wits Business School Ethics Committee
Constituted under the University Human Research Ethics Committee (Non-Medical)

Ethics Clearance Certificate

Ethics protocol number: WBS/BA2151641/838
This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below)

This certificate is only valid if accompanied by formal permission from the relevant stakeholder(s).

Project title	South African enabling environment in the promotion of entrepreneurial intent among youth in TVET colleges
Investigator / Researcher	Ms Hlengiwe Kunene
Nature of Project	MM (Entrepr & New Venture Creation)
Decision of the Committee	Approved unconditionally
Issue Date of Certificate	2019/11/19
Expiry date	Date of submission of the project report
Chairperson	Prof Anthony Stacey ☎ +27 11 717 3587 +27 82 880 4531 ✉ anthony.stacey@wits.ac.za

Declaration by Researcher

One copy must be signed by the Researcher and returned to the Chairperson of the Wits Business School Ethics Committee.

I fully understand the conditions under which I am authorized to carry out the abovementioned research and I guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I undertake to resubmit the protocol to the Committee.

Signature

21/11/2019
Date:

Appendix D: Instrument Results

Anti-image covariances for independent variables

	HCEE_1	HCEE_2	HCEE_3	HCEE_4	HCSD_1	HCSD_2	HCSD_3	HCSD_4	ENVTVET_1	ENVTVET_2	ENVTVET_3	ENVTVET_4	ENVTVET_5	ENVE_1	ENVE_2	ENVE_6	ENVE_7	ENVE_8	ENVSS_2	ENVSS_3	ENVSS_4	ENVSS_5	ENVSS_6
HCEE_1	.480	-.170	-.073	-.048	.001	.021	.010	-.020	-.019	.036	-.006	-.040	-.004	.052	.007	-.010	-.078	.048	-.018	.008	-.002	.002	.047
HCEE_2	-.170	.363	-.099	.030	.006	.011	.018	-.053	-.007	-.044	-.058	-.036	.040	-.013	-.039	-.027	-.049	-.058	.060	-.049	-.032	.018	.026
HCEE_3	-.073	-.099	.337	-.208	.033	.026	-.040	.039	-.001	.020	-.068	.027	-.077	-.059	-.060	.064	.085	.033	-.023	-.034	.000	-.011	.017
HCEE_4	-.048	.030	-.208	.461	-.047	-.063	.035	-.029	.022	-.034	.013	.021	.057	.022	.051	-.009	-.044	-.016	-.026	-.009	-.020	-.023	-.080
HCSD_1	.001	.006	.033	-.047	.423	-.082	-.071	.026	-.045	-.020	.013	-.027	.025	.015	.009	-.008	-.028	-5.809E-5	-.020	-.041	.019	-.003	-.023
HCSD_2	.021	.011	.026	-.063	-.082	.260	-.094	-.012	-.012	.013	.034	-.005	-.011	.008	-.041	.018	-.016	-.018	.048	-.024	-.015	.022	-.023
HCSD_3	.010	.018	-.040	.035	-.071	-.094	.146	-.118	.042	-.027	-.039	-.012	-.007	.009	-.009	.004	.002	.023	-.004	-.009	.014	-.014	.008
HCSD_4	-.020	-.053	.039	-.029	.026	-.012	-.118	.245	-.019	.024	.000	-.006	.001	-.026	.057	.004	.025	-.059	-.018	.015	.004	-.002	-.004
ENVTVET_1	-.019	-.007	-.001	.022	-.045	-.012	.042	-.019	.578	-.107	-.062	-.149	.019	-.051	-.022	.069	.021	-.033	-.025	-.091	-.028	-.038	.035
ENVTVET_2	.036	-.044	.020	-.034	-.020	.013	-.027	.024	-.107	.599	-.078	-.048	-.047	-.048	-.036	-.037	.032	.061	-.046	.072	-.014	-.057	-.003
ENVTVET_3	-.006	-.058	-.068	.013	.013	.034	-.039	.000	-.062	-.078	.483	-.083	-.018	.027	.084	-.063	.004	-.100	-.079	.056	.016	.014	.015
ENVTVET_4	-.040	-.036	.027	.021	-.027	-.005	-.012	-.006	-.149	-.048	-.083	.417	-.170	-.009	-.054	.012	-.023	.003	.056	.027	-.035	.022	-.007

	HCEE_1	HCEE_2	HCEE_3	HCEE_4	HCSD_1	HCSD_2	HCSD_3	HCSD_4	ENVTVET_1	ENVTVET_2	ENVTVET_3	ENVTVET_4	ENVTVET_5	ENVE_1	ENVE_2	ENVE_6	ENVE_7	ENVE_8	ENVSS_2	ENVSS_3	ENVSS_4	ENVSS_5	ENVSS_6
ENVTVET_5	-.004	.040	-.077	.057	.025	-.011	-.007	.001	.019	-.047	-.018	-.170	.532	.034	.043	-.040	-.071	.016	-.062	.020	-.007	-.085	-.032
ENVE_1	.052	-.013	-.059	.022	.015	.008	.009	-.026	-.051	-.048	.027	-.009	.034	.667	-.036	-.016	-.086	-.204	.025	-.052	-.030	.052	-.022
ENVE_2	.007	-.039	-.060	.051	.009	-.041	-.009	.057	-.022	-.036	.084	-.054	.043	-.036	.558	-.148	-.035	-.086	-.105	.027	.018	-.052	-.087
ENVE_6	-.010	-.027	.064	-.009	-.008	.018	.004	.004	.069	-.037	-.063	.012	-.040	-.016	-.148	.579	-.135	.091	-.084	-.078	.012	-.089	-.018
ENVE_7	-.078	-.049	.085	-.044	-.028	-.016	.002	.025	.021	.032	.004	-.023	-.071	-.086	-.035	-.135	.617	-.127	.001	.074	-.080	-.005	.050
ENVE_8	.048	-.058	.033	-.016	-5.809E-5	-.018	.023	-.059	-.033	.061	-.100	.003	.016	-.204	-.086	.091	-.127	.539	.034	-.031	-.014	.035	-.071
ENVSS_2	-.018	.060	-.023	-.026	-.020	.048	-.004	-.018	-.025	-.046	-.079	.056	-.062	.025	-.105	-.084	.001	.034	.586	-.106	-.120	.015	-.046
ENVSS_3	.008	-.049	-.034	-.009	-.041	-.024	-.009	.015	-.091	.072	.056	.027	.020	-.052	.027	-.078	.074	-.031	-.106	.705	-.085	-.055	.016
ENVSS_4	-.002	-.032	.000	-.020	.019	-.015	.014	.004	-.028	-.014	.016	-.035	-.007	-.030	.018	.012	-.080	-.014	-.120	-.085	.524	-.143	-.044
ENVSS_5	.002	.018	-.011	-.023	-.003	.022	-.014	-.002	-.038	-.057	.014	.022	-.085	.052	-.052	-.089	-.005	.035	.015	-.055	-.143	.441	-.162
ENVSS_6	.047	.026	.017	-.080	-.023	-.023	.008	-.004	.035	-.003	.015	-.007	-.032	-.022	-.087	-.018	.050	-.071	-.046	.016	-.044	-.162	.574

a = Measures of Sampling Adequacy (MSA)

Anti-image Correlation for independent variables

	HCEE_1	HCEE_2	HCEE_3	HCEE_4	HCSD_1	HCSD_2	HCSD_3	HCSD_4	ENVTVET_1	ENVTVET_2	ENVTVET_3	ENVTVET_4	ENVTVET_5	ENVE_1	ENVE_2	ENVE_6	ENVE_7	ENVE_8	ENVSS_2	ENVSS_3	ENVSS_4	ENVSS_5	ENVSS_6
HCEE_1	.869[a]	-.408	-.182	-.101	.002	.059	.039	-.058	-.036	.068	-.012	-.090	-.008	.093	.014	-.019	-.143	.094	-.034	.013	-.004	.003	.090
HCEE_2	-.408	.872[a]	-.282	.074	.015	.036	.077	-.177	-.015	-.094	-.140	-.093	.091	-.027	-.086	-.058	-.103	-.132	.131	-.097	-.074	.045	.056
HCEE_3	-.182	-.282	.807[a]	-.528	.088	.087	-.179	.135	-.002	.043	-.169	.073	-.181	-.125	-.139	.144	.185	.078	-.052	-.070	.000	-.029	.039
HCEE_4	-.101	.074	-.528	.827[a]	-.106	-.183	.136	-.085	.042	-.065	.028	.049	.115	.039	.101	-.018	-.083	-.033	-.050	-.015	-.040	-.052	-.156
HCSD_1	.002	.015	.088	-.106	.918[a]	-.246	-.287	.079	-.091	-.040	.028	-.064	.053	.029	.018	-.015	-.056	.000	-.040	-.075	.041	-.007	-.046
HCSD_2	.059	.036	.087	-.183	-.246	.864[a]	-.481	-.047	-.031	.032	.096	-.014	-.031	.020	-.107	.046	-.041	-.047	.122	-.056	-.041	.064	-.060
HCSD_3	.039	.077	-.179	.136	-.287	-.481	.789[a]	-.621	.145	-.091	-.148	-.048	-.024	.029	-.033	.015	.007	.081	-.012	-.027	.052	-.054	.026
HCSD_4	-.058	-.177	.135	-.085	.079	-.047	-.621	.837[a]	-.050	.064	.001	-.018	.003	-.064	.154	.011	.066	-.164	-.049	.036	.012	-.006	-.011
ENVTVET_1	-.036	-.015	-.002	.042	-.091	-.031	.145	-.050	.891[a]	-.181	-.118	-.303	.035	-.083	-.038	.119	.036	-.059	-.043	-.142	-.051	-.076	.061
ENVTVET_2	.068	-.094	.043	-.065	-.040	.032	-.091	.064	-.181	.929[a]	-.145	-.097	-.084	-.076	-.062	-.063	.052	.108	-.077	.110	-.026	-.111	-.005
ENVTVET_3	-.012	-.140	-.169	.028	.028	.096	-.148	.001	-.118	-.145	.908[a]	-.184	-.036	.048	.163	-.118	.007	-.196	-.148	.096	.032	.031	.029
ENVTVET_4	-.090	-.093	.073	.049	-.064	-.014	-.048	-.018	-.303	-.097	-.184	.898[a]	-.362	-.017	-.112	.025	-.045	.006	.114	.049	-.074	.050	-.015
ENVTVET_5	-.008	.091	-.181	.115	.053	-.031	-.024	.003	.035	-.084	-.036	-.362	.890[a]	.057	.078	-.073	-.124	.030	-.110	.033	-.012	-.175	-.059
ENVE_1	.093	-.027	-.125	.039	.029	.020	.029	-.064	-.083	-.076	.048	-.017	.057	.839[a]	-.060	-.025	-.135	-.340	.040	-.076	-.051	.097	-.036
ENVE_2	.014	-.086	-.139	.101	.018	-.107	-.033	.154	-.038	-.062	.163	-.112	.078	-.060	.870[a]	-.260	-.060	-.157	-.183	.042	.034	-.106	-.153

	HCEE_1	HCEE_2	HCEE_3	HCEE_4	HCSD_1	HCSD_2	HCSD_3	HCSD_4	ENVTVET_1	ENVTVET_2	ENVTVET_3	ENVTVET_4	ENVTVET_5	ENVE_1	ENVE_2	ENVE_6	ENVE_7	ENVE_8	ENVSS_2	ENVSS_3	ENVSS_4	ENVSS_5	ENVSS_6
ENVE_6	-.019	-.058	.144	-.018	-.015	.046	.015	.011	.119	-.063	-.118	.025	-.073	-.025	-.260	.840[a]	-.225	.163	-.144	-.123	.022	-.176	-.031
ENVE_7	-.143	-.103	.185	-.083	-.056	-.041	.007	.066	.036	.052	.007	-.045	-.124	-.135	-.060	-.225	.846[a]	-.221	.002	.112	-.140	-.010	.085
ENVE_8	.094	-.132	.078	-.033	.000	-.047	.081	-.164	-.059	.108	-.196	.006	.030	-.340	-.157	.163	-.221	.805[a]	.061	-.050	-.026	.072	-.127
ENVSS_2	-.034	.131	-.052	-.050	-.040	.122	-.012	-.049	-.043	-.077	-.148	.114	-.110	.040	-.183	-.144	.002	.061	.884[a]	-.165	-.216	.029	-.079
ENVSS_3	.013	-.097	-.070	-.015	-.075	-.056	-.027	.036	-.142	.110	.096	.049	.033	-.076	.042	-.123	.112	-.050	-.165	.889[a]	-.140	-.099	.025
ENVSS_4	-.004	-.074	.000	-.040	.041	-.041	.052	.012	-.051	-.026	.032	-.074	-.012	-.051	.034	.022	-.140	-.026	-.216	-.140	.920[a]	-.298	-.080
ENVSS_5	.003	.045	-.029	-.052	-.007	.064	-.054	-.006	-.076	-.111	.031	.050	-.175	.097	-.106	-.176	-.010	.072	.029	-.099	-.298	.885[a]	-.321
ENVSS_6	.090	.056	.039	-.156	-.046	-.060	.026	-.011	.061	-.005	.029	-.015	-.059	-.036	-.153	-.031	.085	-.127	-.079	.025	-.080	-.321	.887[a]

a = Measures of Sampling Adequacy (MSA)

Anti image for entrepreneurial intent

		EI_1	EI_2	EI_3	EI_4
Anti-image Covariance	EI_1	.619	-.157	-.105	.029
	EI_2	-.157	.409	-.155	-.071
	EI_3	-.105	-.155	.323	-.199
	EI_4	.029	-.071	-.199	.471
Anti-image Correlation	EI_1	.840[a]	-.313	-.234	.054
	EI_2	-.313	.801[a]	-.427	-.163
	EI_3	-.234	-.427	.733[a]	-.511
	EI_4	.054	-.163	-.511	.781[a]

a. Measures of Sampling Adequacy (MSA)

Appendix E: Consistency Matrix

<table>
<tr><th colspan="8">Objective: To determine the extent to which an enabling environment created by government intervention through policies (NYP, entrepreneurial policies) enables or constrains entrepreneurial intent among the youth at TVET colleges</th></tr>
<tr><th>Sub-problem/ Aims</th><th>Literature Review</th><th>Hypotheses or Propositions</th><th>Research questions</th><th>Variables (Independent and Dependant)</th><th>Sources of data</th><th>Type of data</th><th>Analysis</th></tr>
<tr><td>Sub Objective 1
To determine the extent to which a South African enabling environment enables or constraint entrepreneurial intent of youth at TVET colleges.</td><td rowspan="2">Venter and Urban, 2015
Ajzen, 1991
Thompson, 2009
Bandura, 2001
Raposo and do Paço, 2011
Rasool and Mahembe, 2014</td><td>H:1
A South African enabling environment can increase entrepreneurial intent</td><td>Question 1:
To what extent does the South African environment enable or constraint the promotion of entrepreneurship intent in TVET colleges</td><td rowspan="2">DV1 = Entrepreneurial intent
IV1 = South African Enabling environment
INV2 = skills development
INV3 = Entrepreneurial education</td><td rowspan="2">Liñán and Chen, 2009
Keat, Selvarajah, and Meyer , 2011
Davidsson, 1995
Autio et al., 1997</td><td rowspan="2">Nominal data for hypotheses testing</td><td rowspan="2">Descriptive Analysis
Correlation Analysis
Multiple Linear Regression Analysis</td></tr>
<tr><td>Sub Objective 2
To assess the extent to which skills development training provided to final year students or those that have completed two or more entrepreneurship-related studies in TVET colleges correspond with entrepreneurial intent.</td><td>H:2
There is a positive correlation between skills development at TVET colleges and entrepreneurial intent</td><td>Question 2:
To what extent do skills development at TVET colleges correspond with increasing entrepreneurial intent among its students</td></tr>
</table>

Objective: To determine the extent to which an enabling environment created by government intervention through policies (NYP, entrepreneurial policies) enables or constrains entrepreneurial intent among the youth at TVET colleges							
Sub-problem/ Aims	**Literature Review**	**Hypotheses or Propositions**	**Research questions**	**Variables (Independent and Dependant)**	**Sources of data**	**Type of data**	**Analysis**
Sub Objective 3: To assess the extent to entrepreneurial education provided to final year students or those that have completed two or more entrepreneurship-related studies in TVET colleges in correspond with entrepreneurial intent.		H:3 There is a positive correlation between entrepreneurial education at TVET colleges entrepreneurial intent	Question 3: To what extent does entrepreneurial education at TVET colleges correspond with the promotion entrepreneurial intent among TVET students				

Appendix F: Research Plan

Item	Task	Date
Ethical clearance	Obtain ethical clearance	September 2019
TVET Permission	Obtain permission for distributing questionnaires	September 2019
Distribution of testing tool	Distribute questionnaires relevant sample	Last week of September/ first week of October 2019
Collecting questionnaires	Collection and follow up on all questionnaires	October 2019
Data analyses	Analysing data	October/November 2019
Data interpretation	Interpreting the data	November–December 2019
Finalising the study	All final touch-ups	January–February 2020
Submission	Submission of completed study	February 2020