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DEVELOPMENTAL FINANCE INSTITUTIONS' DECISION-MAKING CRITERIA AND THE FINANCING OF NEW VENTURES IN SOUTH AFRICA

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

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ABSTRACT

The South African government has established Development Finance Institutions to increase entrepreneurial activity and to aid in bridging the financial gap confronted by entrepreneurs. Despite the government's initiatives to bridge the financial gap, total early-stage entrepreneurship activity rates are low. The Global Entrepreneurship Monitor (2020) reported that South Africa has one of the lowest total early-stage entrepreneurship activities, with lack of funding and education being cited as some of the contributing factors.

The study aimed to determine the extent to which the entrepreneurs' human capital attributes significantly impact the decision-making criteria of Development Finance Institutions in South Africa. The human capital attributes reviewed in this study were the level of education, experience, skills and knowledge. The study aids in filling the gap that exists in Development Finance Institutions financing criteria in developing economies thereby contributing to budding entrepreneurs for funding their new ventures.

A cross-sectional quantitative research methodology as adopted with convenience and snowball non-probability sampling methods used for data collection using an online questionnaire. Out of 118 responses that were received from small to medium enterprises, 74 were usable and indicated that they had been funded by government-owned Development Finance Institutions. Correlations test analyses were used to determine the significance of the relationship between identified constructs.

The study revealed that there is a positive relationship between the entrepreneurs' human capital and the DFIs' decision to finance, however, this relationship was not statistically significant. The findings assert that human capital does serve as a signal when funders are deciding to fund. The study contributes towards reducing the gap in the body of knowledge on the decision-making of DFIs. Thus, the study implicates and provides direction to the government and or policymakers to draft policies that will improve human capital levels of the population to enable increased entrepreneurship participation and contribute to the growth of the economy.

Keywords: Development Finance Institutions. Human capital. Level of education. Experience. Skills. New ventures.

DECLARATION

I, Samkelisiwe Mtsewu, 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 the Field of Entrepreneurship at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or other university.

Samkelisiwe Mtsewu

Signed at Fourways

On the 29th day of April 2022.

DEDICATION

This work is dedicated to my family that has always supported me throughout my journey. My kids have been a pillar to my development, taking from where my late mom left in motivating me.

All this work goes towards the start-up enterprises in South Africa, that tirelessly work towards contributing to the economy.

ACKNOWLEDGEMENTS

The completion of this study would not have been possible without the guidance of my Supervisor Dr Mc Edward Murimbika. My syndicate group members, thank your support and for always lending an ear. To everyone who was part of this journey, I would not have made it without you.

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CHAPTER 1: INTRODUCTION & BACKGROUND

1.1 Introduction

The South African government has established Development Finance Institutions to increase entrepreneurial activity and to aid in bridging the financial gap confronted by entrepreneurs. Despite the government's initiatives to bridge the financial gap, total early-stage entrepreneurship activity rates are low. The Global Entrepreneurship Monitor (2020) reported that South Africa has one of the lowest total early-stage entrepreneurship activities, with lack of funding and education being cited as some of the contributing factors. As catalysts of entrepreneurship, an empirical understanding of some of the factors (with a focus on human capital factors) that impact the DFIs decision-making in financing SMEs is imperative for spurring entrepreneurship.

According to te Velde (2011), Development Finance Institutions (DFIs) are developmental focused banks backed by their governments to foster economic development and sustainable social development by way of financing and investing in small businesses. Similarly, Mudaliar, Moynihan, Bass, Roberts, and DeMarsh (2016) define DFIs as government-backed financial institutions that invest in or finance the private sector to create a sustainable positive contribution in the economy and the environment. These institutions are instruments used by governments to accelerating developmental objectives by tackling market failures by supplying finance and investment capital to entrepreneurs (Gumede, Govender & Motshidi, 2011). They play a critical role in financing the underserved or unserved market, thus improving access to finance. They further provide an alternative for finance to increase access to finance to the underserved market, particularly, small and medium enterprises (SMEs).

Similar to developed economies, governments from developing economies have come to value the economic benefits that could result from increased entrepreneurship. As a result, governments have created initiatives towards advancing entrepreneurship development. An initiative by the South African government in addressing entrepreneurship development, is providing financial support to start-ups and SMEs through DFIs.

However, SMEs, mainly in the start-up phase of the life cycle face great challenges with accessing finance. Extant research has pointed to reasons such as insufficient or no collateral, information asymmetries, human capital paucity and the demand and supply misalignment concerning institutional funds (Bowmaker-Falconer & Herrington, 2020). Due to the persistent

finance gap that is experienced amongst South African entrepreneurs (Bowmaker-Falconer & Herrington, 2020), the question remains, what are the factors that influence the DFIs' decisions when financing start-ups. While research on entrepreneurship development points to access to finance as a major problem, Matshekga (2012) posits that there is a significant gap in research about the determinants of decision-making factors that enable SMEs to access funding in developing countries, including South Africa. This suggests that there is a need for more research to be conducted on this subject.

According to George and Prabhu (2000), there is limited research on DFIs despite their importance and their role as catalysts of entrepreneurship in developing economies. Given their developmental mandate particularly concerning new ventures (also referred to as start-ups and new firms), DFIs have to look beyond the traditional quantitative decision-making criteria which would typically look at determining factors such as financial history, collateral and equity and consider qualitative factors such as human capital attributes. For instance, a research study by Matshekga and Urban (2013) shows that a positive relationship exists between the entrepreneurs' human capital attributes and the entrepreneurs' or SMEs ability to access funds which this study seeks to explore more. Whilst the background literature of the study is drawn from the decision-making of financial institutions such as venture capitalists, banks and crowd funders, this study is particularly concerned with DFIs.

The study focused on the perceptions of the SMEs by reviewing the human capital variables, which are the level of education, experience, skills and knowledge and their influence on the decision-making of DFIs when financing new ventures. The human capital theory is an important theory entrenched within the entrepreneurship discipline. The fundamental components linked with the human capital theory are categorised as the antecedents for creating a foundation for lasting and viable firms. If human capital variables are important for establishing competitive enterprises, it is therefore imperative to evaluate the extent to which these variables impact the DFIs' financing decisions.

This chapter, henceforth, seeks to provide a background of the proposed study which commences with the grounding theories of the study, context, problem statement, and purpose of the study. The significance and delimitations of the study are also included, and it ends with definitions of the key terms and assumptions.

1.2 Theoretical background to the study

After attaining independence in 1994, South Africa has been on the road to redress the previous wrongs from apartheid but almost 30 years later there is nothing much to show for. According to the World Bank (2018) as quoted by Baker (2019), South Africa is named amongst the most unequal countries in the world. This is expected to worsen with the current corona virus disease 2019 (Covid-19) pandemic that has disrupted the already weak economy. Unemployment rate has soared to reach all-time highs, with the recent high being 32.6% unemployment rate during the first quarter of 2021 (Statistics South Africa, 2021) and is expected to increase.

Also, Bell, Goga, Mondliwa and Roberts (2018) asserts that the economy of South Africa has become is much more concentrated than before, with barriers of entry increasing since 1994 which have led to lower economic participation. This has happened despite the actions taken by the competition authorities to increase the competition within the economy. Private commercial funders normally prioritise short- and medium-term financing, refraining from taking part in the long-term financing space owing to the risks involved (Goga, Bosiu & Bell, 2019). However, long term financing is crucial particularly in industries where time is needed to build economies of scale to be able to compete with other market players (Roberts, 2016). In these circumstances, DFIs play a huge role to finance new and small entrants that need some time to establish before they start making profits in the first few years of their operations (Ncube, Nkhonjera, Paremoer & Zengeni, 2016).

Moreover, a historical flashback will reveal that DFIs around the world have played four primary functions and these are i) provision of complementary capital to under serviced sectors, ii) new venture support, iii) supporting firms during the economic crisis and iv) acting to alleviate specific problems/challenges within the economy (Goga et al 2019). In this regard, DFIs have an important mandate of directing finances towards the existing productive opportunities in the economy especially in sectors where the private markets have been neglected (Dodgson, Hughes, Foster & Metcalfe, 2011).

On the other hand, DFIs have also been criticised for their inefficiencies, questionable financing decisions which some do not have developmental benefits and in some cases for taking the role of commercial banks rather than complementing them (Shirati, 2002). This suggests that, although DFIs are aimed at increasing the economic growth and development, this is not an automatic process but effort and proper decision making is crucial for the achievement its goals.

This study is grounded on the human capital theory.. It explores and investigates how this theory influences the decision-making process of DFIs when financing new ventures. The human capital theory is embedded in the macroeconomic development theory discipline (Teixeira, 2014 citing Becker, 1964) and in this regard, the entrepreneurs' human capital attributes such as education, experience, skills and knowledge have been said to be vital resources in SMEs. Linder, Lechner and Pelzel (2019) assert that the human capital theory predicts that superior knowledge, skills, and experience are linked to superior performance and therefore as a signalling factor for financiers and investors.

Matshekga (2012) and Matshekga and Urban (2013) in their studies demonstrated the link between human capital theory and new venture financing. Financial institutions including DFIs typically do not have complete information when evaluating options for financing new ventures and to cover this information asymmetry they resort to using the human capital attributes of new venture founders as part of their decision-making process (Matshekga & Urban, 2013). According to Unger, Rauch, Frese and Rosenbusch (2011), human capital attributes are critical success factors for new, innovative and growing ventures. This study thus applies the human capital theory by investigating the impact of human capital on the decision-making of DFIs in financing new ventures.

According to Monametsi, Mkwizu and Swai (2019) start up and early-stage SMEs are more vulnerable to failure because of the financing gap. Amongst other reasons, this is often attributed to a lack of financial history, high interest rates and lack of collateral. In their study these authors, observed that the impact of human capital on SMEs ability to access financial capital was significantly positive. According to Khan, Li, Safdar and Khan (2019) the profitability and competitiveness of SMEs is highly dependent on their ability to secure financial capital. SMEs with adequate financial capital are better positioned to successfully utilise their resources thereby gaining a competitive advantage in the market.

However, new and small enterprises experience financial dilemmas due to insufficient or no internal finance, particularly, start-up capital (Huang, 2016). Khan et al (2019) adds that financial capital is one of the significant resources for a firm that is in its embryonic stage as it can safeguard against unintended shocks. Financial capital also allows firms to implement strategies that are inimitable resulting in sustainability.

In light of this, entrepreneur's human capital attributes such as education, experience, skills and knowledge are believed to have more significance during the early stages of the lifecycle

as compared to the later or mature stages of the firm. In other words, human capital attributes of the entrepreneurs seeking funding have an impact on the decision-making of financial institutions including DFIs when the firm is at start-up of its lifecycle.

Consequently, the human capital attributes will lose significance in the growth, maturity and decline stages of the firm lifecycle. Nevertheless, the human capital theory relies on the premise of the founding entrepreneur's skills and experience (Shetty & Sundaram, 2019). Given that the new venture is characterised by numerous uncertainties, financiers consider the assuring factors about the new venture. Shetty and Sundaram (2019) assert that to financiers, previous experience in the same industry, experience in starting a business, level of education and industry knowledge all provide a guideline or predictability on how the new venture will perform post the start-up phase.

1.3 Context of the study

In the 19th century and onwards, the public development financial institutions (DFIs) have contributed significantly to economic growth and development many countries through the provision of resources that required to sustain the economic structural changes (Além & Madeira, 2015). Moreover, the relevance of DFIs in the long-term financing is evident in the analysis of financial systems of many countries around the world. Furthermore, their importance was highlighted in the 2008 economic and financial crisis that demonstrated that solid DFIs were necessary for quick economic recovery (Além & Madeira, 2015). In view of this, DFIs are still relevant and essential in the 21st century and more so now during the current economic slowdown as a result of Covid-19 pandemic lockdown and restrictions.

It is important to highlight that the DFIs task goes beyond just correction of market failure due to the existence of incomplete financial markets but private banks are typically not willing to finance projects with a high degree of uncertainty even if the financial system is well established (Além & Madeira, 2015). In this regard, DFIs are necessary to finance high risk projects that may have long term economic benefits if they are successful. Jumaniyozov (2018) state that DFIs play a fundamental role in emerging and developing countries. They typically provide a wide range of financial services including but not limited to financing of public infrastructure projects, guarantees, loans and equity. Moreover, the role of financial institutions including DFIs in the economy is to facilitate the transfer of funds from savers to investors with the hope of increasing the economic growth and development of the country (Jumaniyozov, 2018).

Nonetheless lack of financing is not a phenomenon that is only unique to developing economies but is also manifested in developed economies even when there is economic stability. Also, it should be noted that during an economic crisis lack of credit decreases more than it increases when there is economic growth (Além & Madeira, 2015). In times like these, DFIs have a crucial role to provide financing when there private financing is unavailable. In light of this, DFIs are a must for developed and developing countries, both during periods of economic stability and instability. However, it should be noted that DFIs are unique and have different priorities and challenges depending on the developmental level of the country they are located and the niche they wish to target (Além & Madeira, 2015). Besides, most DFIs focus on either one or more of the following innovation, small and medium enterprises (SMEs), exports, green economy and internationalisation. For instance, Mazzucato and Penna (2016) emphasised the crucial role of DFIs in helping businesses to transition to environmentally friendly systems and technologies to create a green economy. This type of funding is vital to maintain economic stability as most organisations are not financially resourced enough to do this endeavour without support from DFIs.

Nonetheless, what is of particular interest to this study is decision making criteria that DFIs use with respect to human capital attributes of entrepreneurs when assessing which projects or venture to finance. Financial institutions make use of their internal checklists to collect the information or documents that are considered necessary to enable them to decide if a funding proposal should be rejected or accepted (Van Deventer & Mlambo, 2009). In order to minimise the inherent risk in financing new ventures and SMEs, DFIs attempt to standardise both the information gathering process and decision-making process through scripts or checklists. Notwithstanding these decision making endeavours are reported to produce inconsistent result (Bruns, Holland, Shepherd & Wiklund, 2008). This is because information asymmetries and lack of financial performance also present challenges for DFIs' decision-making criteria. As such, in order to reduce the information asymmetry challenge, lenders and investors turn to the founding entrepreneurs' human capital as a signal for viability (Bouzahir & ed-Dafali, 2018; Ko & McKelvie, 2018).

There are limited studies that have been conducted on influence entrepreneurs' funding by DFIs. A study by Qobo and Soko (2015), focused on the rise of DFIs in South Africa, BRICS and regional strategy but did not cover the decision-making creation of DFIs. Also, another study by Gumede, Govender and Motshidi (2011) looked into the mandate of DFIs and its role in the successful development of countries. This study did not also cover the decision-making criteria of DFIs. Similarly, Qobo and Motsamai (2014) also looked into the role South African DFIs in South Africa, the African continent and their regional strategy to support development.

Additionally, Garikayi (2019) in his Master's thesis focused on how do DFIs measure developmental impact of investments and how the evaluation reports influences evidence based decision making. Furthermore, Garikayi (2019) touched a bit on decision making but he did not look into the decision-making criteria of DFIs when financing new ventures. Yet still, another study by Barnard (2016) addressed the impact of DFIs on the socio-economic development and transformation in South Africa but again did not cover the decision-making criterion of DFIs.

However, this study seeks to investigate the extent to which the entrepreneurs' human capital attributes significantly impact DFIs decision-making criteria.

1.4 Research Problem

There are limited studies in South Africa that have explored the impact of entrepreneurs' human capital attributes of DFIs' decision-making. The only study that was conducted in relation to DFIs and their decision-making was conducted by Likotsi (2014). Likotsi (2014), investigated the DFIs decision-making and the relationship to opportunity evaluation in South Africa. The study provided practical resolutions on causes that promote or hinder DFI funding for the youth. The study promotes discussions on optimal funding solutions for youth entrepreneurship and how impact can be maximized.

As seen from the previous studies, there is a research gap on the decision-making criteria of DFIs when financing new ventures. Given that Matshekga and Urban (2013) had already established the link between entrepreneur's human capital attributes with financier's decision-making process. This study attempts to cover part of this research gap, hoping that more studies will stem from this research study.

1.5 Aim of the study, research objectives and research questions

1.5.1 Aim of the study

The aim of the study is to investigate the influence of entrepreneur's human capital in the DFIs decision-making criteria in financing new ventures.

1.5.2 Research objectives

The main objective of the study is to investigate the extent to which the entrepreneurs' human capital attributes significantly influence the DFIs decision-making criteria when financing new ventures.

The study will focus on achieving the following secondary objectives:

- To determine the extent of existence of a relationship between the entrepreneurs' level of education and the DFIs' decision-making criteria to finance new ventures.
- To determine the extent of existence of a relationship between the entrepreneurs' experience and the DFIs' decision-making criteria to finance new ventures.
- To ascertain the extent of a existence of a relationship between the entrepreneurs' skills and the DFIs' decision-making criteria to finance new ventures.
- To determine the extent of existence of a relationship between the entrepreneurs' knowledge and the DFIs' decision-making criteria to finance new ventures.

1.5.3 Research question

The research question formulated for this study is, *to what extent is there a significant positive relationship between the entrepreneurs' human capital and the DFIs decision-making in financing new ventures in South Africa?* The research will address the objective outlined in 1.5.2.

1.6 Theoretical definition of terms

Entrepreneurship

Entrepreneurship is the "process of uncovering and developing an opportunity to create value through innovation and seizing that opportunity without regard to either resources (human and capital) or the location of the entrepreneur – in a new or existing company" (Churchill, 1992).

Developmental financial institutions

Calice (2013:3) defined DFIs as "an institution which is majority owned by the government and that has an explicit legal mandate to foster economic and social development in a country, sector or target market, mainly by providing investment finance".

Human capital

Davidsson and Honig (2003) defined human capital as the skills and knowledge possessed by an individual as result of not only through education, but also through experience and learning

through employment, as education that is informal, such as programmes that are not a part of traditional formal educational structures.

New venture creation

New venture creation is defined as a process in which an entrepreneur(s) participate in a business activity with the aim of converting a new venture idea or opportunity into profit (Salamzadeh, 2015).

1.7 Contribution of the study

The current study was aimed at filling the gap that exists in DFI financing criteria in developing economies particularly that of South Africa thereby contributing to budding entrepreneurs who will approach DFIs for funding their new ventures. For government entities, the study can be used to develop policies that relate to entrepreneurship training at both secondary and higher education institutions. The study will benefit, both budding entrepreneurs by making them understand some of the tacit requirements when seeking funding and policy makers (government) in drawing effective policies pertaining to entrepreneurship and education.

The study aimed to determine the extent to which the human capital theory significantly impacts the DFIs decision to finance ventures that are in the start-up phase of the firm life cycle. The positive relationship between human capital and funding or access to funding has already been proven (Urban & Matshekga, 2013; Fatoki, 2011), hence the aim was to test the extent of significance of human capital on the decision to finance. The study was viewed from a post-positivist epistemological perspective and used primary data from entrepreneurs that were financed by state-owned South African DFIs.

1.8 Delimitations of the study

The study was delimited to DFIs as the suppliers of funding for new venture entrepreneurs. The DFIs were delimited to state-owned South African DFIs that financially support new ventures in South Africa which fall within the SME sector. The DFI decision making criteria was delimited to the human capital attributes of the entrepreneur, namely, level of education, experience skills and knowledge.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter will discuss the literature reviewed for the study. It shall be divided into the eight sections which are entrepreneurship in Africa, start-up and new venture financing, development financial institutions (DFIs), role of DFIs in new venture funding, financial constraints facing new and small firm, decision making criteria for new ventures, theoretical foundations and conceptual framework.

2.2 Entrepreneurship in Africa

Tvedten et al (2014) assert that entrepreneurship in Africa is seen as a solution to the socio-economic issues in the continent. It is growing in recognition as a means for community development and increasing the standards of living of people in Africa (Ratten & Jones, 2018). Whist Africa has the highest entrepreneurial intent in world and less prepared to act on entrepreneurial motivation (Reid et al 2015) because many are forced to become entrepreneurs due to lack of education and/or shortages of employment opportunities (Ferreira et al 2017). In light of this, poor economic conditions in many parts of Africa have forced the people to consider self-employment as a career choice (Ratten & Jones, 2018). In view of this, entrepreneurship in African is believed to be integral to combating the ever-increasing youth unemployment rate that has plagued the continent (Adenle, 2017). Moreover, in order to increase the success of entrepreneurship in African, entrepreneurs need to be equipped with the right education and business knowledge necessary to run and manage their businesses properly (Adenle, 2017; Ratten, 2011).

Nevertheless, the growth rate and success of entrepreneurship in Africa has been affected by the different business systems used in different African countries as well as barriers caused by cultural beliefs and perceived entrepreneurial abilities (Ratten & Jones, 2018). Additionally, historical and institutional factors has also negatively affected entrepreneurship across the continent (Tvedten et al 2014). Nonetheless, the increase in interest in entrepreneurship in African has occurred due to three main reasons: i) informal businesses are becoming formal businesses making them easier to regulate as the African economies have developed into more transparent business environment, ii) there is a growing middle class venturing into entrepreneurship and entrepreneurial activities leading to more startup and iii) the number of successful African businesses are on the rise and are paving the way for others (Tvedten et al 2014). Also, the continent in general has a lot of lower income groups moving into the middle

class creating more disposable income which could potentially fuel entrepreneurship success in the continent.

2.2.1 Entrepreneurship in South Africa

In this study entrepreneurship is defined as 'the creation of a new enterprise' (Shane & Venkataraman, 2000) and new venture as a process in which an entrepreneur or entrepreneurs participate in innovative business activities, by converting a concept or an opportunity into a new venture that generates profits (Salamzadeh, 2015). From the South African context, SMEs are defined as enterprises that are owner operated, employ less than 250 people and typically generate revenues of up to R14 million (Ayandibu & Houghton, 2017). The role of entrepreneurship in contributing towards economic development is well documented (Eniola, 2018). According to Okyere (2017) entrepreneurship and SMEs have contributed significantly in the transition periods of all transforming economies. Often referred to as the backbones of economies, entrepreneurship and SMEs are well recognised as vehicles that drive economic growth and development as well as employment creation.

Despite the globally accepted view that SMEs are an indispensable solution for stimulating economic development by contributing towards reducing unemployment and in turn creating a sustainable social impact, the rate at which new SMEs are established is significantly low. A review of the GEM surveys shows that South Africa has consistently ranked unsatisfactorily in terms of entrepreneurial activity. Bowmaker-Falconer and Herrington (2020), reported a significant increase from 43.2% in 2017 to 60.4% in 2019 in the number of individuals who believe that great entrepreneurial opportunities exists in South Africa. These individuals believe that they possess the skills and capabilities to start a business venture, however, only 11.9% of them are intending to start a new venture within the next 36 months. Even though the respondents indicated great opportunities for budding entrepreneurs in South Africa, a total of 49.8% of them indicated that they feared failing. This is evidenced by the low total early-stage entrepreneurial activity (TEA) stated in the report.

The South African TEA rates were reported to be 10.8% in 2019 which was lower than the 12.1% average reported for the region which includes Egypt, Madagascar, Morocco and South Africa (Bowmaker-Falconer & Herrington, 2020). Even though there was a stable increase in TEA from 2009 (5.9%) to 2017 (11%), the decrease reported in 2019 is concerning. South Africa has experienced an increase in unemployment and one would expect that there would be an increase in the TEA rates. The low TEA rates are coupled with a high business discontinuance rate. Although it may appear to be marginal at 4.9%, the established business

ownership rate is lower. This indicates that more businesses are closing doors as opposed to business ownership. Similarly, according to Bushe (2019) majority (circa 90%) of businesses in South Africa fail to exist over a decade while 40% cease to exist beyond 12 months from inception and 60% beyond the 24 months. Bowmaker-Falconer and Herrington (2020) have attributed the low entrepreneurial activity rates and business discontinuance to a lack of access to entrepreneurial funding.

Even though this is common for budding entrepreneurs the authors posit that this stems from the mismatch between entrepreneurs' offerings and funders' requirements. What do financiers or funders look for in funding applications to finance? What do entrepreneurs present when applying for finance? In their study, Iloh and Chioke (2015), showed that access to financial capital contributes to economic growth by positively shaping the gross domestic product. This also implies that new venture financing is an instrument and a driving force for economic growth. The global economy reduced from 3.4% to 3.0% in 2019 and deteriorated further because of Covid-19 which has also negatively impacted South Africa's economic growth productivity (Msomi & Olarewaju, 2021). It is thus imperative that entrepreneurial activity is stimulated and requirements for accessing financing or requirements for being financed are understood.

2.3 Start-up and new venture financing

New SMEs are regarded as a considerable element of the answer to South Africa's development issues. According to Fatoki (2014), the process of creating or starting a business comprises two phases. The first phase is when the business progresses through the conceptualisation stage, a period of three months whereby entrepreneurs categorise the products and or services that will be offered by the business. It is during this period that resources (financial and human) are mobilised. The second phase is where the business starts trading and positioning itself to gain a competitive advantage in the marketplace. This is from the third month to the 42nd month and then becomes an established firm in the following months. Financing is a pertinent step in the new venture creation process and its ability to become an established firm. New ventures require financial resources for working capital, and acquisition of fixed and movable assets to be able to position themselves in the market. Access to financial resources is important for the sustainability and viability of new ventures. As seen in Table 2, financing can be sourced internally or externally using debt and equity.

Table 1: Financing options available in South Africa

Financing Options
Debt
Banks/ micro credit firms
Leasing companies
Government agencies
Trade credit
Bootstrapping
Equity
Entrepreneur and team members
Friend and family
Business angels
Venture capitalists
Other companies/strategic investors

Source: Fatoki (2014, p.750)

Equity or patient capital refers to when financing when is provided to a company in return for an ownership interest. Sanyal and Mann (2010) differentiate between internal and external equity. Internal equity is from the entrepreneur or the family members and external equity is from outside sources such as Private Equity, Venture Capital, Business Angels and Crowdfunders. According to Fatoki (2014) although there are various external sources of equity funders, an equity gap exists in the market. An equity gap is a condition where there is a shortage or no equity investments during the early stages of the firms life-cycle (Venturelli & Gualandri, 2008). Equity funding is particularly appropriate for the new, high risk-return, innovative and high-growth profiled firms. Due to the limited availability of external equity newest SMEs are forced to finance their business through debt.

With debt financing there is an obligation on the new venture to repay a pre-determined amount including the interest for a pre-agreed period. The most popular source of debt is bank lending and includes loans, overdrafts, lines of credit and credit cards. Cusmano (2015) argues that debt financing from a bank presents challenges to the newer, innovative and fast-growing ventures. The author adds that debt may be inappropriate at certain stages in the firm life cycle, particularly in the early stages. An example of this would be the high costs associated with borrowing money from a bank, the interest rate can be exorbitant for a small firm resulting in cash flow constraints and ultimately discontinuation.

Fatoki (2014), maintains that majority of new ventures are reliant on internal sources such as the founder's personal savings, family and friends. Additionally, internal finance is inadequate

for the new ventures' survival and growth thus creating a need for external financing. Similarly, Parker and Belghitar (2006), firms are more likely to flourish if they not only utilise internal sources of finance but also external sources of finance to draw upon.

2.3.1 Internal sources of finance

2.3.1.1 Founder, Family and Friends (3Fs)

In this method of financing is when the founder(s) of the business use their personal savings or borrow start-up capital from family and friends. According to Markova and Petkovska-Mircevska (2009), start-ups are able to reduce costs associated with the risk of acquiring external capital and relinquish less equity the longer the entrepreneur is able to only use own capital and internally generated capital. This option, however, is not possible for many South Africans because of the high unemployment rates in the country. This option is also not sustainable as a long-term funding strategy, particularly for firms that want to grow.

2.3.1.2 Bootstrapping

Vaznyte and Andries (2019) states that start-ups typically have innovative ideas and high growth potential but are also accompanied by high risk of failure. As a result, it is difficult for them to get funding and therefore they usually bootstrap in the earliest stages through various creative methods designed to reduce external funding (Ye, 2017). Bootstrapping involves the use of existing funds without having to borrow from external financiers. Bootstrapping relies heavily on earnings that have been generated by the company, home loan advances, and customer advances. Markova and Petkovska-Mircevska (2009) highlight that there are thirty-two approaches of bootstrapping. These approaches can be grouped into owner-financing, reducing accounts receivable, combined utilisation of resources, deferring payments of accounts payable, keeping inventory to a minimum and subsidising financing. An advantage of bootstrapping is maintaining more shareholding and overall control, greater commitment by the entrepreneur to grow the firm. A disadvantage, however, is that the firm may not grow as desired and compete with other firm that have access to external funds. Limited funds also limit the firm's ability to grow sales, market share, and position, limiting prospects for high-growth (Markova & Petkovska-Mircevska, 2009).

2.3.2 External sources of funds

2.3.2.1 Banks

Bank lending is known to be the most popular source of external finance for those that depend on debt to achieve their start-up, working capital and asset acquisition requirements. However, banks are disinclined to finance these entities due to the risk associated with them. Banks

provide financing on the basis that collateral, and financial history is available. The banks' lending decision is generally influenced by the strength of the balance sheet, proven credit histories and a relationship with the founder, of which most new firms do not have (Chepkorir et al 2014). This is a requirement that most new ventures and SMEs cannot meet owing to their newness and size.

According to Thompson, Boschmans, and Pissareva, Lora (2018), other reasons banks are disinclined to finance new ventures are that, there is no reliable history about the entrepreneur, the business is highly-geared and the volatility of profit and cashflow measures. Cusmano (2015) asserts that an increase in the range of financing sources is necessitated by the need to reduce the finance gap.

2.3.2.2 Venture Capitalists, Business Angels and Private Equity Firms

Venture Capitalists use capital that is provided by investors and invest it directly into a portfolio of private companies. Venture capitalists are actively involved in the monitoring of the portfolio companies with the aim of fostering growth in these companies. They focus mainly on technology, biotech, and clean-tech companies, limiting access for businesses in other sectors. Business Angels are wealthy individuals that invest in start-ups for equity stake in the business. Private Equity Firms are firms that are funded by wealthy individuals and firms. The investment risk in private equity transactions is high as no security is provided by the investee company. The return on investment is completely dependent on the success of the investee company (Cusmano, 2015). According to Fatoki and Odeyemi (2010) there is a shortage of venture capitalists in South Africa. This scarcity compels SMEs to rely heavily on bank loans. Despite the reliance of SMEs on bank financing, bank lending is not easily accessible for SMEs due to their newness.

Owing to the shortage of venture capital funds and stringent requirements for accessing capital from the bank, developmental financiers are expected to address the challenges faced by entrepreneurs when approaching the various financial institutions. DFIs are required to advance specialised and micro financial services, provide affordable and attainable funding opportunities. Moreover, they are required to offer long-term investment aimed at developing infrastructure, industrial growth, SME development and provide specialised funding for particular groups of people (Adesoye & Atanda, 2014). It is for this reason that DFIs are best suited for addressing the financial gap in new venture and SME financing.

2.4 Developmental Finance Institutions

In emerging economies, Development Finance Institutions (DFIs) have a dual objective of accelerating growth and maintain financial sustainability while investing in private sector projects (Gyimah & Agyeman, 2019). At a national level, the South African DFI landscape comprises of 12 institutions (Julies, 2017). The South African DFI landscape comprises of national DFIs Small Enterprise Finance Agency (Sefa), the Industrial Development Corporation (IDC), the National Empowerment Fund (NEF), and the Development Bank of Southern Africa (DBSA) provincial DFIs (Gauteng Enterprise Propeller, Ithala, Eastern Cape Development Corporation (ECDC), Limpopo Enterprise Development Agency (LEDA), North West Development Agency (NWED), grant-based and non-financial support DFIs (National Youth Development Agency (NYDA) and Small Enterprise Development Agency (Seda) (Julies, 2017).

These DFIs have different organisational structures, operational mandates, and financial resources, however, they all share a common purpose of promoting development through enriching the living standards of the South African citizens. Bowmaker-Falconer and Herrington (2020) reported that the South African government recognises the value entrepreneurship and has channelled substantial incentives and funds towards spurring entrepreneurship. Yet, the TEA levels indicate that these efforts have not been effective. It is thus important that the decision-making criteria of these institutions is understood as this will assist in improving the South African entrepreneurial capacity.

Table 2: South Africa DFIs and sector focus

Main sectoral focus	NDFI	National shareholder department
Infrastructure	Development Bank of Southern Africa	National Treasury
Medium and large enterprises	Industrial Development Corporation	Economic Development Department
Agriculture	Land Bank	National Treasury
SMMEs	Small Enterprise Finance Agency	Subsidiary of the IDC, but under executive authority of Department of Small Business Development
Housing	National Housing Finance Corporation	Department of Human Settlements
	National Urban Reconstruction and Housing Agency	Department of Human Settlements
	Rural Housing Loan Fund	Department of Human Settlements
Other (empowerment)	NEF	Department of Trade and Industry

Source: Julies (2017, p18)

Table 3 demonstrates the national DFIs in South Africa and their mandates. Below is a brief background on the national DFIs that support SMEs and new ventures in South Africa. Industrial Development Corporation (IDC) - is a state-owned DFI reporting to the Economic Development ministry. The IDC's mandate is to promote economic growth and industrial development. The IDC provides financial support to start-ups and existing businesses that require funding from a minimum of R1 million and to a maximum of R1 billion. The IDC makes use of both debt and equity instruments.

Small Enterprise Finance Agency (Sefa) – which was previously called Khula Enterprise Finance. Sefa provides financial services such as loans and guarantees to SME through commercial banks, micro-lenders and retail financial intermediaries. The agency is a sub-division of the IDC, however, it is under the ministry of Small Business. Sefa provides loans from R50 000 to R15 million.

National Empowerment Fund (NEF) - is a government-owned DFI that is under the administration of the Department of Economic Development and previously under the Department of Trade, Industry and Competition. The NEF provides loans between R250 000 to R75 million for new businesses, expanding businesses, and mergers. It was established for purposes of facilitating Broad-Based Black Economic Empowerment (B-BBEE) through financial and non-financial support services to black-owned businesses. The NEF's funding can be structured using both debt and equity instruments.

2.5 The role of DFIs in new venture funding

DFIs are amongst the fast-growing agencies that are pursuing innovative financial solutions to engender developmental initiatives globally (Runde & Metzger, 2017). DFIs have been pivotal in the fulfilment of Sustainable Development Goals (SDGs), (Asongu & Odhiambo, 2019) and they also have a mandate to support development initiatives through the deployment of private investment in emerging economies (Bate, 2018; Nhamo et al 2018). As such, DFIs help in the achievement of SDGs by facilitating the coming of more development finance investments into developing economies (Brissett, 2018). The World Bank, AfDB, ADB and IADB lent over $77 billion to developing economies (Isa-Olatinwo, 2021); but yet still, poverty and hunger remain a challenge in Africa (World Bank, 2021). This raises questions on whether the developmental funds are being utilised appropriately to cater for areas where they are needed the most.

According to Marwa (2014), development financiers are expected to efficiently allocate resources by directing surplus funds to the deficit side. Efficiently mobilising and allocating

resources enables firms that need to access funds to start new ventures, increase or acquire new technology, which positively impacts economic growth and development. DFIs are regarded as an alternative source of funding to the traditional banking system for new ventures and SMEs that are considered to be high risk investments (Marwa, 2014). These institutions provide financial support to SMEs as well as public finance infrastructure and industrial development projects through loans, guarantees, equity financing, and microloans (Islam, 2015). Traditionally, the DFIs role has been to provide finance for projects, economic sectors or population groups that were underserved by the main financial system (Gumede et al 2011). Moreover, the DFIs role has expanded over the years and is not only limited to addressing market failures but it should also address development policy objectives. In this regard, the DFIs role has transcended from addressing market failures to addressing development failure, particularly in developing economies. Consequently, the DFIs' involvement includes but is not limited to developing the private sector, income redistribution, the development of marginalised groups or populations, or regions, as well as emerging industrial sectors or improving underperforming sectors (Gumede et al 2011).

Isa-Olatinwo (2021), DFIs facilitate international capital flows across the world to foster development of nations through the provision of funds, technical assistance and grants. In this regard, DFIs play an intermediary role between public and private investments. This is also consistent with Gupta and Vegelin (2016) and Giordano and Ruiters (2016), who asserted that DFIs bridge the gap that exists between private and public financing. In light of this, DFIs typically finance ventures that operate in sectors that are perceived to be high risk because government DFIs have a higher appetite for country and political risks. The paucity of long-term investment is one of the market imperfections encountered in many emerging economies where the traditional financiers are likely to overlook developing industries and avoiding undeveloped financial environments. DFIs can also be useful in mitigation of risks associated with new technologies whilst simultaneously creating an enabling environment that support innovations for long term and sustained economic development (Runde et al 2019). Financing these ventures that would otherwise not be financed by traditional banks, stimulates entrepreneurial development. According to Giordano and Ruiters (2016), DFIs in addition to having a higher risk appetite, are also more knowledgeable about developmental risk, and a stronger risk rating which places them at a better positioned to service new ventures with low or no ratings. As such, this enables them to lower the cost of capital to borrowers substantially by transferring a fraction of the subsidies through the interest rate or the tenor (maturity and moratoriums), or by requiring less burdensome terms for collateral (Giordano & Ruiters, 2016).

Figure 1 demonstrates that development funds are a tool used to create an equilibrium between available government and privately owned funds. Due to the high risk involved, the funds are used to reduce the gap between projects that would possibly not be able to repay the funds and private funding where generating returns is a priority. The risk assumed by the government is thus higher as they invest in projects where they may not be able to recuperate the advanced funds, and the risk assume by the private sector is less there is higher likelihood of recouping their investment. Moreover, the desire for DFIs to hold their investment grade ratings often causes them to avoid financing projects which are still at the start-up phase (Runde et al 2019). But needs to be changed through a process of strategy re-orientation to emphasise investments in early-stage innovation in emerging economies which are riskier and that need more time to fully mature (Andres, 2018).

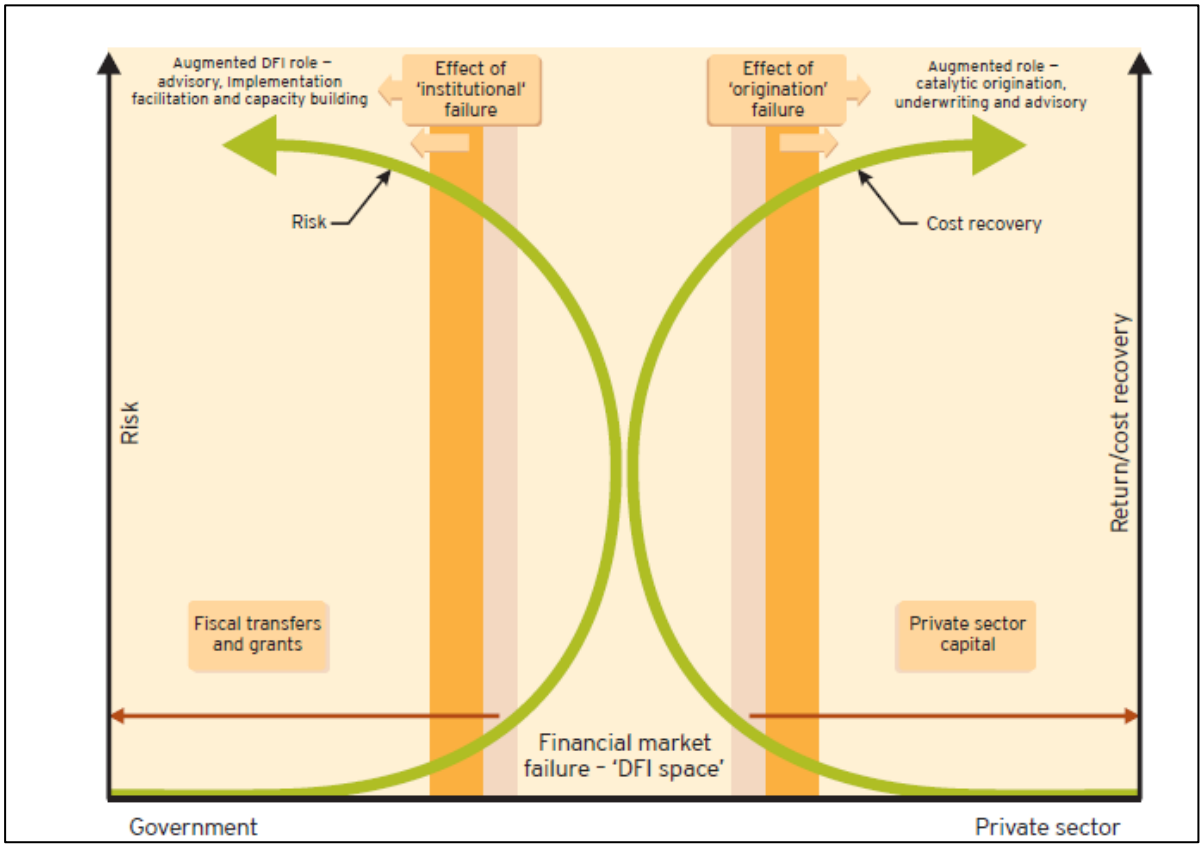


Figure 1: Financial gap filled by DFIs

Source: Gumede et al (2011:7) This image is copied in terms of Section 12 of South African Copyright Act 98 of 1978

DFIs are mandated to finance projects with socio-economic development at a minimal return and are simultaneously expected to self-sustain (Gumede et al 2011). Consequently, DFIs are required to address the financial failure shown in Figure 1; but the financed entities must be able to repay their loans to avoid high impairment rates which acts negatively on the

sustainability of DFIs. Moreover, Griffiths (2018) asserts that diverse and multiple sources of financing from across the world are vital for reducing the expanding gap in especially in emerging economies. According to Nielson et al (2017), successful developmental financing leads to improved livelihoods of the people.

Supporting the view that the DFIs' role is that of narrowing the gap between private and public finance, Gyimah and Agyeman (2019) affirm that the three main functions of these institutions are:

- Offering debt instruments on longer terms which are otherwise unavailable on local financial markets,
- Act as risk mitigators by being indirectly or directly involved by providing guarantees or credit instruments,
- Enhancing project development impact by providing support and services.

The first two functions indicate the institutions' inclination to accept both industry and country risk, while the third is supplementary for safeguarding social impact. In cases where DFIs are the first to finance ventures that are perceived to be high risk, these DFIs often find themselves in an advantageous position in markets with high-growth potential. The authors also posit that the position of DFIs in bridging financial gaps in SMEs has been a subject for discussions between different scholars, organisations and civil societies. This viewpoint is also supported by Mazzucato et al (2016), as cited in Goga, Bosiu & Bell (2019) who states that the role that DFIs have played over the years are as follows:

- Bridging the gap between the under-serviced market by providing complementary capital,
- Financial and non-financial support for new ventures,
- Provision of countercyclical funding during economic downturns,
- Responding to specific challenges.

It is important to note that, investments risks exist in both developing and developed countries which emanate from "undertrained human capital, weak courts and justice systems, inadequate legal frameworks covering contracts and anti-trust issues, complicated tax codes, underdeveloped financial markets, inept central banking systems, pervasive corruption, and others" (Runde et al 2019:6). These challenges cannot be addressed by money alone but with regulatory framework changes, transparency and the creation of an enabling environment. According to Runde et al (2019), any innovation idea of a product or service that be successful

undergoes five stages: i) start-up, ii) early-mid growth, iii) mid-late growth, iv) scale and v) expansion as illustrated in Figure 2.

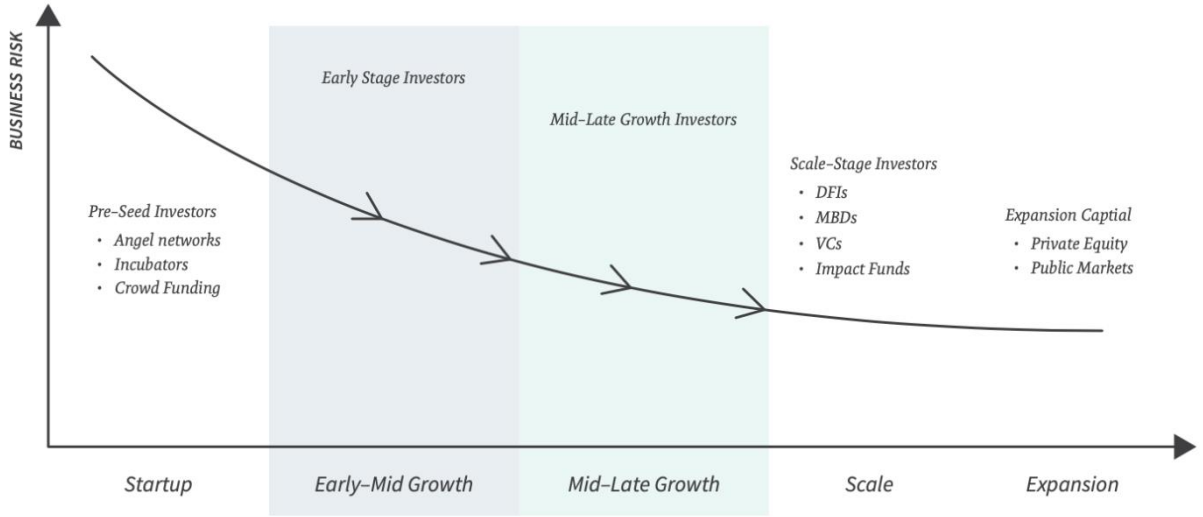


Figure 2: Five stages of innovation

Source: Runde et al (2019:8). This image is copied in terms of Section 12 of the South African Copyright Act 98 of 1978.

At start-up phase, the business is still at its infancy and at this stage its typically funded by angle networks, incubators and crowd funding due to its high-risk nature (Runde et al 2019). It then progresses to the early mid-growth and late mid-growth where it typically survives on funds from the start-up phase. If the innovative idea is successfully developed it reaches the scale phase, where it can be financed by DFIs, multilateral development banks, venture capitalist and impact funds (Runde et al 2019). Once the scaling is completed, the innovative idea is then expanded further by capital from private equity and public markets. However, it is important to note that the risk of the investment is higher at the start-up phase but reduces gradually over the subsequent phase as illustrated by the curve in Figure 2 above. Furthermore, these five stages of innovation are part of the firm lifecycle initial and growth phases. Nonetheless, the firm lifecycle theory shall be discussed later in Section 8.3.1 below.

On the other hand, SDG 8 advocates for the creation of a maintainable economic growth, full & productive employment by providing decent jobs for all. Nonetheless, the International Labour Organisation (2018) asserts that it is not enough to have only increased quantity in jobs but also in quality jobs; bearing in mind that as of 2017 it was reported that about 1.4 billion people were working in poor conditions. Also, it has been reported that many low to medium income countries suffer from lack of access to adequate and reliable energy supply which in many cases stifles economic growth and development of these countries (Amesheva et al

2019). In view of this, most DFIs have made a policy to target investment in this field so as to ensure that clean and reliable energy is affordable and accessed by all as per the SGD 7 (Isa-Olatinwo, 2021). For instance, Norfund purports that shortage of reliable electricity is a big constraint and impediment to the growth of many businesses in low income countries and this has influenced the organisation to direct the majority of its investment into renewable energy (Norfund, 2021a, 2021b).

In light of this, DFIs have a huge potential of increasing the successful attainment of the SDGs through promoting private investment (Khanam et al 2018; Pekmezovic, 2019; Rahman & Baranyi, 2018); that can lead to increased number of quality jobs as well as multiplier effects of private investment on suppliers and the broader economic productivity which significantly reduces poverty levels within a country (Pekmezovic, 2019). According to the OECD (2014), there are no major compromises for creating more jobs and focusing on quality jobs; but in fact, there is a strong synergy between the two aspects as evidence amongst Organisation for Economic Co-operation and Development (OECD) member states who have quality jobs also exhibit higher employment rates. Moreover, financing low to medium income countries empowers the people with jobs and employment which also boosts their buying power resulting in larger purchase volumes in local firms. Consequently, this leads to the creation of more jobs within the supply due to increased consumption levels (Internnational Finance Corporation, 2013).

2.6 Financial constraints facing new and small firms

Zhou and Chen (2008) point out that the lack of resources is a critical failure factor for new SMEs. As such the contribution of SMEs is not viable without the sustainability of the existing ones and creation of new ones. Access to finance is one of the major hurdles for start-ups and SMEs in the country, and one that requires immediate attention (Adegboye & Iweriebor, 2018). In a study by Coetzee and Buys (2017), approximately 91% of SMEs require external finance from banks for cashflow, physical assets and for business acquisitions. Notwithstanding these financing requirements, only 39% are successful in their financing applications. A large number of South African SMEs do not advance further than the ‘start-up’ phase, and their 75% failure rate is one of the highest in the world (Bamata et al 2019).

In prior research Coleman, Cotei and Farhat (2014) discloses that newer, small firms are particularly predisposed to financing challenges and failure. High failure rates coupled with excessive monitoring costs for the financiers impedes start-ups from raising external financing. Even though literature points to the lack of finance as a reason for the high failure rate,

financiers are still reluctant to provide finance. This suggests that there are other underlying factors for the failures and the financial constraints. Conversely, Fatoki (2014) argues that failure of start-up provides one with ‘start-up experience’ which can beneficial when attempting to start another business.

Scholars studying the financial constraints of SMEs have highlighted the fact that newer, small and medium size firms face greater challenges than bigger and more mature firms in accessing financial resources (Amoako-Adu & Eshun, 2018; Newman et al 2012). Some of the cited challenges for new ventures vary from lack of collateral, cost of borrowing, inability to provide audited financial statements and the high risk associated with these new and small entities. In another study by Msomi and Olarewaju (2021), other factors included inadequate skills and knowledge, underdeveloped market culture, credit background and limited knowledge about available financial services. They posit that paucity of management experience and human capital contribute to the inability to be financed.

Jude et al (2018) states that suppliers of finance are reluctant to advance funds to SMEs because of credit risk and adds that lending to SMEs poses a high risk. Credit risk refers to the probability of defaulting on interest and/or capital repayments. Another reason for the reluctance arises from the sensitivity of economic instability and earnings volatility in the SMEs (Erdogan, 2018). Due to their newness and smallness, SMEs are more volatile to changes in both the macro and microenvironments. Changes in their environments can easily affect the cash flows, and in turn the ability to repay the financiers.

Osano and Languitone (2016) argue that the information asymmetries challenge is more severe in developing countries. Information asymmetry theory postulates that when two parties are in a decision-making process or concluding a transaction, there is a point where when one party has more information or details than the other. Thus, causing a power disproportion between the parties. According to Huang, When and Liu (2014) the power disproportion is because one party has access to relevant information, while the other does not. The absence of relevant information creates an adverse effect on decision-making of the one without the relevant information which further result in resources being allocated inefficiently. Information asymmetries can lead to adverse selection, increase in transaction costs and moral hazard.

According to Li and Li (2020) "adverse selection" occurs when information concerning the borrowers or the entrepreneur have relative information advantage. The financial institutions being in the relative disadvantaged position, leading to interest rates rising in an attempt to safeguard against the risk of credit losses. However, big firms refuse to pay the high interest

rates and the poor performing enterprises are prepared to pay the excessive interest rates. Huang, When and Liu (2014) financiers prefer moderately low interest rates and reject a segment financing demand, rather than the higher interest rates and attempting to finance all those who require finance. Financiers are reluctant to raise interest rates to avoid serious adverse selection, leaving credit needs unsatisfied and thus generating credit rationing (Wang, Lin & Luo, 2018).

The moral hazard caused by asymmetric information is further exacerbated by the financing difficulties of new ventures and SMEs. Xin (2020) financial institutions cannot ascertain that the borrowed funds will be used for the intended use and whether they would be recuperated. This practice is known as moral hazard and has a potential to create bad debts for financial institutions. In order to guarantee safety for their funds, financial institutions, implement credit rationing. They once again reduce lending to new ventures by SMEs to avoid moral hazard.

Fatoki (2014) posits that collateral could be used to reduce the effects of information asymmetries thereby enabling new ventures and SMEs to be funded by financial institutions. Castillo et al (2018) argue that while collateral aids in mitigating the potential losses of financial institutions, it also encourages moral hazard by incentivising borrowers to take more risks. This can lead to a situation where the entrepreneur is declined funding because of the level of debt, which is one of the contributing factors for lack of SME funding. In addition, collateral requirement presents a problem to lending institutions because illiquidity in the market and difficulties pertaining to valuations, particularly in Africa (Amoako-Adu & Eshun, 2018). In developing economies like South Africa, the entrepreneurs operating most SMEs generally do not have any fixed assets, valuable and liquid collaterals. In some instances, even when collaterals are available, determining the correct market value is often a challenge. All these challenges result in funding applications being rejected.

2.7 Decision-making criteria for new ventures

Funding is a multistage process in which the characteristics changes as it goes through the initiation, growth, maturity and decline phases. However, this study centres only on the start-up or initial phase of a new venture. According to Klotz et al (2014), during the earliest phase of a new venture human capital factors and funding are strongly related. During the start-up phase of a new venture, securing funding is quite difficult as the new venture has to go through a lengthy and strenuous process (Rédis, 2010). This is caused by the high risk associated with new venture financing as well as information asymmetries between founding entrepreneur/s and the investor/s (Connelly et al 2011). Concerning the decision-making process, suppliers

of finance normally attempt to assess two traits to decide whether advancing financial capital would yield a profitable investment outcome. Firstly, prospective funders analyse the quality of a venture's financial activities, and followed by analysing the founder's abilities and skills to accomplish the business activities (Ahlers et al 2015; Courtney, Dutta, & Li, 2017).

The founding entrepreneurs' abilities and skills or human capital attributes act as a signal of their potential to manage and develop the new venture into a successful and profitable business initiative and in this way, it reduces the uncertainty about the new venture. Additionally, the human capital theory in relation to new ventures relies on the capabilities of the founders and in light of this, the investors who wish to finance the new venture scrutinise the things that are certain about the new ventures such as founding entrepreneurs' level of education, same industry experience, experience in starting an own business and number of founders of the new ventures (Shetty & Sundaram, 2019).

A study by Burton et al (2002), revealed that being employed by a prestigious institution increases the odds of acquiring external funding. In agreement, Zimmerman (2008) assets that investors typically give a priority to new ventures whose founders: i) have a strong industry experience, ii) are connected to important stakeholders and iii) have past management experience in leading organisations. Hsu (2007) states that prior start-up experience helps investors to gauge the managerial capabilities and performance of the founders. This is because practical and real-life experience/exposure of running a start-up gives confidence to the investors that the founders would be able to manage the new venture based on their history. Besides, the process of developing an innovative idea into a successful business venture requires experimentation to overcome uncertainty which is achieved through learning and re-learning to acquire knowledge that cannot be acquired through working in an industry (Hsu, 2007). Additionally, previous start-up experience also builds knowledge on how to secure funding as well as establishment of relationships with investors which may make it easier to secure funding for other new ventures (Stuart et al 1999).

Furthermore, formal education of the founding entrepreneurs has a direct influence on the prospects and valuation of initial public offering (IPO) (Zimmerman, 2008). According to King et al (2016), chief executive officers (CEOs) who obtained their educational credentials from prestigious institutions were found to exhibit better performance than those who did not. Also, having attended a prestigious education institution helps to foster and create solid professional and social network with great links to the relevant industry and investor groups (Miller et al 2015). In view of this, investors may prioritise such entrepreneurs whom they have a previous or past experience with. Consistent with this, in many cases than not, prestigious institutions

create an avenue to inner sanctums of vital capitalist institutions (Tapper & Filippakou, 2009). This may give such entrepreneurs an age over other when investors are assessing and deciding which new ventures to finance. In addition, Schmidt and Pardo (2017), postulates that studying abroad may give an individual human capital attributes and experiential learning that is otherwise not possible in the country of origin.

On the other hand, industrial experience can help to mitigate a number of risks linked to new ventures and this ultimately reduces the level of uncertainty associated with the new venture thus making more attractive to investors (Baum & Silverman, 2004). It is also increases the founding entrepreneurs' knowledge about the trends within the industry and it therefore reduces technology uncertainty (Delmar & Shane, 2006). More importantly so, the number of founders may also signify collective quality and quantity of human capital capabilities (Certo, 2003). Furthermore, more founders are able to combine their ideas and knowledge to come up with the best strategy to overcome the problems facing the organisation leading to greater chances of success of the new venture (Klepper, 2001).

Nevertheless, researchers such as Pretorius and Shaw (2004), Van Deventer and Mlambo (2009), Fatoki and Odeyemi (2010) and Likotsi (2014) investigated the constituents that have an impact on the financiers' decision-making criteria in the South African context. Academics have paid little interest to the financing decisions of DFIs among new and small businesses as opposed to larger institutions which dominate the existing literature (Gyimah & Agyeman, 2019). A first-hand understanding of the DFIs' decision-making criteria is important in order to realign the existing misalignment between what financiers are looking for and what entrepreneurs present.

Ferrati and Muffatto (2019) investigated the criteria that is generally employed by equity investors in their funding decision-making. The researchers reviewed 894 journal articles to determine the general criteria employed by equity investors in their decision-making process for venture funding and the most discussed criteria in literature. The study revealed that the top decision-making factors for investors were characteristics of the entrepreneur(s) which included experience and background; expertise and skills; demographics (age and gender). Included in the entrepreneur characteristics was the commitment of the entrepreneur which included financial commitment. While it may appear as though the characteristics are more important, it seems that financial contribution is also as important suggesting limited access for smaller and new SMEs.

Van Deventer and Mlambo (2009) states that venture capitalists consider the entrepreneurs' character and experience to be more important than the financial criteria. Prior research on SME financing confirms that determinants such as entrepreneur characteristics, firm size, firm age and geographic location have been found to significantly affect SME financing (Beck et al 2008; Ferrando & Griesshaber, 2011; Gamage, 2013).

2.8 Theoretical Foundations

2.8.2 The human capital theory

The human capital theory is embedded in the economic literature (Teixeira, 2014 citing Becker, 1964). Human capital is neither physical capital nor financial capital. It is defined as skills and knowledge that one acquires by investing in education, training while employed, and other various experiences (Unger et al 2011). Human capital therefore includes formal qualifications, experience, and knowledge, practical experience gained through employment, owner and founder experience, parent's background and skills These authors suggest that financiers have conventionally placed significance to the entrepreneurs' experience when analysing the potential of the firm. Venture capitalists often scrutinize the skills of the management and their experience during their selection criteria.

According to Davidsson and Honig (Davidsson & Honig, 2003) prior studies on human capital have been premised on the impact of the theory on starting up new firms. The authors highlight that it has been found that education and work experience significantly fosters opportunity identification, however it does not aid in converting the opportunity into an actual venture. Likewise, studies premised on the founder's experience in starting a business, having a qualification in business studies and experience in managing revealed that most budding entrepreneurs had not been to business school or had experience in starting a business.

Concerning the financing of the business, Davidsson and Honing (2003) suggest that there is high likelihood of budding entrepreneurs benefiting from the aforementioned human capital variables. This is asserted by a previous study by Coleman and Cohn (2000) who found that having a formal education is a key contributing factor on the capital structure of SMEs. Moreover, they found that educational background was positively related to the SMEs ability to secure external funding.

Davidsson and Honig (2003) cite Schultz (1959); Becker (1964) and Mincer (1974) who all maintained that human capital theory knowledge which is obtained through investing in education, training, work experience or previous business start-up experience augments an

individual's cognitive competences, resulting in more fruitful and effective prospective endeavours. Previous studies that have been concluded, have identified human capital as key factor that contributes to the success, growth, performance and survival of new venture (Capelleras et al 2019; Davidsson & Honig, 2003; Unger et al 2011; Urban & Kongo, 2015). This implies that individuals with human capital are able to organise and utilise resources, such as human resources, financial resources and social capital.

Previous studies have also suggested that human capital and financing or capital (debt and/ or equity) are crucial for the success and survival of a business venture. Coleman (2007) suggests that a firm lacking either human capital or financing will not be able to proceed to the start-up stage or the growth stage. A firm lacking human capital will not be able to access finance, thus not being able to develop products and services needed to start or grow the firm. Baum and Silverman (2004) demonstrated that investors, particularly venture capital investors, rely heavily on the entrepreneur's human capital in the investment decision-making. Consequently, banks also consider the human capital of the new venture owner as a critical factor in deciding on the creditworthiness for new venture funding. One can thus conclude that DFIs apply the same principal when determining creditworthiness.

Extant research demonstrates that asymmetric information stemming from insufficient financial history for new SMEs and business plans submitted by borrowers creates investor reluctance to invest in new ventures (Erdogan, 2018). Gruber et al (2012) posit that the entrepreneur's human capital level mitigates the risk that emanates from newness of an early-stage company as it plays an essential part on the firm development, facilitating successful opportunity recognition and exploitation, patenting activity, firm legitimacy and access to external financial resources.

A study by Franke et al (2008) revealed that a positive and significant relationship existed between human capital of the founder, particularly management experience and level of education, and obtaining external funding as well as survival. As such, an entrepreneur's human capital represents a signal of the venture quality and investors rely on its projecting power on many entrepreneurial achievements such as opportunity recognition, stable development and survival which could balance the risk inherent to new ventures (Warnick et al 2018). Hence, the human capital is of paramount importance for financing institutions and in this case DFIs when investing in SMEs, specifically at start-up stage.

Bruns et al (2008) argue that the human capital of employees from financing institutions is also of significant importance in the funding process of new ventures. Human capital is important

because human judgement plays a significant part in the decision process. These authors suggest that more educated employees, with more experience in lending and exposure to SME businesses are more likely to identify the success factors in a new application, thus approving the application. Employees higher human capital levels are more inclined to practise differentiated methods that are more effective to identify the risks associated with a specific application. These employees are more knowledgeable, and possess the required experience and skills to accurately assess business risks.

Centidamar et al (2012) posit that the theory of human capital is embedded in the notion that individuals have skills, experience and knowledge that may be converted to monetary profit. This suggests that in the entrepreneurial process, individuals with human capital attributes such as skills, experience and knowledge have a direct effect on the ability of the individual to secure external funding (to be financed) for the new venture. In turn this also suggests that investors and lenders' decision to finance a new entity is influenced by the entrepreneurs' human capital.

Chiliya and Roberts-Lombard (2012) investigated how the founders' experience and education affect the profitability of small market stores for groceries. They also investigated whether the founders' schooling level, and the age of the business affect the financial performance of small grocery stores in any significant way. The study outcomes revealed that employment experience, schooling levels, owner's age and the number of years that the business has been operating significantly impact the profitability of the business. This indicates that all these factors positively impact small businesses.

As mentioned in the previous sections, information asymmetry is a challenge for both new ventures and financiers. To mitigate information asymmetry, financiers utilise the signalling theory. The signalling theory is fundamentally concerned with reducing the problem of asymmetry between two parties (Hussain et al 2018). According to this theory, the financier, when facing uncertainty regarding the new venture, uses the entrepreneur' human capital so as to reduce the information asymmetry.

The subsequent sections present each construct of the human capital, highlighting its positive contribution to influencing the financier's decision making. The next section will look at the level of education.

2.8.2.1 Level of education

Rauch and Frese (2000) maintain that it has been empirically established that a positive relationship between education and firm success is empirically exists. In another study, Cooper et al (1994) support the notion that education may result in knowledge and skills that empowers founders to identify opportunities and to better deal with challenges and, therefore, are more likely to succeed. While education may provide individuals this ability, chief to the belief is the ability of the individual to acquire the knowledge and apply it. According to Becker (1993) the human capital theory maintains that human capital investments (like investing in education) "increase knowledge, skills, or health, and thereby increase money or psychic incomes". However, Davidson and Honig (2003) also argue that from an academic viewpoint, human capital has to be effectively transmitted to the entrepreneur to increase the probabilities of success.

Peters and Brijlal (2011) puts forward that concerning the human capital variables, education is the most studied variables. These authors suggest that entrepreneurs that are more educated are better equipped to pursue, mobilise and evaluate information relating to existing and new entrepreneurial opportunities. The entrepreneurs identify opportunities that have a high probability of resulting in growth and profitability. Peters and Brijlal (2011) highlight that education enables entrepreneurs to be effective and better equipped to deal with entrepreneurship challenges because education endows them with impetus, discipline, competences, experience, solutionist-thinking and self-efficacy.

Comparably, Kangasharju and Pekkala (2002) observed that tertiary education aided in increased growth. Consequently, this study maintains the findings of the preceding studies that a positive correlation between education and venture performance and growth does indeed exist. Moreover, because of the positive correlation between education and venture performance and growth, education serves as a signalling factor for investors and lenders.

Pinelli et al (2020) suggests that education is a human capital variable that investors are inclined to respond to, as perceptions from signalling theory state that individuals are likely to respond to signals that are palpable and accessible. The authors found that the founding teams' tertiary education qualifications and particularly different types of qualifications in one firm, could possibly have both constructive and adverse consequences on the operation of the start-up. The differing education could also affect the ability start-ups' to source external capital, both positively and negatively. According to their study, the founding teams' chances of securing capital from external parties increased as the level of education increased provided

that the education levels did not vary. Likewise, the founding teams' chances of securing capital increased as the education varied provided the levels did not increase.

In another study Prais (1995) investigated the impact of a nation' education and training system on the country's productiveness and output. The author highlighted that there was a requirement for a nation to have the right amount of educational funds dedicated to wide-ranging educational matters that are directly linked to the labour market. Additionally, these educational matters should directly promote vocational training in a bid to offer potential workers and entrepreneurs with technical skills that are job-specific. Similarly, Colombo and Grilli (2010) maintain that individuals that possess higher education levels, more employment experience, particularly in the same sector as the new venture and more entrepreneur-specific human capital developed either over managing employees or managing a firm, are inclined to superior entrepreneurial judgment and added specialised knowledge than others. Consequently, these individuals are in a better position to identify business opportunities that others would otherwise not and inclined to succeed than others.

It is therefore clear that high levels of education are seen to give confidence in the entrepreneur's ability to lead a successful enterprise. This confidence has historically influenced more positively the decision-making of the DFIs in funding an SME.
The following hypothesis is generated from this section:

H_0: There is no significant positive relationship between the entrepreneurs' level of education and the DFIs decision to finance new ventures**.**

H_1: There is a significant positive relationship that exists between the entrepreneurs' level of education and the DFIs decision to finance new ventures**.**

2.8.2.2 Experience

Following the human capital definition Chandler and Hanks (1998) hypothesised that individuals are more likely to produce higher earnings when they have prior management experience while employed, own business management period, technical experience period, profitability of prior start-ups, and the education level have a probability of aiding in acquiring a larger amount of the required start-up capital. The authors also point to the importance of having industry experience when starting a venture. Delmar & Shane, (2006) define industry experience as having been employed in the same industry that an entrepreneur(s) starts a new venture in. Industry experience affords the entrepreneur with knowledge regarding the regulations and patterns, employment practices, consumers, and suppliers.

Similarly, Dakhli and De Clercq (2007) asserts that industry experience relates to knowledge obtained from particular industry experience. Additionally, the authors put forward the various scholars have investigated the impact of industry experience on the growth and profitability of business ventures. It has been found that when there is an exchange of innovative, superior knowledge amongst the key actors within the industry, there is often a potential for industry experience to stimulate innovativeness within the industry. George and Kotha (2011) maintain that entrepreneurs who have experience in starting their own ventures and also have experience that is industry specific are more discerning when it comes to providing ownership and are able to source higher amounts of capital from financiers and investors.

Delmar & Shane (2006) investors have consistently disclosed that same or specific industry experience and start-up experience for budding entrepreneurs that are seeking capital are highly regarded as contributing factors of new venture success. The authors define start-up experience as having started a new firm in the past. Hsu et. al. (2014) found out that start-up experience and particularly the number of years operating a start-up, is a significant signal for positive decision from Angel Investors. Possessing experience in starting an own venture assists the entrepreneur of a new firm to manage challenges that are associated with the newness because of the experience from previous ventures. Whether previous experience in start-up resulted in success or failure, it provides an individual with information about identifying lucrative prospects, the ability to effectively assess the prospects, acquiring the necessary capital and actually establishing the firm (Delmar & Shane, 2006).

Another type of experience that is important for investors is business management experience or people management experience for a period that is specified by the investors (Hanák, 2020). The author further posits that in some instances managerial experience is combined with start-up experience and categorised as specific human capital, which is defined as period that an individual has been employed or managed new firms. In this study however, the two types of experiences are not necessarily treated as one. An individual may be experience managing people in employment and without having experience in starting a business. Consequently, both types of experiences play a role when an individual decides to venture into entrepreneurship and consequently when approaching financial institutions.

Hanák (2020) highlights that in addition to the aforementioned types of experiences there are few other types of experiences that investors consider when deciding to invest in a new business. These experiences include professional experience, leadership experience, entrepreneurial experience, start-up experience, international experience, work experience, track record and functional experience (production, marketing, financial etc.). Granz et al

(2020) argue that using experience as a deciding factor when investors are looking at investing in new firm has negative effects and has limitations. The authors point to the fact that infrequent events are more difficult to learn from due lack of repetitiveness and especially if they happened only once or a few times in their career. Managing one company can create specific managerial plus industry experience, but the knowledge of how to create another, different venture could be limited. Therefore, the transfer of knowledge from one enterprise to another in a different industry is not a simple mechanical straightforward process.

It can be concluded that experience is a critical contributing factor in DFIs decision-making based on the literature above. Funding institutions have taken SMEs with more experience within an industry in a positive light which influences the decisions to fund in positively. The more experienced an enterprise, the bigger the funding benefit.

The following hypothesis is generated from this section:

H_0: There is no significant positive relationship between the entrepreneurs' experience and the DFIs decision to finance new ventures**.**

H_2: There is a significant positive relationship that exists between the entrepreneurs' experience and the DFIs decision to finance new ventures**.**

2.8.2.3 Skills

Skills are a component of human capital that are derived from participating in formal and non-formal education, training while employed and employment experience, which promote efficiency and success (Kele et al 2017; Unger et al 2011). Skills are not always inherent and thus depend on continuous practice. Marvel et al (2016) acknowledges that different job-related skills can range from basic skills such as public speaking to multi-functional skills such as problem-solving and technical. The skills that relate particularly to entrepreneurship afford an individual with advantages within the entrepreneurship process.

The management skills of an entrepreneur relate to knowledge, skills, and/or capabilities needed for managing a new venture (Sambasivan et al 2009). The authors posit that management skills can be generic and/or specific. General management skills relate to the ability to be decisive, ability to conceptualise and the ability to efficiently process information. In addition to these generic skills, leadership skills and presentation skills are considered to be important generic skills. Technical skills include those mentioned by Tyebjee and Bruno (1984) who maintained that managerial capabilities in terms of skills in marketing, management, finance are important in the decision-making of financiers. Both the general management skills and specific skills are important to the performance of a venture.

Baron (2012) asserts that in the start-up process entrepreneurs are required to marshal human capital and financial capital, launch the new venture, manage its growth, and develop its viability. The start-up process is multidimensional and requires that an entrepreneur has a wide-ranging variety of skills. The entrepreneur must be skilled in various functions and should assume various positions (manager, accountant, salesperson and chief engineer) in the process of establishing a venture (Lazear, 2005). These entrepreneurial skills are not only gained through formal education and training; they can also be acquired through practical experiences. The author further highlights that one could build up and enhance such skills in the process of actually establishing a venture.

According to Ucbasaran, Westhead and Wright (2008) people who have accumulated experience as business owners should possess greater human capital levels characterised by superior management and technical skills. This suggests that having previously started a new venture provides an entrepreneur with important skills for effectively executing start-up efforts.

An enterprise with more skills such as leadership, management and technical, have a better advantage. The high level of skills give confidence to the DFIs that the enterprise is armed with necessary workforce that can lead a profitable business.

The following hypothesis is generated from this section:

H_0: There is no significant positive relationship between the entrepreneurs' skills and the DFIs decision to finance new ventures**.**

H_3: There is a significant positive relationship that exists between the entrepreneurs' skills and the DFIs decision to finance new ventures**.**

2.8.2.4 Knowledge

Marvel et al (2016) defines knowledge as the acquisition and apprehension of ideologies, facts and processes. Specific knowledge that can be applied to a specific field like specific entrepreneurial endeavours is indispensable. New venture entrepreneurs must be knowledgeable about technology that is crucial to achieving the goals of the venture and the market conditions (Markman & Baron, 2003). Shane (2000) revealed how being knowledgeable about customer challenges, markets, and how to address the challenges aids in discovering opportunities that can be converted into economic value. Similarly, to the other human capital variables, knowledge can also be generic and specific to industry, job or company. It is often categorised within academic disciplines such as marketing, engineering, accounting and information technology amongst others. According to Zimmerman (2008) a

multi-disciplined experienced team (finance, human resources, marketing, operations) empowers the new venture to react appropriately to threats and opportunities. Furthermore, financiers typically expect the firms to exhibit high growth, and a more functionally heterogeneous.

Peters and Brijlal (2011) posit that knowledge may be either implicit or explicit. Implicit knowledge refers to know-how which consists of the unambiguous information generally communicated in processes, policies and educational institutions (Davidsson & Honing, 2003). Resolving complicated dilemmas that come with being an entrepreneur and making business decisions involves using both implicit and explicit knowledge. Therefore, education, whether from educational institutions or from practical learnings while employed results in these individuals having increased knowledge. Formal education from tertiary institutions may contribute to explicit knowledge being increased which may afford the entrepreneurs skills that are useful for running a venture (Peters & Brijlal, 2011).

Cooper, Gimeno-Gascon and Woo (1998) posit that knowledge on managing an entrepreneurial venture is usually implicit and is generally learned through extensive investment of time in studying, and business decision-making. A new venture can increase its success probabilities by having management knowledge accessible through involving employees or managers that represent this implicit knowledge.

In the study on how knowledge aids entrepreneurs in opportunity identification Marvel (2013) posits that previous market knowledge involves being knowledgeable about the way the market operates. Marvel (2013) suggests that previous knowledge involves supplier relationships and customer relationships as well as information about applicable sales methods and financing. The author states that market knowledge is a recognised source of opportunity and individuals who search for opportunities are inclined to gain market knowledge. The market knowledge includes technology development, products and services that meet customer needs. This knowledge on products and services serves as a basis for the development of an individual's own products and or services. The knowledge and ability to articulate this to investors and lenders plays a significant role in their decision to invest.

On financial knowledge, Hussain et al (2018) suggest that entrepreneurial financial education reduces asymmetric information, lowers monitoring fees, increases cash flow and enables the entrepreneurs to boost the businesses' finances. Financial knowledge concerning a business is more precise and requires that the entrepreneur is able to comprehend, scrutinise and take decisions that positively affect the SME's financial performance (Eniola & Entebang, 2015).

Entrepreneurs need to have basic financial knowledge in conjunction with broader skill sets which include social and professional network, ability to communicate and intellectual skills to realize the required goals (Wise, 2013). Conversely, financial knowledge aids founders and their managers to improve the use of limited financial resources by cost-effective financial management systems. Previous studies by Cole et al (2009), Deakins and Hussain (1994) on SME financing suggest that financial literacy or knowledge assists entrepreneurs to secure financing from external financiers.

Knowledge acquired by the SME has been beneficial to the funding outcome. The SME's knowledge and application of recent technology, financial management knowledge, the use of policies, processes and systems contribute positively to how the business is managed. All the implicit and explicit knowledge has been a positive factor in DFIs' decision-making for funding an SME.

The following hypothesis is generated from this section:

H_0: There is no significant positive relationship between the entrepreneurs' knowledge and the DFIs decision to finance new ventures**.**

H_4: There is a significant positive relationship that exists between the entrepreneurs' knowledge and the DFIs decision to finance new ventures**.**

2.9 Conceptual framework

A review of the human capital theory was used to develop the hypotheses on human capital attributes (level of education, experience, skills and knowledge) and the DFIs' decision to finance as illustrated in Figure 5 below. The view of the study is that the attributes are regarded as important signals for the new venture's future potential, increasing the new venture's chances of obtaining DFI financing. According to Baum and Silverman (2004) human capital attributes have shown to serve as key signals that financiers (venture capitalists) use in their assessments of start-ups. Seemingly because these are believed to materially affect subsequent firm outcomes, a presumption that empirical evidence tends to corroborate. Similarly, Unger et al (2011) posits that investors have traditionally attached a high importance to the human capital of entrepreneurs in their evaluation of firm potential.

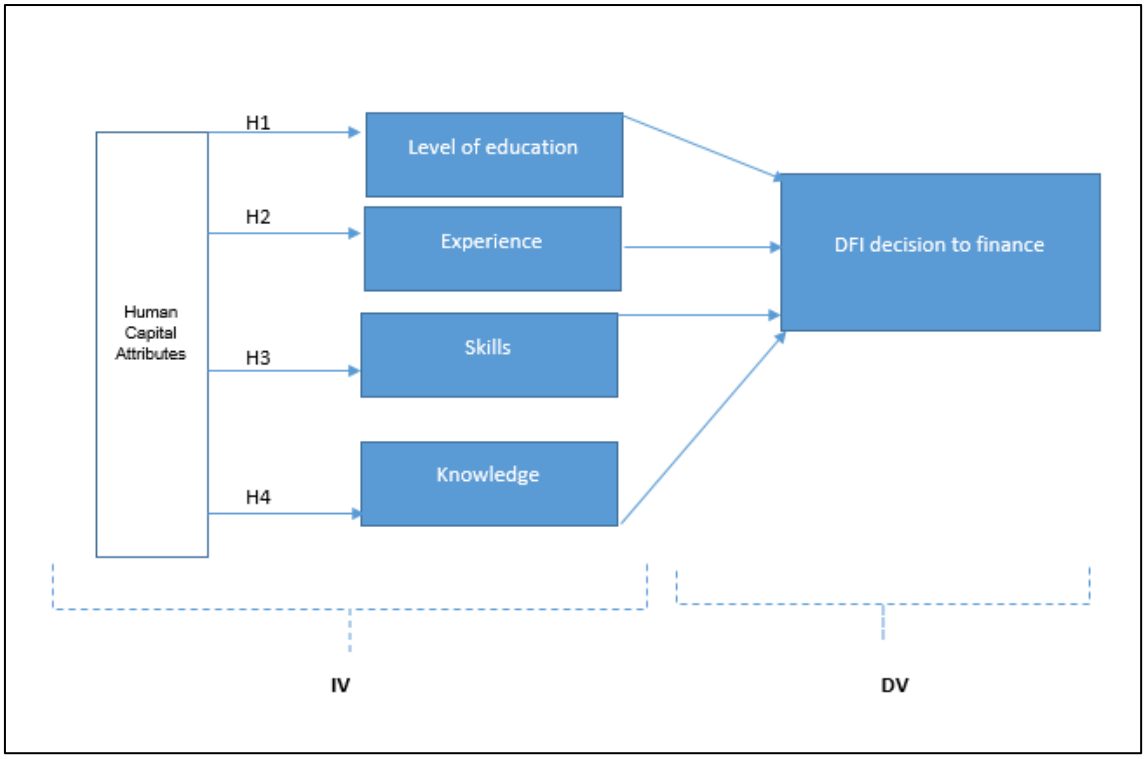


Figure 3: The conceptual framework model

Source: Own

2.10 Conclusion

Literature review revealed that entrepreneurship is growing in Africa and more so in South Africa. Furthermore, the source of financing for start-ups and new ventures were discussed. Internal sources of financing mentioned in this study were founder, family and friends as well as bootstrapping. External sources of financing identified were banks, venture capitalists, business angels and private equity firms. Moreover, the role of DFIs were discussed as well as the decision-making criteria they take when they are assessing financing options for new ventures. Additionally, the theoretical foundations of the study were based on the firm lifecycle theory and human capital theory. The literature review was consolidated with a conceptual framework of the study. Lastly, the following hypothesis were generated from this chapter are shown below:

H_1: There is a significant positive relationship that exists between the entrepreneurs' level of education and the DFIs decision to finance new ventures**.**

H_2: There is a significant positive relationship that exists between the entrepreneurs' experience and the DFIs decision to finance new ventures**.**

H_3: There is a significant positive relationship that exists between the entrepreneurs' skills and the DFIs decision to finance new ventures**.**

H_4: There is a significant positive relationship that exists between the entrepreneurs' knowledge and the DFIs decision to finance new ventures**.**

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

The chapter delineates the methodology of this research study. Williams (2011) describes the research methodology as the holistic steps a researcher adopts when completing research. Research methodology relates to the data collection process, the measurement and analysis of the data with the aim of achieving the study objectives (Blumberg, Cooper & Schindler, 2013). The chapter discusses the methodological concepts covered, namely, the research paradigm, research design, the population and sample, the research instrument that was used to collect the data, the data collection procedure and the data analysis. The limitations of the study were identified and highlighted, concluding the chapter with the validity and reliability of the research instrument that was used.

3.2 Research paradigm

According to Creswell (2014), a research paradigm or worldview is the fundamental principle that directs action. It provides the researcher a guide to follow for completing the research design, data collection and analysis. The paradigm that was adopted for this study was a post-positivist, using a quantitative approach. According to Creswell and Creswell (2018), the problems studied by post-positivists reflect the need to identify and assess the causes that influence outcomes. Thus, the study aimed to determine the extent to which a significant positive relationship exists between the entrepreneur's human capital attributes of level of education, experience, skills and knowledge and the DFIs decision-making criteria when financing new ventures.

Post positivism is the philosophy following positivism, which argues the conventional belief of the absolute truth of knowledge and acknowledging that we cannot be absolutely positive regarding our claims of knowledge when studying the behaviour and actions of humans (Panhwar, Ansari & Shah, 2017). Consequently, the post-positivists' approach is that the researcher starts with a theory, collects data that either supports or refutes the theory, and then makes necessary revisions before additional tests are made, in a scientific or quantitative method. A quantitative approach tests for objective theories by investigating the relationship between variables.

A study by Alvarez, Barney and Young (2010) on the entrepreneurship debates, availability of opportunities and implications for enterprises highlights the reality of opportunities that exist for all enterprises. However, those opportunities require a stiff competition from the market that benefits from them, with various competitive influences such as “changes in technology, consumer preferences, or some other attributes of the context within which an industry or market exists” (Alvarez, Barney and Young, 2010 citing Kirzner, 1973). All what this requires is for each enterprise to always be ready to grab the opportunities that will be available on a first enterprise that will come armed with advantages. The attributes of human capital theory that the study measures form a strong bases of such readiness that each SME should have. The complexity of requirements from the market becomes a motivate a sense of improvement by enterprises to respond to such needs. Furthermore, an organisation is better equipped to respond to the needs when the attributes of education, skills, experience and knowledge are built, which in turn benefits the entire society through well capacitated enterprises that contribute positively to the economy.

During the investigation, data was obtained from a group of respondents and descriptive statistics were used to quantify data and the results from the sampled population are generalised. The goal is to quantify the responses from the respondents and subsequently interpret them to make decisions, proving or disproving the hypotheses. As outlined in the hypotheses, the purpose is to investigate the extent to which entrepreneurs’ human capital attributes impact the decision-making criteria of DFIs to finance new ventures.

The advantage of a quantitative approach is the independence of the researcher during the analysis and data interpretation process. The deductive logical reasoning permits for assumptions to be used, findings and theories to obtain a conclusion and for generalisability of the data. The disadvantage of this method is the limitations of the respondents’ views, as they cannot communicate beyond what is on the questionnaire (Blumberg et al 2013).

3.3 Research Design

According to Creswell (2014) a research design is a method of investigation within the three design approaches (qualitative, quantitative, and mixed research methods) that provide a particular way for the research process. The type of design that was employed was a quantitative, correlational explanatory. A quantitative methodology is used to establish whether, and to what extent, a relationship exists between two or more variables within a population (or a sample). The extent or degree of relationships is measured by correlation

coefficients. Coefficients range from +1.00 to -1.00. Higher correlations (coefficients closer to +1.00 or -1.00) indicate stronger relationships.

The study was cross-sectional using an online self-administered questionnaire. According to Apuke (2017), a survey is used to quantitatively describe a portion of a given populations which involves studying the relationship through collecting data from the population. Surveys investigate a section of the population which is later used to generalize the broader population. Advantages of a survey include the ability to reach individuals that one would have otherwise not been able to reach because of distance and the ability to collect data in a limited time period (Babbie, 2013).

As this was a cross-sectional study, data was collected at a specific point in time, a one-month period from 22 April 2021 to 22 May 2021. The disadvantage is the limitations presented by a cross-sectional study is the time limitations and the disadvantages of a quantitative approach is the inability to obtain an in-depth insight about the constructs (Zangirolami-Raimundo et al 2018).

3.4 Population and Sampling

This section shall be divided into two subsections which are population and sampling and sampling method. The following subsection shall discuss the population of the study.

3.4.1 Population

Babbie (2013) described a population as the hypothetically quantified aggregation of the elements in the study. For the purpose of this study, the research population consisted of SMEs that had been financed by South African DFIs. The unit of analysis for this research study is SMEs that have received start-up funding from the DFIs mentioned above. The aim of the study was to determine the extent to which the entrepreneurs' human capital attributes significantly impact the DFIs decision-making criteria when financing SMEs in start-up phase of the firm lifecycle. Whilst there is no single source of data relating to the South African SME population, according to Schirmer and Visser (2021) the South African SME population is estimated to be just over 2.6 million. The OECD (2020) reported that the unpaid direct government loans extended to SMEs by DFIs was R11.48 billion, which accounted for 1.8% of all SME loans, whilst the total SME debt to banks was R617 billion, which accounts for 28% of total business loans and owner funding being the most widely used source of funding. The number of SMEs that have received funding from DFIs is thus significantly lower than those

that have been funded by other financial institutions. Even though Schirmer and Visser (2021) indicate that DFI loans account for only 1.8% of all SME loans, and does not indicate what percentage of this was for start-ups. The populations size is thus unknown.

3.4.2 Sample and sampling method

Saunders et al (2016), puts forward that sampling is crucial when it is impractical to receive data from the entire population. It was impractical to receive data from the whole population as the population size was unknown. Moreover, the researcher would have required approval from the all the DFIs to access their data, and this proved to be a difficult task and this was worsened by the limited time frames within which to complete the research.

In this study, a non-probability sampling methodology was adopted as it was considered the most appropriate form of sampling. Saunders et al (2016) non-probability sampling applies when the population size is unidentified which means the probability of each sampling unit is not known, while probability sampling is used when the population size is known and the probability of each sampling unit within the population is equal. However, generalisability can still be made from non-probability samples about the population, but not on statistical basis.

The non-probability sampling method used in this study was the convenience and snowball sampling. According to Saunders et al (2016), convenience sampling involves collecting data from respondents that are easiest to obtain for your sample. Snowball sampling is generally used when it is challenging to find participants of the preferred population (Saunders et al, 2016). In snowball sampling, the researcher usually commences with a small number of known contacts, who are suitable for the research criteria and are requested to participate in the study. The willing participants are then requested to suggest other contacts who fit the research criteria and who may also be keen to participate, who then in turn recommend other qualifying participants, and so on. In snowball sampling, the sample is dependent on the researcher's personal resources and contacts. Consequently, the research is at risk of becoming distorted very early in the research process as the potential participants come from a small number of initial contacts (Parker & Scott, 2019).

The confirmed number of questionnaires that were shared with participants according to the researcher's knowledge was 350. A total 118 responded whereby 31 indicated that they had never been funded by DFIs and 87 indicated that they had been funded by DFIs and 13 completed less than 50% of the questionnaire resulting in 74 usable responses. Saunders et

al (2016), state that for a sample to be near normal sampling distribution, it has to be 30 or more in size. The results of the survey will be shown in Chapter 4.

3.4.3 The research instrument

A self-administered questionnaire was used to collect the data using a data collection software called Qualtrics. A link was generated through Qualtrics and distributed using emails. A self-administered questionnaire is described as a document comprising a set of questions, generally distributed to the respondents by the researcher (Blumberg et al 2014). A questionnaire technique decreases interviewer bias, economical and time saving.

The questionnaire was separated into different sections, addressing the hypotheses outlined in Chapter 2. Closed-ended questions were used for the questionnaires used which and consisted of three sections. The questionnaire was constructed as per Table 3 below.

Table 3: Instrument Layout

Criteria	Constructs	Section	Question	Items
Demographics	Demographics	A	Q1 - 5	5
Business Information	Business Information	B	Q6 - 17	11
Human Capital	Human Capital • Education • Experience • Skills • Knowledge	C	 Q18 Q19 Q20 Q21	 4 5 5 4
DFI Funding	Funding instruments	D	Q22	3

In sections C and D, a seven-point Likert scale was used to measure the importance of sectors as follows: 1 – Strongly disagree, 2 – Disagree, 3 – Somewhat disagree, 4 – Neither agree nor disagree, 5 – Somewhat agree, 6 – Agree and 7 – Strongly agree.

3.4.3.1 Measures of constructs

The literature review on Chapter 2 was used to derive the hypothesis. Consequently, a conceptual framework was framed based on the literature review, formulating the constructs and the questionnaire. All the variables were measured using a 7-point Likert scale, ranging from strongly disagree (to) to strongly agree (7). The human capital variables (the independent variable) (level of education, experience, skills and knowledge) were measured first with several items and then DFI Funding (decision to finance) was measured with its own items. The level of education was measured with four items, experience was measured with five items, skills was measured with five items and skills was measured with four items based on

the discussion of the literature in Chapter 2. DFI Funding was measured by three items, also based on literature discussed in Chapter 2.

Table 4: Conceptual Framework Items

Conceptual Framework Items
Level of education items
I1: The entrepreneurs' level of education.
I2: The entrepreneurs' ability to understand financial statements.
I3: The entrepreneurs' ability to compile a comprehensive business plan.
I4: The entrepreneurs' ability to manage the business.
Experience items
I5: The entrepreneurs' previous work experience in the same industry.
I6: The entrepreneurs' experience in starting a business.
I7: The entrepreneurs' previous experience in managing a business.
I8: The entrepreneurs' experience in managing people.
I9: The entrepreneurs' financial management experience.
Skills items
I10: The entrepreneurs' problem-solving skills.
I11: The entrepreneurs' people management skills.
I12: The entrepreneurs' marketing skills.
I13: The entrepreneurs' leadership skills.
I14: The entrepreneurs' risk management skills.
Knowledge items
I15: The entrepreneurs' ability to demonstrate good business knowledge.
I16: The entrepreneurs' ability to show knowledge of his/her business, products and or services offered.
I17: The entrepreneurs' knowledge of interpreting financial statements.
I18: The entrepreneurs' knowledge of the industry.
DFI Funding (DV)
I19: Debt funding is what my business required.
I20: Equity funding is what my business required.
I21: Hybrid instruments is what my business required.

3.6 Procedure for data collection

Data was collected using a self-administered questionnaire over a period of one month. This study was thus cross-sectional. The questionnaire was developed on the premise of the main concepts discussed in this study. A University of the Witwatersrand licenced online survey

software, Qualtrics, was utilised to construct, circulate, capture, and summarise the data. The total number of entrepreneurs that the questionnaire was sent to was 87. The questionnaire was approved by the supervisor prior to distribution. Follow-up emails and messages were sent on a five-day interval to remind the respondents to complete the survey.

3.7 Data analysis and interpretation

When the questionnaire was closed, the data was exported from Qualtrics to Microsoft Excel where it was organised in a tabular format to reflect responses from all participants. The data was then cleaned to safeguard the quality and integrity of the data was uncompromised. During the cleaning process the following was checked, data errors, coding, and completeness. Upon completion of the cleaning and quality check process, the data was exported to Statistical Package for Social Sciences (SPSS) for analysis.

When the data was entered into SPSS, it was sorted and converted into a data format that is suitable for statistical analysis. The answers to the questions that used Likert and scales as responses were identified and coded into numeric values. Data that is recorded using numeric codes enables the researcher to enter the data speedily with limited errors (Saunders et al 2016).

The data was then analysed using statistical methods namely descriptive and inferential statistics. Descriptive statistics involves the use of graphs, charts and tables and data distributions (Blumberg et al 2013). This includes the computation statistical data such as means, variances and standard deviations. Pie charts were used to present a graphic view of the frequencies and in cases where there were more categories, bar graphs were used.

Descriptive statistics data were summarised using charts and graphs. According to Blumberg et al (2013) inferential statistics generalise sample findings to the broader population. The Spearman's correlation was used for determining the significance of the impact of the independent variable (human capital attributes of level of education, experience, skills and knowledge) on the dependent variable (DFI Funding).

3.8 Validity and reliability of research

External validity relates to the generalisability in the population, the current location and sample. Internal validity evaluates the data collection instrument and whether it can successfully measure each research topic. Validity has three categories, content validity,

construct validity and criterion validity. Reliability is concerned with the instrument's ability to measure the repetition of the findings of the study and produce results (Blumberg et al 2013). The Cronbach's alpha was used to assess the reliability. Reliability in terms of internal consistency refers to the extent to which all the items in a multiple-item scale calculate and yield the same or similar results. Cronbach's alpha is expressed as a number within a 0 to 1 range, and the closer the number is to 1, the more reliable it is considered (Bryman & Bell, 2018). If the Cronbach's alpha measurement is at least 0.7, the internal consistency is acceptable and if it exceeds 0.9 the internal consistency is considered to be excellent (Bryman & Bell, 2018). As such, the researcher used Cronbach's alpha to assess reliability in this study, using measurement scale ranging between 0.7 and 0.9.

The validity of the constructs was assessed using the factor analysis. According to Blumberg et al (2013) validity relates to the extent to which a scale or set of measures correctly represents the concept of interest. Blumberg et al (2013) describe the data analysis process as a method of reducing the collected data to a manageable and convenient size in order to be able to analyse the patterns and trends. The convergent validity, which is presented by the factor loadings presented in factor analysis output indicates the total weight attributed to the factor. At this point the interest is in the significant factor loadings. Factor loadings less than 0.45 were considered to be insignificant; and were therefore deleted from the model. The Bartlett test of Sphericity and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy were used prior to completing the factor analysis. The Bartlett test of Sphericity assessed the significance of all the correlations within the correlation matrix. A statistically significant Bartlett's test of Sphericity greater than 0.05, indicates that sufficient correlations exist and can thus progress to the factor analysis.

Following this, the normality of the distributions was assessed. Prior to testing the hypothesis, an assessment of normality for the variables was done using the Shapiro-Wilk and the Kolmogorov-Simonov Tests. In this study the sample size was 74, necessitating the Shapiro-Wilk Test which is suitable for small sample sizes (< 50 samples up to 2000) and the Kolmogorov-Simonov Test which is suitable for sample sizes larger than 50. A variable follows a normal distribution if the p-value is greater than 0.05. If the p-value is below 0.05, then the variable would not be normally distributed.

The study's aim was to evaluate the significance of the human capital impact (level of education, experience, skills and knowledge) on the DFIs decision-making criteria in financing new ventures. Consequently, this entailed testing the relationship between the independent variables (human capital variables of level of education, experience, skills and knowledge) and

the dependent variables (DFI Funding) using correlations tests. According to Amsi et al (2017), to test for significant relationship between an independent variable and a dependent variable, a correlation coefficient test can be used. The correlation coefficient determines the strength of the direct relationship between two variables and consists of Pearson's and Spearman's Correlations tests (Wegner, 2016).

For purpose of this study, Spearman's correlation coefficient tests were used to assess the relationship between the different constructs. This is because the researcher established that the data was not normally distributed after testing for normality. According to Field (2013), Spearman's correlations test is used for non-parametric tests, and when the data is not normally distributed. In analysing the results from the Spearman's statistical tests, the researcher looked at the correlations coefficient to assess if it is positive or negative. According to Field (2013), the coefficient correlation is an indicative measure of the relationship being positive or negative and is indicated with a value that lies between +1 (positive correlation) and -1 (negative correlation). The researcher also assessed the significance of the relationship. For the relationship between the constructs to be significant, the p-value must be less than 0.05 ($p<0.05$) (Field, 2013). Regression analysis was not conducted in this study, as intended, due to the data distributions being highly skewed, as reflected by the normality tests. (This is discussed further in Chapter 4).

The following assumptions were tested as part of the correlations test analysis:

- The data must be normally distributed. Where the data is found to be normal, a Spearman's Correlations tests is used to test the data (Field, 2013).
- There must be no outliers in the data. For data to be considered normal, the standard deviation must range between +3 and -3 from the mean. Any data beyond that is an outlier (Farooq, 2016).
- There must be a linear relationship between the variables.

3.9 Ethical considerations

A key consideration when conducting the research was ensuring that the study was conducted in an ethical manner. Prior to commencing with the data collection process, the researcher applied for ethics clearance from the Wits Business School ethics committee whereby an approval was granted before distributing the questionnaire. For data collection, the consent was obtained from the participants. Participants were informed that participating in the study was voluntary and they were not obligated to participating. The time taken to complete the questionnaire was timed and the participants were advised of the number of minutes it would take to participate, the questions were also kept short in order to not waste their time. Participants were informed of the study objectives and that their personal details were kept anonymous and confidential.

3.10 Chapter summary

Positivism research paradigm with a quantitative research design was used in study. The population of this study entrepreneurs financed by DFIs and simple random sampling was used to select the sample. Data was collected from the respondents using questionnaires as the research instrument. The collected data was analysed using SPSS and the results of the data analysis are shown in the following chapter.

CHAPTER 4: RESULTS

4.1 Introduction

In the current chapter, the results obtained from the online questionnaire are presented and described. The chapter begins with the demographic profile of the respondents, which also includes the presentation of the description of the SMEs. This is followed by the reliability and validity of the measurement scales analysis, the results of each hypothesis, and concludes with a summary of all the hypothesis.

4.2 Demographic profile of respondents

Table 5: Summary of number of respondents

Item	Frequency	Percent
Completed questionnaires	74	62.7%
Incomplete questionnaires	13	11.0%
Not funded by DFIs	31	26.2%
Total	**118**	**100.0%**

The questionnaire was sent to SME owners, targeting those that had been financed by government-owned DFIs in South Africa. As mentioned in introduction paragraph, the total sample was 74 was shown in Table 6 above. A total of three demographic questions relating to gender, age, education level and business characteristics were administered in the research survey and are summarised below.

4.1.1 Biological sex

Table 6: Respondents' biological sex distribution

Sex	Frequency	Percent
Female	23	31,1%
Male	51	68,9%
Total	**74**	**100%**

The questionnaire was distributed to SME owners in South African DFIs. Table 6 demonstrates that a total of 68.9% of the survey respondents were males and 31.1% were females.

4.1.2 Age

Table 7: Respondents' age

Age	Frequency	Percent
25 - 34 years	15	20,3
35 - 44 years	32	43,2
45 - 54 years	22	29,7
55 years - 64 years	5	7,0
Total	**74**	**100,0**

Table 7 shows that majority of the respondents were between the ages 35 to 44 years constituting 43.2% of the total number of respondents. This was followed by those between the ages 45 to 54 years at 29.7%, those between 25 to 34 years at 20.3% and those between 55 to 64 years at lowest, 7%.

4.1.3 Level of education

Table 8: Respondents' level of education

Level of education	Frequency	Percent
Completed a short course/certificate	7	9,5%
Completed matric	7	9,5%
Degree	14	18,9%
Diploma	13	17,7
Honours degree	14	18,9%
Master's degree	18	24,3%
PhD	1	1,4%
Total	**74**	**100%**

Table 8 shows the level of education ranged from a completed matriculation to Doctor of Philosophy degree (PhD). Majority of the respondents indicated that they had a Master's degree amounting to 24.3%. The number of respondents with an honours degree and a degree were the same at 18.9% respectively followed by those with a diploma at 17.6%. The number of respondents with a certificate and a completed matriculation was the same at 9.5% respectively and only one respondent has a PhD at 1.4%.

4.3 Business information

In this section the respondents were required to answer questions about the DFI that had funded the business and the year they were funded. The respondents were also required to answer questions about their prior working experience, the number of years as an entrepreneur, number of years that the business had been operating and the amount of funding received.

4.3.1 Name of DFI that funded the business

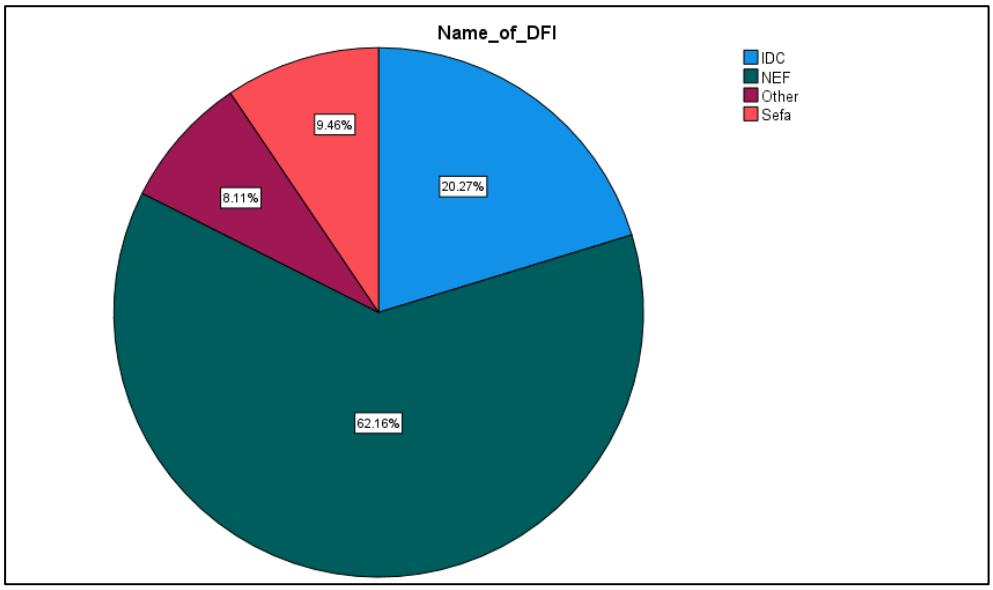


Figure 4: Name of DFI that funded the respondents' business

Figure 4 shows the names of the DFI that the respondents' businesses were funded by. A total of 62.16% of the respondents indicated that they had been funded by the NEF, 20.27% were funded by the IDC, 9.46% by Sefa and 8.11% were funded by other government-owned DFIs.

4.3.2 The year that the business was funded

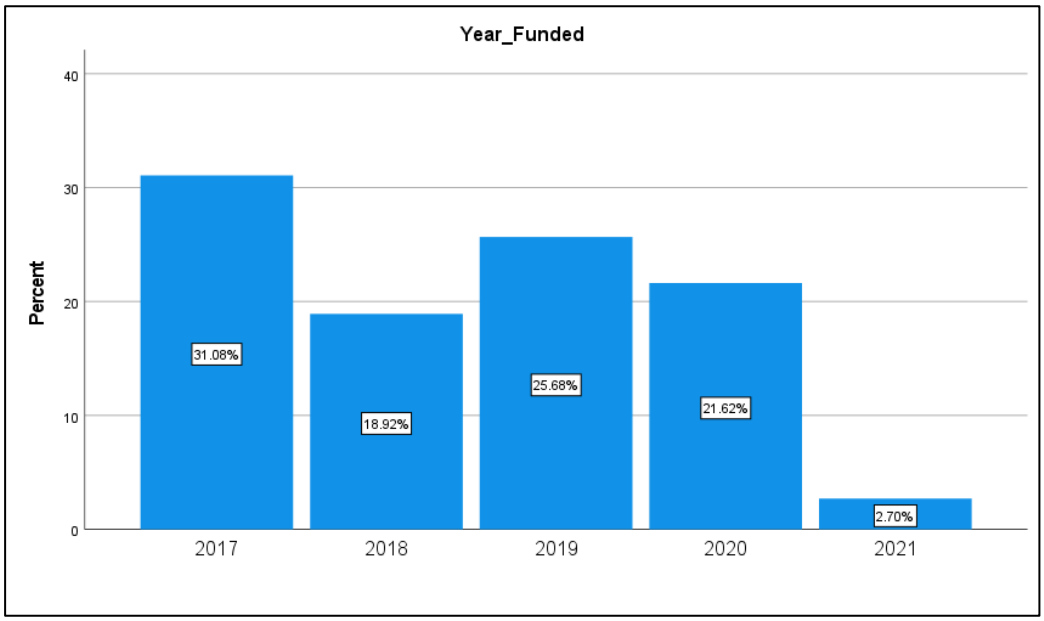


Figure 5: The year that the business was funded

Figure 5 shows the year that the respondents' businesses was funded. Majority of the respondents were funded in 2017 at 31.08%, followed by 2019 at 25.68%, 21.62% in 2020, 18.92% in 2018 and 2.70% in 2021.

4.3.3 Number of times funded by a DFI in the last five years.

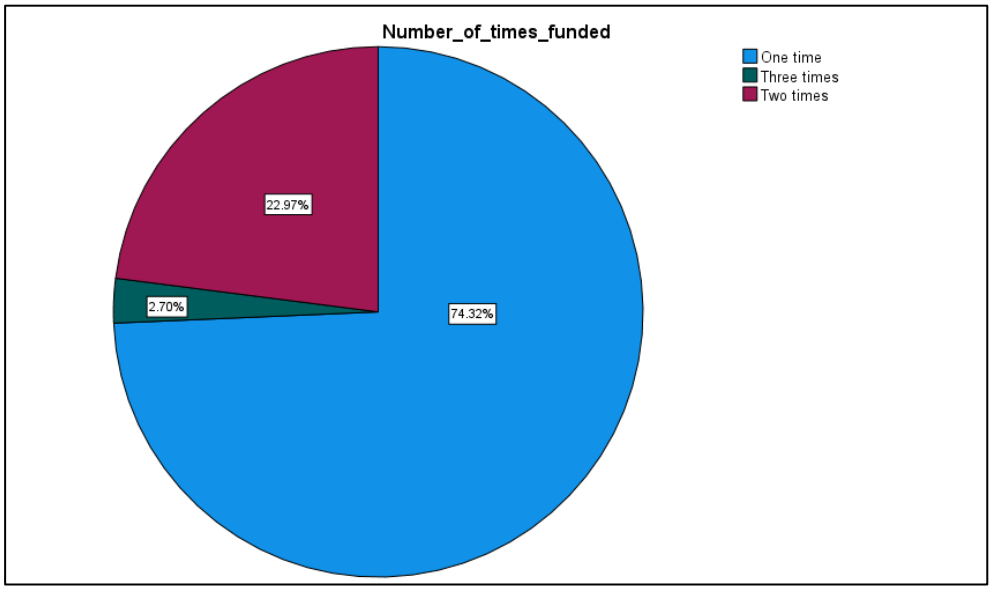


Figure 6: The number of times funded by a government-owned DFI

Figure 6 shows the frequency at which the business had been funded from 2017 to 2021. Majority of the respondents were funded once at 74.23%, 22.97% indicated that they had been funded twice and 2.70% indicated that they had been funded three times.

4.3.4 Stage of business at the time of funding

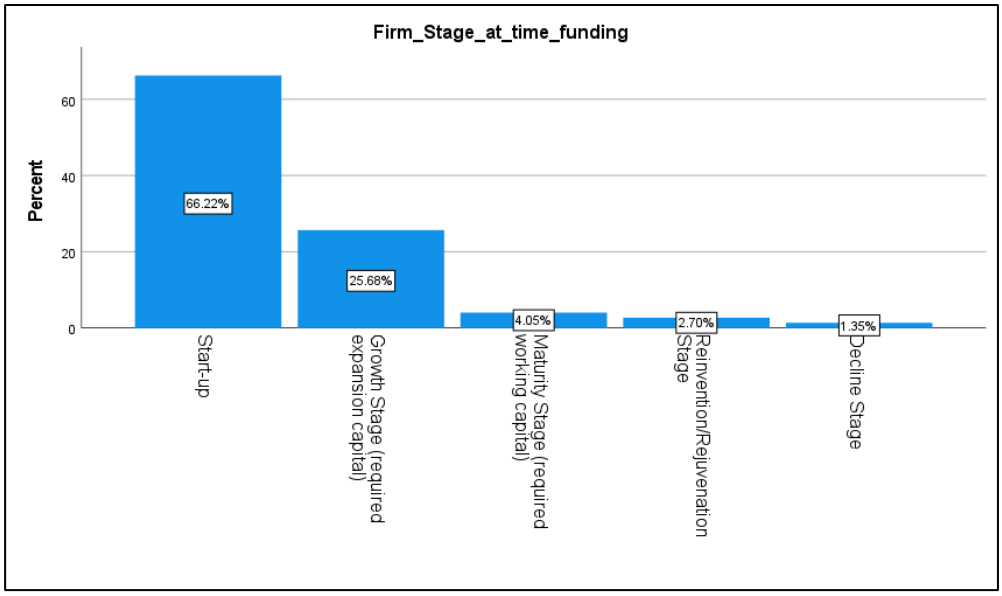


Figure 7: Life Cycle Stage of business at the time of funding

Figure 7 shows the life cycle stage of the business when funding was received. A total of 62.22% of the respondents indicated that their business was at start-up stage when they received funding, 25.68% was at growth stage (required expansion capital), 4.05% at maturity, 2.70% at reinvention and 1.25% at decline stage.

4.3.5 Experience

Table 9: Number of years in existence, operating, as an entrepreneur and employed.

Number_of_years_in_existence		
Years	**Frequency**	**Percent**
< 1 year	5	6,8
> 10 years	14	18,9
1 - 2 years	14	18,9
3 - 5 years	28	37,8
5 - 10 years	13	17,6
Total	74	100,0
Number_of_years_operating		
Years	**Frequency**	**Percent**
< 1 year	5	7,0
> 10 years	13	17,6
1 - 2 years	18	24,3
3 - 5 years	26	35,1
5 - 10 years	12	16,0
Total	74	100,0

Number_of_years_as_entrepreneur		
Years	**Frequency**	**Percent**
< 1 year	1	1,4
> 10 years	22	29,7
1 - 2 years	7	9,5
3 - 5 years	26	35,1
5 - 10 years	18	24,3
Total	74	100,0
Number_of_years_employed_before_business		
Years	**Frequency**	**Percent**
0 years	2	2,7
1 - 5 years	18	24,3
11 - 15 years	17	23,0
16 - 20 years	11	14,9
6 - 10 years	26	35,1
Total	74	100,0
Same_industry_employment		
Years	**Frequency**	**Percent**
0 years	35	47,3
1 - 5 years	17	23,0
11 - 15 years	5	6,8
16 - 20 years	8	10,8
6 - 10 years	9	12,2
Total	**74**	**100,0**

Table 9 shows the respondents' experience in entrepreneurship and employment. The first sub-heading shows the number of years that the respondents' business has been in existence. A total of 37.8% indicated that their businesses had been in existence for three to five years. This was followed by the businesses that had been in existence for one to two years and those that had been in existence for over ten years, both totalling 18.9% each. Those that have been in existence for five to ten years constituted 17.6%.

The second sub-heading was about the number of years that the business had been operating. A total of 35.1% of the respondents indicated that their businesses had been operational for three to five years, 24.3% for one to two years, 17.6% for over ten years, 16% for five to ten years and 7% for less than a year. The third sub-heading was about the number of years that the respondents had been entrepreneurs. A total of 35.1% indicated that they had been entrepreneurs for three to five years, 29.7% for over ten years, and 24.3% for five to years, 9.5% for one to two years and 1.4% for less than a year.

The last two sub-headings were about the number of years that the respondents had been employed before starting a business and the number of years that the respondents had been employed in the same industry as their business industry. A total of 35.1% indicated that they had been employed for six to ten years, 24.3% for one to five years, 23% for eleven to fifteen

years, and 14.9% for sixteen to twenty years. Majority of the respondents indicated that they had no prior experience in the industry that their business was in. A total of 47% had no prior experience, 23% had one to five years' prior experience, 12.2% had six to ten years, 10.8% had sixteen to twenty years and 6.8% had eleven to fifteen years' prior experience.

4.3.6 The location of the business

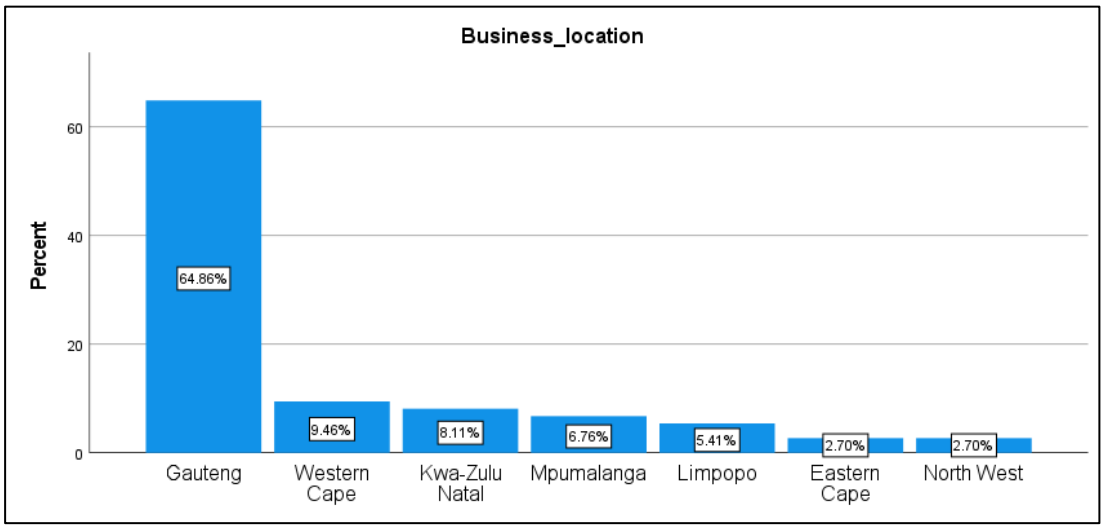


Figure 8: Business location

Figure 8 shows the location of the business in terms of the province. A total of 64.86% of the respondents indicated that their business was located in the Gauteng province, 9.46% in the Western Cape, 8.11% in Kwa-Zulu Natal, 6.76% in Mpumalanga, 5.41% in Limpopo and 2.7% in the Eastern Cape and North West. None of the respondents' businesses were located in the Northern Cape and Free State.

4.3.7 Business sector

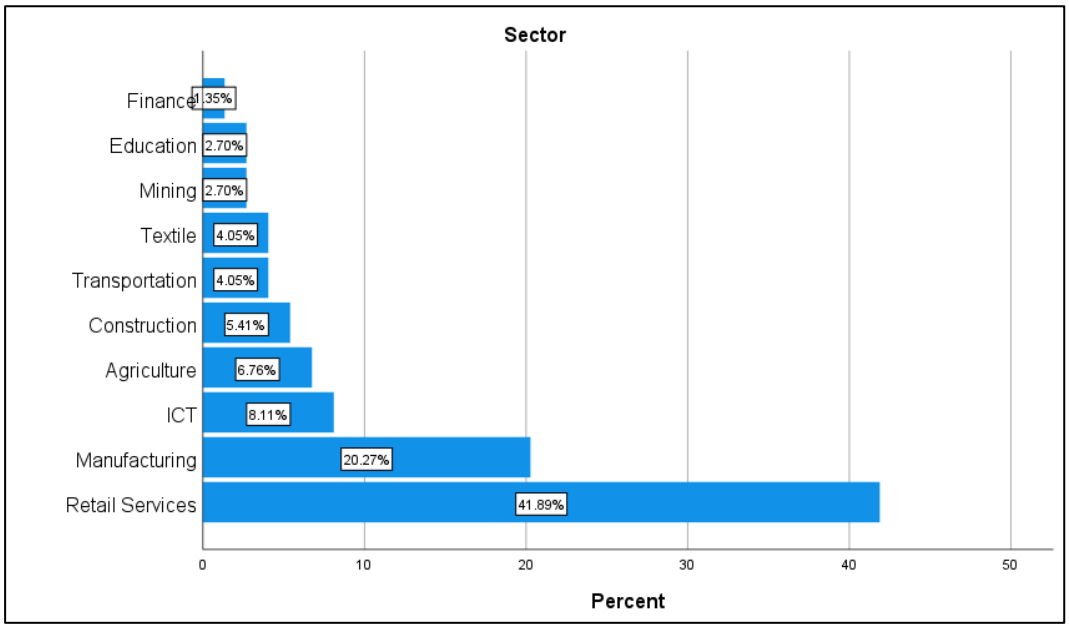


Figure 9: Business Sector

Figure 9 shows the sector in which the business operates. The top three sectors were retail services at 41.89%, manufacturing at 20.27% and ICT at 8.11%. the remaining sectors ranged from 6.76% to 1.35%.

4.3.8 Amount of funding received

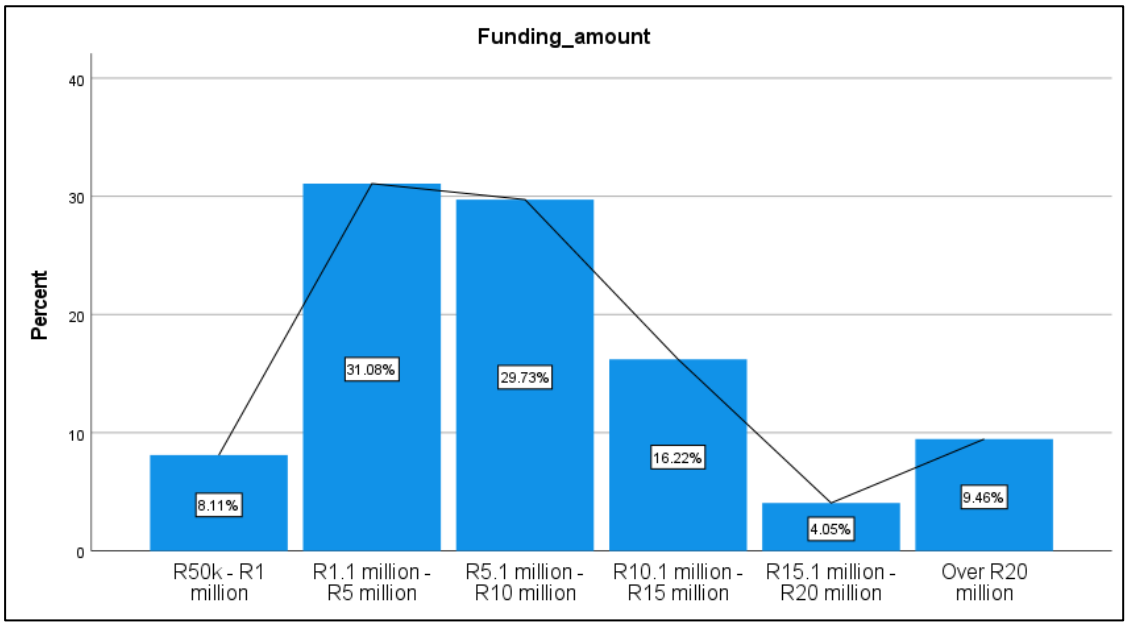


Figure 10: Amount of funding received

Figure 10 shows the amount of DFI funding received by the respondents' business. Majority of the respondents received between R1.1 million and R5 million (31.08%) and between R5.1 million and R10 million (31.08%). A total of 16.22% received between R10.1 million to R15 million whilst those who received more than R20 million were only 9.06%.

4.4 Exploratory Factor Analysis (EFA)

4.4.1 KMO and Bartlett's test

According to Field (2017) a Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) value of 0.5 or greater and Bartlett's Test of Sphericity significance lower than 0.05 ($p<0.05$) are required to determine whether the sample size is adequate to obtain statistical significance (Field, 2017). As seen on Table 10, the KMO value obtained in this study was 0.785, which indicates sampling adequacy. Corresponding to the KMO value, the significance score obtained was 0.000, which represents statistical significance, as it is lower than 0.05.

Table 10: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of		0,785
Bartlett's Test of Sphericity	Approx. Chi-Square	471,682
	df	91
	Sig.	0,000

4.4.2 Total Variance Explained

Table 12 below shows the total number of factors extracted, where the eigenvalue is greater than 1 (Field, 2017). A total of 4 factors were extracted in this study, as depicted in Table 12. These factors explain 69.791% of the variance, as indicated in the Cumulative % column of the Extraction Sums of Squared Loadings section.

Table 11: Matrix Table

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	5.080	36.288	36.288	4.682	33.444	33.444	4.301
2	2.018	14.416	50.704	1.707	12.195	45.638	3.483
3	1.587	11.333	62.037	1.348	9.629	55.268	2.013
4	1.086	7.754	69.791	.688	4.915	60.183	1.630
5	.810	5.788	75.579				
6	.697	4.980	80.559				
7	.581	4.149	84.708				
8	.523	3.734	88.442				
9	.390	2.789	91.231				
10	.354	2.531	93.762				
11	.304	2.171	95.932				
12	.250	1.784	97.716				
13	.170	1.215	98.931				
14	.150	1.069	100.000				

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

4.4.3 Scree Plots

Figure 11 is the Scree Plot which accompanies the Matrix Table above. The Scree Plot provides a graphical illustration of the factors and their respective eigenvalues. Figure 11 has 4 factors that scored an eigenvalue greater than 1, as also indicated in Table 10 above. The results from Table 10 and Figure 11 are consistent.

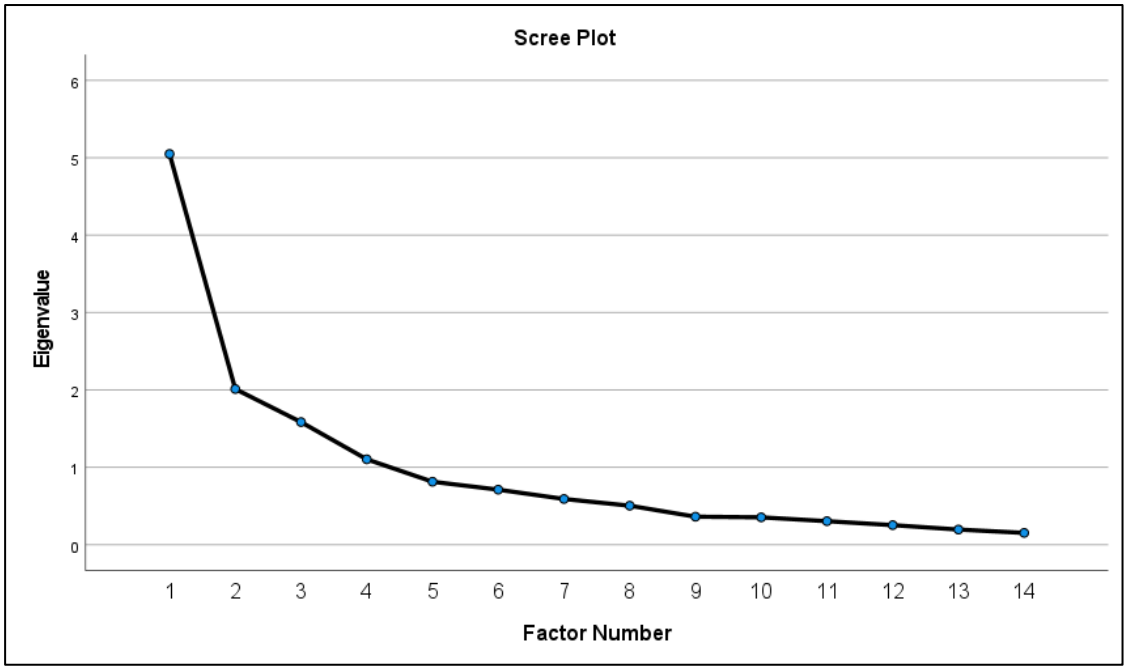


Figure 11: Scree Plot

4.4.4 Pattern Matrix

Table 11, shows the final pattern matrix which displays the items that converged into factors. The extraction method used in this analysis was the Principal Axis Factoring, and a Promax with Kaiser Normalisation rotation method. The eigenvalue was set at greater than 1, while the coefficient loading value was set at 0.5.

As seen on Table 12, only 14 out of the initial 21 items converged into the 4 factors. Multiple iterations of the pattern matrix were conducted, removing items with no loading, or cross loading. A number of items were cross loading (falling into multiple factors) and these were removed. According to Yong and Pearce (2013) as a general guide, rotated factors that have 2 or fewer variables should be interpreted with caution.

Table 12: Final Pattern Matrix

Pattern Matrix[a]

	Factor			
	1	2	3	4
HC_Skillc_3	.938			
HC_Skills_4	.884			
HC_Skills_2	.824			
HC_Skills_1	.648			
HC_Skills_5	.480			
HC_Education_2		.757		
HC_Education_1		.718		
HC_Education_4		.522		
HC_Education_3		.503		
HC_Experience_2			1.011	
HC_Experience_3			.574	
HC_Experience_1			.458	
DFI_Funding_3				.994
DFI_Funding_2				.590

Extraction Method: Principal Axis Factoring.
Rotation Method: Promax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

4.5 Reliability Measurements

According to Bryman and Bell (2011, p.158) 'reliability' to the ability to obtain the same or similar result when measuring using the same method. The Cronbach's alpha is the most common measure of reliability in the social sciences (Bonnett & Wright, 2015). The authors posit that even though there is no consensus on the acceptable minimum value, the standard value should not be less than 0.7 on hypothesised measures of a construct. Moreover, they maintain that a higher value of Cronbach's alpha indicates a higher reliability of the measurement scale. The Cronbach's alpha for 'knowledge' was less than 0.7 (0.667) and was thus deleted. Cross-loading items were deleted resulting in the 'Funding' construct on having 2 items.

Table 13: Summary of reliability results

Variable	Constructs	Code	No of items	α before adjustment	No of items deleted	α after adjustment
IV - Human Capital	Level of education	HC_Education_1 - 4	4	0,720	0	0,720
	Experience	HC_Experience_1-5	5	0,736	2	0,707
	Skills	HC_Skills_1- 5	5	0,888	0	0,888
	Knowledge	HC_Knowledge_1 - 4	4	0,576	4	
DV - DFI Funding	DFI_Funding	DFI_Funding 1 - 3	3	0,209	1	0,735

Table 13 demonstrates that all the alphas are above 0.7. Table 13 demonstrates that all the adjustment to the factors. Two factors for experience were cross-loading with skills factors and were deleted. The Cronbach's alpha for 'knowledge' was less than 0.7 (0.576) and were also cross-loading and were thus deleted. Funding 1 had no loadings, and was deleted resulting in the 'Funding' construct on having 2 factors. The following items were deleted HC_Experience 4 and 5, HC_Knowledge 1, 2, 3 and 4, DFI_Funding 1. The remaining factors were used for the composite scores.

4.6 Assumption Testing

4.6.1 Normality Test – Shapiro-Wilk and the Kolmogorov-Simonov Tests

According to Saunders et al (2016) if the p-value of the Shapiro-Wilk Test is more than 0.05, the distribution of the data is normal and if it is below 0.05, the data is not normally distributed. As seen on Table 14, p-values>0.05 with the exception of the experience factor, therefore the data is not normally distributed.

Table 14 Shapiro-Wilk and the Kolmogorov-Simonov Tests

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Education	.135	74	.002	.925	74	.000
Experience	.124	74	.007	.958	74	.014
Skills	.152	74	.000	.930	74	.001
DFI_Funding	.115	74	.017	.946	74	.003

a. Lilliefors Significance Correction

As seen on Table 15, the Mean Statistic for the Level of education 6.158, Experience was 5.355, Skills was 6.04 and Funding was 4.033. In line with the 7-point Likert, this indicates that the average response for the Level of education was agreed, Experience and Skills was Somewhat agreed, and Funding was Neither agreeing nor disagree.

Table 15: Descriptive Statistics

Descriptive Statistics

	N	Range	Minimum	Maximum	Sum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Education	74	2.75	4.25	7.00	455.75	6.1588	.69066	.477	-.702	.279	.007	.552
Experience	74	3.00	4.00	7.00	396.33	5.3558	.76914	.592	.191	.279	-.308	.552
Skills	74	2.80	4.20	7.00	447.20	6.0432	.72718	.529	-.741	.279	-.060	.552
DFI_Funding	74	6.00	1.00	7.00	298.50	4.0338	1.69474	2.872	-.261	.279	-1.008	.552
Valid N (listwise)	74											

Skewness is a measure of the asymmetry (Field, 2013). The Skewness Statistic are negative for Level of education, Skills and DFI Funding at -0.702, -0.741, -0.261 and positive for Experience at 0.191) indicating that the data was negatively skewed for the three factors and positively skewed for the one factor. According to Kim (2013) a reference of substantial departure from normality as an absolute skew value > 2, therefore, the distribution was not normal.

Kurtosis is a measure of the peakedness of a distribution (Kim, 2013). The Kurtosis Statistic for the Level of education was 0.007, Experience was -0.308, Skills was -0.60 and Funding was -1.008. Kim (2013) states that for medium-sized samples (50 =< n < 300), z-value should not be over 3.29. The values are all below 3.29 and reducing. The low value of standardized values is attributed to absence of outliers and the values less than 1 contribute almost nothing to kurtosis (Westfall, 2014) because raising a number that is less than 1 to the fourth power makes it closer to zero.

4.7 Results pertaining to Hypotheses

This section provides details regarding the hypotheses testing and the results thereof. For each hypothesis, the null and alternate hypotheses are provided, followed by the outcomes from the statistical tests.

4.7.1 Hypothesis 1

H_0: There is no significant positive relationship between the entrepreneurs' level of education and the DFIs decision to finance new ventures**.**

H_1: There is a significant positive relationship that exists between the entrepreneurs' level of education and the DFIs decision to finance new ventures**.**

To test this hypothesis, Spearman's correlation-coefficient analysis was conducted with the null hypothesis that there is no statistically significant positive relationship between the

entrepreneurs' level of education and the DFIs decision to finance new ventures. The alternative hypothesis is there is a significant positive relationship between the entrepreneurs' level of education and the DFIs decision to finance new ventures. A non-parametric test, namely the Spearman's Correlation, was chosen because the independent variables are not normally distributed. The results are shown below:

Table 16: Spearman's correlation between the level of education and DFI Funding

Spearman's Correlations				
			Education	DFI_Funding
Spearman's rho	Education	Correlation Coefficient	1,000	0,156
		Sig. (2-tailed)		0,186
		N	74	74

As seen on Table 16, the results show a positive relationship, however, the correlation is not significant between the level of education and DFI Funding as the p-value is greater than 0.05 at 0.186. Consequently, the researcher the null hypothesis cannot be rejected.

4.7.2 Hypothesis 2

H_0: There is no significant positive relationship between the entrepreneurs' experience and the DFIs decision to finance new ventures**.**

H_2: There is a significant positive relationship between the entrepreneurs' experience and the DFIs decision to finance new ventures**.**

Table 17: Spearman's correlation between experience and DFI funding

Spearman's Correlations				
			Experience	DFI_Funding
Spearman's rho	Experience	Correlation Coefficient	1,000	0,164
		Sig. (2-tailed)		0,162
		N	74	74

On Table 17, the results show that there is a positive correlation, however, there is no significant correlation between the experience and DFI Funding as the p-value is greater than 0.05 at 0.164. Consequently, the researcher the null hypothesis cannot be rejected.

4.7.3 Hypothesis 3

H_0: There is no significant positive relationship between the entrepreneurs' skills and the DFIs decision to finance new ventures**.**

H_3: There is a significant positive relationship between the entrepreneurs' skills and the DFIs decision to finance new ventures**.**

Table 18: Spearman's correlation between skills and DFI funding

Spearman's Correlations				
			Skills	DFI_Funding
Spearman's	Skills	Correlation Coefficient	1,000	0,098
		Sig. (2-tailed)		0,408
		N	74	74

As seen on Table 18, the results show that there is no significant correlation between skills and DFI Funding as the p-value is greater than 0.05 at 0.408. The correlation between the two variables is positive. The null hypothesis cannot be rejected.

4.7.4 Hypothesis 4

H_0: There is no significant positive relationship between the entrepreneurs' knowledge and the DFIs decision to finance new ventures**.**

H_4: There is a significant positive relationship between the entrepreneurs' knowledge and the DFIs decision to finance new ventures**.**

As indicated in paragraph 4.4 (table 13) the Cronbach's alpha for 'knowledge' was less than 0.7 (0.576) and the items were also cross-loading and was thus deleted.

4.8 Summary of the results

The statistical analysis produced results to determine data validity and reliability for each construct. The statistical analysis also produced results for the hypotheses testing. The results indicated that the correlation between the independent variable (level of education, experience and skills) and the dependent variable (DFI Funding) is positive but not statistically significant. The results further indicate the validity and reliability of the instrument used.
The results are discussed in the following chapter.

CHAPTER 5: DISCUSSION OF THE RESULTS

5.1 Introduction

The purpose of this chapter is to discuss the research findings from Chapter Four. The findings will be analysed in line with the literature review discussed in Chapter Two. The chapter starts with a discussion on the description of demographics, followed by the findings from the different constructs, and finally the discussion in relation to the findings from the hypotheses testing. The discussion will provide an insight of the test results and provide reasoning for the outcome of the research findings.

5.2 Demographic profile of respondents

As stated in Chapter 4 the demographics used were gender, age, and level of education. In addition, questions relating to the business characteristics, the year that the business was funded, the DFI that financed the business, business sector and the respondents' experience.

With regards to gender, 68.9% of the respondents were males and 31.1% were females. This supports the findings by Bönte and Piegeler (2013) that female entrepreneurs are still considerably lower than male entrepreneurs and the reason is access to finance (Wright et al 2015). A similar pattern was seen in another study by Peters and Brijlal (2011) where 61% of the respondents were male and 39% were female. South African DFIs include products that are targeted at women in their development mandate to empower women. Ahairwe and Bilal (2020) impart that even though all DFIs apportion a part of their portfolio to women empowerment, the allocated amount for this cause varies subject to each DFI's mandate. Consequently, DFIs finance ventures that are either targeted at primarily closing the gender gap or as their secondary objective (OECD 2016). However, it can be argued that this gap stems from the fact that historically, males were the entrepreneurs and not females. Even though women entrepreneurs have been increasing since 2005 in South Africa, women constitute over 50% of the adult population (Bowmaker-Falconer & Herrington, 2020) and as such this should be reflected in the numbers.

When it comes to the age of the respondents, majority of them were in the age group of 35 to 44 years representing 43.2% of the total respondents. The following age group were those between the ages of 45 years to 54 years representing 29.7%, followed by those between the ages 25 years to 34 years at 20.3% and the least represented age group were those between

the ages of 55 years and 64 years. A study by Ogubazghi and Muturi (2014) revealed that age of the entrepreneur has significant effect on the bank's decision to finance the SME. The study showed that most of the firms managed by young owners encounter difficulties to access debt financing. In contrast, a study conducted by Nguyen and Luu (2013) Fatoki and Odeyemi (2010) showed that age do not have significant effect on being funded. This view of this study is also that age does not have a significant effect on being.

The respondents' level of education ranged from a completed matric to a Doctor of Philosophy Degree (PhD). At 24.3% respondents with a Master's degree were the majority. Following those with a Master's degree were those with a degree and an honours degree both representing 18.9% respectively. Respondents with a diploma represented 17.6% of the respondents, followed by those with a completed short course/certificate and a completed matric both representing 9.5% respectively. Only one respondent had a PhD representing 1.4% of the respondents. Entrepreneur's educational level may provide a signal of better human capital (Cassar 2004), and thus, lenders may perceive more educated entrepreneurs as less risky. Slavec and Igor (2012) maintain that it is for this reason, that lenders will be more inclined to provide financial resources to entrepreneurs with higher education levels. Similar to the result of this study, which spanned from a completed matric to a PhD, with the majority of the respondents possessing a master's degree, an honours degree and a degree may suggest that the level of education does impact the decision.

Business Information – with respect to business information and the names of the DFI that the respondents' businesses were funded by. A total of 62.16% of the respondents indicated that they had been funded by the NEF, 20.27% were funded by the IDC, 9.46% by Sefa and 8.11% were funded by other government-owned DFIs. Majority of the respondents were funded in 2017 and the least in 2021. Bowmaker-Falconer and Herrington (2020) in the GEM SA report, presented a list of government-owned DFIs that had been used by entrepreneurs and their effectiveness in assisting small businesses in South Africa. Contrary to the results of this study, majority of the GEM SA respondents had used 'other' government agencies, followed by Sefa, the IDC and NEF. The achieved result of the study (with NEF having funded most of the respondents) may have been influenced by the researcher's employment history with the institution.

Majority of the respondents were funded once at 74.23%, 22.97% indicated that they had been funded twice and 2.70% indicated that they had been funded three times. A total of 62.22% of the respondents indicated that their business was at start-up stage when they received funding, 25.68% was at growth stage (required expansion capital), 4.05% at maturity, 2.70% at

reinvention and 1.25% at decline stage. Although literature maintains that financial institutions are more likely to decline funding applications for new ventures (Erdogen, 2018) one of the key roles for DFIs is that financial and non-financial support for new ventures (Goga, Bosiu & Bell, 2019). It is encouraging to see that DFIs are playing their role in increasing entrepreneurial activity and further assisting businesses to grow. According to the GEM SA report four out of ten surveyed respondents indicated that support for new and growing businesses is a high priority for policy at local government level. This shows that even though the government is supporting new and growing businesses, there is still room for improvement.

With respect to the number of years that the business had been in existence, a total of 37.8% indicated that their businesses had been in existence for three to five years. This was followed by the businesses that had been in existence for one to two years and those that had been in existence for over ten years, both totalling 18.9% each. Those that have been in existence for five to ten years constituted 17.6%.

The last two sub-headings were about the number of years that the respondents had been employed before starting a business and the number of years that the respondents had been employed in the same industry as their business industry. A total of 35.1% indicated that they had been employed for six to ten years, 24.3% for one to five years, 23% for eleven to fifteen years, and 14.9% for sixteen to twenty years. Majority of the respondents indicated that they had no prior experience in the industry that their business was in. A total of 47% had no prior experience, 23% had one to five years' prior experience, 12.2% had six to ten years, 10.8% had sixteen to twenty years and 6.8% had eleven to fifteen years' prior experience. A total of 47% with no prior experience is very high and there may be a connection between this and how many respondents were in retail – which arguably requires less industry specific skills and knowledge. Literature maintains that the entrepreneurs' experience especially same-industry experience of industry experience has a significant impact on the performance of a new venture rather than skills learned directly from tasks managing start-ups (Matshekga, 2012 citing Barreira et al, 2011). This affirmation corresponds with the human capital theory, which suggests that ventures owned and operated by people with prior work experience are more likely to be successful. In response to the credit market failure or financing gap DFIs are the alternative financing institutions (Marwa, 2014). Consequently, it can be expected that concessions are made by DFIs where entrepreneurs do not have industry-specific experience.

Majority of the respondents (64.86%) indicated that their business was located in the Gauteng province, followed by the Western Cape and Kwa-Zulu Natal. Whilst a small percentage of the respondents indicated that their businesses were located in Mpumalanga, Limpopo, the

Eastern Cape and North West, none were located in the Northern Cape and Free State. This is consistent with a finding by Makina et al (2015) whose study showed that majority of small firms who were able to source external funding were from Gauteng followed by KwaZulu Natal (KZN) and the Western Cape. This is not unexpected given that Gauteng is the economic and financial hub of South Africa and followed by both KZN and the Western Cape. Makina et al (2015) further point to the fact that that there is correlation between a provinces' GDP and its level of access to formal credit. Provinces with higher GDPs have higher access than those with lower GDPs because of the higher levels of economic activity.

With respect to the business sectors, the top three sectors were retail services at 41.89%, manufacturing at 20.27% and ICT at 8.11%. The remaining sectors ranged from 6.76% to 1.35%. Supporting this finding is Bowman-Falconer (2020) who reported that in South Africa, the wholesale and retail sector represents almost half (46.1%) of all early-stage entrepreneurship activity. Though it was reported to be third after 'health, education, government and services' in the GEM SA report, the South African manufacturing sector was reported to be growing significantly since 2015 (3.6%-13.1%) (Bowman-Falconer, 2020).

The last question on the demographics and business information section was about the amount of funding received. Majority of the respondents received between R1.1 million and R5 million (31.08%) and between R5.1 million and R10 million (31.08%). A total of 16.22% received between R10.1 million to R15 million whilst those who received more than R20 million were only 9.06%.

5.3 Discussion pertaining to Hypothesis 1

Hypothesis 1 predicted that there is a significant positive existence of a relationship between the entrepreneurs' human capital attribute of level of education and the DFIs decision to finance new ventures. A Spearman's correlation test was conducted, resulting in a p value of 0.186 which showed that correlation between the level of education and DFI Funding was statistically insignificant as $p>0.05$. The result show that there is a positive relationship exists between the level of education construct and DFI Funding but they do not have a significant correlation, as expected. Therefore, the null hypothesis could not be rejected.

Therefore, the results suggest that the entrepreneurs' level of education has no significant impact on the DFIs decision to finance. Given that the direction was positive, the results suggest that there is a positive correlation between the entrepreneurs' level of education and the DFIs decision to finance their businesses as expected and based on the literature,

however, it is not statistically significant. Therefore, DFIs did not offer support for the aforementioned Hypothesis 1. The result is unexpected considering that 63.5% of the respondents have a degree or post-graduate degree and an additional 17% with diplomas. The demographic results show that approximately 80% of the respondents have a formal qualification. The results of the respondents' level of education is consistent with Gimmon and Levie (2010) who maintained that individuals with higher education levels have higher probabilities of starting up a business and these businesses are more likely to perform. This level of education thus serves a signal to funders, increasing the chances of approval by the funders. Moreover, a plethora of literature that suggests that there is a positive correlation between the entrepreneurs' level of education and the lenders decision to finance (Matshekga & Urban, 2013; Pinelli et al 2020; Wright et al 2015).

Similarly, to other studies that maintain that the entrepreneurs' level of education is a signalling factor for investors and lenders, Ko and McKelvie (2018) found that entrepreneurs' education along with start-up experience have the greatest effects for acquiring first-round financing, but in later stages, only the signalling effect from education remains. For entrepreneurs, it is evident that education is fundamental to not only important for acquiring financial resources but for the performance and survival of the venture. On the supply side, potential investors frequently rely on a venture's founding members as important signals of the venture's viability because new venture investors often invest in people, not ideas.

Pinelli et al (2020) argues that while academics maintain that investors should consider the entrepreneurs' education an important signal of start-ups' prospects, mixed empirical findings suggest that more education does not always trigger positive investor reactions. Their findings revealed that the level of education and educational heterogeneity (educated in different disciplines) positively affect the amount of funds raised, but their joint presence negatively moderates such a relationship.

Educational background has been found to be a major determinant of the capital structure of small firms, and it is positively related to acquiring external loans (Coleman & Cohn, 2000). Coleman (2000) found that business owners who had a post high school qualification were more likely to obtain loans than those with less education levels suggesting that lenders may use educational level as a predictor of success and ability to repay the loan. Again, the results in the demographics question pertaining to the level of education support this view.

Frid (2014) highlighted that unlike investing in businesses with a proven track record, investing in new ventures or start-ups is likely to place equal weight, if not more weight, on the founder

of the business itself. Drawing from Coleman (2000), Frid (2014) hypothesised that budding entrepreneurs with higher levels of education and are more likely to acquire external debt and equity. Similar to the findings of this study, the hypothesis was not supported and the results were not statistically significant. Comparably, Lim and Busenitz (2019), hypothesised that an entrepreneur's level of education will positively impact funding obtained of an equity crowdfunding campaign and the results showed that there was no significant impact of university-level education on funding.

5.4 Discussion pertaining to Hypothesis 2

Hypothesis 2 predicted a significant positive relationship existing between the entrepreneurs' human capital attribute of experience and the DFIs decision to finance new ventures. A Spearman's correlation test was conducted, resulting in a p value of 0.162 which showed that correlation between the entrepreneurs' experience and DFI Funding was positive but statistically insignificant as $p>0.05$. Again, the result indicates that experience and DFI Funding did not have a significant correlation, which was unexpected.

Literature maintains that specific human capital, particularly, start-up and same industry experience enhance survival and early sales, as well as positively affect resource acquisition (Kotha & George, 2012). In another study Colombo and Grilli (2010), found that the entrepreneurs' experience was positively related to being financed. This supports the predicted hypothesis that experience impacts the lenders' decision to finance, thus, affects resource acquisition for the entrepreneur. The respondents' question regarding same industry experience supports the hypothesis results. Whilst, 35% of the respondents indicated that they had previous work experience, 47% indicated that they had no prior experience in the industries that their businesses operate in. This result indicates that DFIs are indeed supporting those that would otherwise not be serviced by traditional financiers. This may also be attributable to the fact that most of respondents had been financed by the NEF which also focuses on franchise finance.

Like the previous hypothesis, Frid (2014) also hypothesised that the entrepreneur's experience is positively related to obtaining external funding. The hypothesis was not supported, showing little significance between the entrepreneurs' experience and funding. Similarly, a study conducted by Ganotakis (2010) found that on the supply-side none of the human capital variables (education or experience) have a significant impact on the ability of a firm to acquire financial resources from external sources. The author further explains that the entrepreneurs' human capital variables of experience, have an impact on the entrepreneurs' decision to

source external finance and not the financier's decision to finance. As such, it is suggested that the entrepreneurs' education and experience have an impact on the demand but not on the supply of external finance.

Zheng, Piao and Park (2021) investigated the influence of the entrepreneur's experience in securing venture capital funding in China. The study revealed that the entrepreneur's experience, particularly industry experience, does not influence venture capital financing. The results in these authors' study are consistent with the result of this study. A study by Lim and Busenitz (2019) suggests that funders value experience in smaller organisations than in large organisations. The authors argue that entrepreneurs with management experience carry a positive signal that they have acquired some expertise related to new venture creation and are thus better able to manage and adapt to the demands posed by the dynamics of an entrepreneurial environment.

5.5 Discussion pertaining to Hypothesis 3

Hypothesis 3 predicted that there is a significant positive relationship between the entrepreneurs' human capital attribute of skills and the DFIs decision to finance new ventures. A Spearman's correlation test was conducted, resulting in a p value of 0.408 which showed that correlation between the entrepreneurs' skills and DFI Funding was statistically insignificant as $p>0.05$. Similarly, to the previous hypotheses, the result indicates that skills and DFI Funding did not have a significant correlation, however, it was positive which was expected.

As mentioned in chapter 2, the skills that a management team has acquired through experience appear in the literature to be of major importance to venture capitalists, business angels and banks in order to invest in a firm (Ganotakis, 2010). The author suggests that if a firm is perceived to be management ready, financiers will be amenable to financing the firm as the team will have the management skills and knowledge required to manage the funds and the firm.

5.6 Discussion pertaining to Hypothesis 4

Hypothesis 4 predicted that there is a significant positive relationship between the entrepreneurs' human capital attribute of knowledge and the DFIs decision to finance new ventures. As indicated in Table 14 the Cronbach's alpha for 'knowledge' was less than 0.7 (0.576) and the items were also cross-loading. No further analysis was made on this constructed and was therefore deleted.

5.7 Conclusion

This chapter focused on a discussion concerning the empirical findings which indicate much of what was put forth from the literature concerning the DFIs decision making in financing new ventures and the entrepreneurs' human capital. Compelling evidence from the DFI funded entrepreneurs as carried through the quantitative research has, in principle, indicated that even though a positive correlation exists, human capital does not significantly impact the DFIs financing decisions.

CHAPTER 6: CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter provides the conclusion and summary of the study in line with the study objectives. The study sought to determine the extent to which the entrepreneurs' human capital significantly impacts the DFIs decision to finance new ventures in South Africa. The chapter outlines the major findings and recommendations. The study limitations are also highlighted and the chapter further delineates future research that could be extended from this study.

6.2 Conclusions of the study

As discussed in literature, human capital is an important element that forms part of the entrepreneurial body of knowledge. Consequently, human capital is one of the key elements bolstering SME and new venture development amongst other key resources, such as financial capital which is a fundamental determiner of new venture start-up. This study sought to determine the impact of human capital on the DFIs decision to finance new ventures in South Africa. The investigation of the impact on the decision-making was carried out from SME owners who had been funded by South African DFIs. The researcher attempted to identify the human capital attributes of the respondents and how these may have impacted the decision of the DFIs.

Hypotheses were proposed which were all aligned to the relations as outlined and statistically, it was established that human capital did not significantly impact the DFIs decision to finance these entrepreneurs. The findings corresponded with the literature presented in the study (the positive relationship between human capital and financiers' decisions to finance) as outlined in chapter 5. It is also worth noting that, whilst the study results showed that the entrepreneurs' human capital had no significant impact the DFIs decision to finance, the correspondents' descriptive statistics (demographics) in level of education and experience support the literature presented in this study. Looking at the results individually, each independent variable in relation to the dependent variable, previous studies, taken in various settings recognise human capital as an important factor in the decision-making of investors and lenders.

A study done in the United Kingdom by Irwin and Scott (2010) demonstrates that those with formal qualifications are able to procure funding from external funders with ease. The

researchers maintain that the level of education was a key influence in arriving to a lending decision, either because financiers highly regarded higher level of education or because having higher levels education meant that founders were more persuasive and could easily articulate themselves and therefore had higher probabilities of being able to convince the financiers that their proposals were viable. In turn financiers who believe that their proposals were viable would decide to finance these founders.

A study conducted in Slovenia by Hanák (2020), the author found that venture capitalists and business angels valued same industry experience highly, particularly in the early stage of the venture. The study also revealed that management experience was considered to be valuable in the later stages of the venture. Moreover, the study revealed that different venture capitalists value different types of experience in their decision making process, for instance whilst start-up experience may be considered by one venture capitalist another may only consider same indutry experience.

In Morocco, Bouzahir and ed-Dafali (2018) found that previous start-up experience, same industry experience, management experience and experience in various functional roles had an influence in the positive decision-making of Moroccan venture capitalists. However, the study did not investigate the significance of this influence. The authors found that the founders' experience decreased the information asymmetries encountered by venture capitalists in the decision-making process of funding new ventures. Table 19 presents the empirical results of the hypotheses of the study and the result.

Table 19: Empirical results of the hypotheses

Hypotheses	**Accept/Reject**
H_1: There is a significant positive relationship between the entrepreneurs' level of education and the DFIs decision to finance new ventures**.**	Reject
H_2: There is a significant positive relationship between the entrepreneurs' experience and the DFIs decision to finance new ventures**.**	Reject
H_3: There is a significant positive relationship between the entrepreneurs' skills and the DFIs decision to finance new ventures**.**	Reject

H_4: There is a significant positive relationship between the entrepreneurs' knowledge and the DFIs decision to finance new ventures**.**	Deleted as items were overlapping

6.3 Implications and Recommendations

This study aimed to narrow the gap concerning both the demand-side and supply-side perception for DFIs as most of the academic literature concerning the persistent issue of new venture financing has been devoted to the demand-side and supply-side perception of banks and venture capitalists. This opens an opportunity for academic researchers to explore more determining factors aligned to both the entrepreneurs and DFIs, which may open solutions to surmount the perpetual funding challenge for SMEs and perceived ineffectiveness of DFIs. Accepting that research is not conducted only for academic purposes, but also be to address issues that exist and affect the way of doing things. Thus, the study implicates and provides recommendations to DFIs, government and more importantly, the entrepreneurs who are and are seeking to contribute towards increasing the entrepreneurial activity in the country.

The role of DFIs as catalysts of entrepreneurship in developing economies has not been extensively researched (George & Prabhu, 2000). In reviewing literature in the process of conducting this study, the researcher realised that there is limited research relating to DFIs and particularly their decision-making criteria. DFIs that are instrumental in the development of SMEs and entrepreneurship activity, should be explicit about their decision-making criteria.

Reviewed literature demonstrates that human capital is pivotal to entrepreneurship development. The study confirmed the reviewed literature, that indeed a positive relationship does indeed exist between the entrepreneurs' human capital and the funders' (DFIs) decision-making criteria. It is thus important that the government reviews its policies regarding education and entrepreneurship and realigns them in order for each of them to produce results that will positively impact the development of entrepreneurial activity. The economic stagnation in South Africa is inseparably connected to the failure of its education system as the development of human capital is vital not only to individual development but also to countrywide development (Bowmaker-Falconer & Herrington, 2020). The report further states that the failure of the education system attributes to the low entrepreneurial activity, notwithstanding the fact the country has the most excessive budget in comparison to other countries in the world. The South African government thus needs to review and realign its education policies to ensure that they feed into its entrepreneurial development objectives.

For budding entrepreneurs, these individuals should make use of the government initiatives for non-financial support i.e., Seda, as this will help improve their entrepreneurial skills and knowledge thereby increasing their chances of being financed and increasing their understanding of what the DFI requirements are.

6.4 Limitations of the study

A cross-sectional research design was adopted due to the time limitations. The time assigned for completing the study was limited, this may be a disadvantage as it may happen that the results may have been different had the research been conducted at a different time. Using a self-administered questionnaire may not always provide a true reflection from the gathered data as the respondent may have responded randomly and not truthfully responding to the questions. It was found that an item relating to the dependent variable (DFI Funding) did not load and was therefore deleted, leaving only two items as opposed to the minimum requirement of three items. Items relating to the human capital construct of knowledge cross-loaded even after few attempts to rename these items, these were eventually deleted and the same for two items from the experience construct.

6.5 Suggestions for further research

There is substantial research that has been conducted on decision-making criteria of venture capitalists and banks however not much research has been conducted on decision criteria of DFIs both in South Africa and abroad. While this research study aimed to contribute to literature in developing economies, more studies should be conducted to augment the quality and extent of research available for developing economies. Future research should look at similarities in factors from the different DFIs use to determine the ones that are most critical in the decision-making of DFIs.

This study together with other studies identified under the literature review have been conducted from the perspective of entrepreneurs that were funded by DFIs. Future research can be conducted from the perspective of the DFIs, to assess the decision-making criteria that DFIs employ in financing of South African SMEs, particularly, start-ups. This would assist in understanding the challenges faced by DFIs and their requirements. This could assist with providing solutions for both the DFIs and budding entrepreneurs.

6.6 Conclusion

Research on the factors that funders use in their decision-making criteria has been done extensively, however, there is still a gap pertaining to the decision-making criteria of DFIs. There is thus an opportunity for future research to review the extent to which DFIs rely on entrepreneurship theories like the human capital theory in their investment decision-making. This is particularly pertinent for start-ups as there is an urgent need to stimulate and grow early stage entrepreneurship activity in the country.

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APPENDIX A: CONSISTENCY MATRIX

Aim	Lit. Review	Hypothesis	Research questions	Variables: dependent and	Source of Data	Type of data	Analysis
To determine the extent to which the entrepreneurs' level of education influences the DFIs decision to finance new ventures.	Cassar (2004) Matshekga and Urban (2013) Ferrati & Muffatto (2019)	H1: There is a significant positive relationship between the entrepreneurs' level of education and the DFIs decision to finance new ventures.	To what extent is there a significant positive relationship between the entrepreneurs' level of education and the DFIs decision-making criteria to finance new ventures?.	IV_1 = Education (Higher level) DV = DFIs' decision to finance (DFI funding)	HC - Formal Education (HC_FE 3.1.1 - 3.2 4) 4 questions	Ordinal (7 point Likert scale)	Correlation Distribution Regression
To determine the extent to which entrepreneurs' experience influences the DFIs decision to finance new ventures.	Cassar (2004) van Deventer & Mlambo (2009) Matshekga and Urban (2013) Ferrati & Muffatto (2019)	H2: There is a significant positive relationship between the entrepreneurs' experience and the DFIs decision to finance new ventures.	To what extent is there a significant positive relationship between the entrepreneurs' experience and the DFIs decision-making criteria to finance new ventures?	IV_2 = Experience DV = DFIs decision to finance (DFI funding)	HC - Experience (HC_E 3.1.5 - 3.1.9) 5 questions	Ordinal (7 point Likert scale)	Correlation Distribution Regression
To determine the extent to which entrepreneurs' skills influences the DFIs decision to finance new ventures.	van Deventer & Mlambo (2009) Matshekga and Urban (2013) Ferrati & Muffatto (2019)	H3: There is a significant positive relationship between the entrepreneurs' skills and the DFIs decision to finance new ventures.	To what extent is there a significant positive relationship between the entrepreneurs' skills and the DFIs decision-making criteria to finance new ventures?	IV_3 = Skills DV = DFIs decision to finance (DFI Funding)	HC - Skills (HC_Sk 3.1.10 - 3.1.14) 5 questions	Ordinal (7 point Likert scale)	Correlation Distribution Regression
To determine the extent to which entrepreneurs' knowledge influences the DFIs decision to finance new ventures.	van Deventer & Mlambo (2009) Hasnah et al., (2013) Matshekga and Urban (2013) Ferrati & Muffatto (2019)	H4: There is a significant positive relationship between the entrepreneurs' knowledge and the DFIs decision to finance new ventures.	To what extent is there a significant positive relationship between the entrepreneurs' knowledge and the DFIs decision-making criteria to finance new ventures?	IV_3 = Knowledge DV = DFIs decision to finance (DFI Funding)	HC - Knowledge (HC_Kn 3.1.15 - 3.1.18) 4 questions	Ordinal (7 point Likert scale)	Correlation Distribution Regression

APPENDIX B: CONSENT E-MAIL

Dear Entrepreneur,

By way of introduction, my name is Samkelisiwe Mtsewu and I am a Master's student in Entrepreneurship and New Venture Creation at the Wits Business School in Johannesburg. As part of my studies, I am conducting a research study titled: 'Developmental Finance Institutions' decision-making criteria and the financing of new ventures in South Africa'**.** The aim of the study is to investigate the extent to which a significant positive relationship between the entrepreneurs' human capital attributes and the DFIs decision-making criteria to finance new ventures.

I would like to invite you to participate in my study by completing an online survey. By completing the survey, I hope to obtain information about the extent to which human capital variables influence the decision to fund entrepreneurs. Given the socio-economic challenges in South Africa, particularly the high unemployment rate in South Africa, entrepreneurship through SMEs is the vehicle that can be used to curb the soaring rates. The information will assist budding entrepreneurs to better understand the factors that contribute to the DFIs' decision to finance entrepreneurs within the South African context.

If you agree to participate in the research, please click on consent. Clicking on 'consent' means that you agree to participate in the research, you are welcomes to ask any questions you might have about the research before consenting. I ensure you that not be in any risk because of participating in the research.

I would greatly appreciate it if you could answer all the questions in the questionnaire as all responses are vital to the outcome of the research. Please try to answer all the questions bearing in mind that there is no right or wrong answer, however, if you are not comfortable with answering a question, you may move on to the next one. Should you require further clarity on the questions, please let me know.

Should you wish not to participate in the research, there will not be any consequences as the participating is completely voluntary. Should you have any questions or require

any additional information, please contact me on samimihle@gmail.com. You are also welcome to contact my supervisor Dr Mc Edward Murimbika on this email address: mcedward.murimbika@wits.ac.za.

Kindly ensure that you have read and understand the terms before consenting to the survey:

1. As a respondent you fully understand the aim of the research and that your participation is completely voluntary.
2. Your responses will only be used for the research if they have been completed fully.
3. You can withdraw from the study at any moment without any penalty, however, it would be greatly appreciated if you could complete the whole survey.
4. The information that you will provide is solely for research purposes and will only be available to the researcher and the supervisor.
5. Your identity will be kept confidential.

Kindly click on 'consent' below to continue with the survey. Thanking you in advance for your time.

- ○ Yes (1)
- ○ No (2)

The survey will take less than 10 minutes of your time. Kindly click on the link below to access the survey. Thanking you in advance for your time.

https://wits.eu.qualtrics.com/jfe/form/SV_3HGN2Clc9zX1pgW

Kind Regards,
Samkelisiwe Mtsewu
082 699 8625

APPENDIX C: ETHICAL CLEARANCE CERTIFICATE

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

SCHOOL OF GRADUATE SCHOOL OF BUSINESS ADMINISTRATION ETHICS COMMITTEE
CONSTITUTED UNDER THE UNIVERSITY HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)

CLEARANCE CERTIFICATE **PROTOCOL NUMBER:** **WBS/BA1633199/301**

PROJECT TITLE	The relationship between the DFIs decision-making criteria in financing new venture entrepreneurs and human capital.
INVESTIGATOR	Ms Samkelisiwe Mtsewu
SCHOOL/DEPARTMENT OF INVESTIGATOR	MM (Entrepr & New Venture Creation)
DATE CONSIDERED	09 October 2020
DECISION OF THE COMMITTEE	Approved unconditionally
RISK LEVEL	LOW RISK
EXPIRY DATE	30 JUNE 2021

ISSUE DATE OF CERTIFICATE 27 October 2020 **CHAIRPERSON** _____
(Dr MDJ Matshabaphala)

cc: Supervisor: Dr Murimbika

DECLARATION OF INVESTIGATOR

To be completed in duplicate and **ONE COPY** returned to the Chairperson of the School/Department ethics committee.

I fully understand the conditions under which I am are authorised 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/we undertake to resubmit the protocol to the Committee.

_____ 31 / 10 / 2020

Signature **Date**

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES

APPENDIX D: RESEARCH INSTRUMENT

Q1 What is your gender?

- Male (1)
- Female (2)
- Non-binary / third gender (3)

Q2 What age category do you fall under?

- 18 to 24 years (1)
- 25 - 34 years (2)
- 35 - 44 years (3)
- 45 - 54 years (4)
- 55 years - 64 years (5)

Q3 What is your highest level of education?

- Less than matric (1)
- Completed matric (2)
- Completed a short course/certificate (3)
- Diploma (4)
- Degree (5)
- Honours Degree (6)
- Masters Degree (7)
- PhD (8)

End of Block: Demographics

Start of Block: Block 1

Q4 Was your business funded by a state-owned DFI in the last five (5) years?

- Yes (1)
- No (2)

Skip To: End of Survey If Q4

Q5 What is the name of the DFI that funded your business?

- IDC (1)
- NEF (2)
- Sefa (3)
- Other (4)

Q6 Which year were you funded by a DFI?

- 2017 (1)
- 2018 (2)
- 2019 (3)
- 2020 (4)
- 2021 (5)

Q7 How many times have you been funded in the last five (5) years?

- One time (1)
- Two times (2)

○ Three times (3)

Q8 When you approached the DFI, which category di your business fall under?

○ Start-up (1)

○ Growth Stage (required expansion capital) (2)

○ Maturity Stage (required working capital) (3)

○ Reinvention/Rejuvenation Stage (4)

○ Decline Stage (5)

Q9 How long has your business been in existence?

○ < 1 year (1)

○ 1 - 2 years (2)

○ 3 - 5 years (3)

○ 5 - 10 years (4)

○ > 10 years (5)

Q10 How long has your business been operating?

○ < 1 year (1)

○ 1 - 2 years (2)

○ 3 - 5 years (3)

○ 5 - 10 years (4)

> 10 years (5)

Q11 How long have you been an entrepreneur?

- < 1 year (1)
- 1 - 2 years (2)
- 3 - 5 years (3)
- 5 - 10 years (4)
- > 10 years (5)

Q12 Where is your business located?

- Gauteng (1)
- Kwa-Zulu Natal (2)
- North West (3)
- Mpumalanga (4)
- Limpopo (5)
- Free State (6)
- Northern Cape (7)
- Western Cape (8)
- Eastern Cape (9)

Q13 How many years were you employed for before starting your business?

- 0 years (1)
- 1 - 5 years (2)

- ○ 6 - 10 years (3)
- ○ 11 - 15 years (4)
- ○ 16 - 20 years (5)

Q14 How long were you employed in the same industry as your current business?

- ○ 0 years (1)
- ○ 1 - 5 years (2)
- ○ 6 - 10 years (3)
- ○ 11 - 15 years (4)
- ○ 16 - 20 years (5)

Q15 What sector does your business fall under?

- ○ Agriculture (1)
- ○ Construction (2)
- ○ Finance (3)
- ○ ICT (4)
- ○ Retail Services (5)
- ○ Transportation (6)
- ○ Manufacturing (7)
- ○ Mining (8)
- ○ Education (9)

- ○ Textile (10)

Q16 How much funding did you recieve?

- ○ R50k - R1 million (1)
- ○ R1.1 million - R5 million (2)
- ○ R5.1 million - R10 million (3)
- ○ R10.1 million - R15 million (4)
- ○ R15.1 million - R20 million (5)
- ○ Over R20 million (6)

End of Block: Block 1

Start of Block: Block 2

Q17 *The following questions relate to human capital and its significance to the decision to be funded by DFIs. On a scale of 1 to 7, please indicate the level at which you think the variables below significantly impact the decision to finance entrepreneurs. Indicate how much you agree or disagree with a statements by clicking in the block that corresponds with your answer, with Strongly Disagree = 1 and Strongly Agree = 7.*
Human capital attribute of level of education:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
The entrepreneurs' level of education. (1)	○	○	○	○	○	○	○
The entrepreneurs' ability to understand financial statements . (2)	○	○	○	○	○	○	○
The entrepreneurs' ability to compile a comprehensive business plan. (3)	○	○	○	○	○	○	○
The entrepreneurs' ability to manage the business. (4)	○	○	○	○	○	○	○

Q18 Questions relating to the human capital attribute of experience

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
The entrepreneurs' previous work experience in the same industry. (1)	○	○	○	○	○	○	○
The entrepreneurs' experience in starting a business. (2)	○	○	○	○	○	○	○
The entrepreneurs' previous experience in managing a business. (3)	○	○	○	○	○	○	○
The entrepreneurs' experience in managing people. (4)	○	○	○	○	○	○	○
The entrepreneurs' financial management experience. (5)	○	○	○	○	○	○	○

Q19 Questions relating to the human capital attribute of skills

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
The entrepreneurs' problem-solving skills. (1)	○	○	○	○	○	○	○
The entrepreneurs' people management skills. (2)	○	○	○	○	○	○	○
The entrepreneurs' marketing skills. (3)	○	○	○	○	○	○	○
The entrepreneurs' leadership skills. (4)	○	○	○	○	○	○	○
The entrepreneurs' risk management skills. (5)	○	○	○	○	○	○	○

Q20 Questions relating to the human capital attribute of knowledge

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
The entrepreneurs' ability to demonstrate good business knowledge. (1)	○	○	○	○	○	○	○
The entrepreneurs' ability to show knowledge of his/her business, products and or services offered. (2)	○	○	○	○	○	○	○
The entrepreneurs' knowledge of interpreting financial statements. (3)	○	○	○	○	○	○	○
The entrepreneurs' knowledge of the industry. (4)	○	○	○	○	○	○	○

Q21 Questions relating to DFI funding

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
Debt funding is what my business required. (1)	○	○	○	○	○	○	○
Equity funding is what my business required. (2)	○	○	○	○	○	○	○
Hybrid instruments is what my business required. (3)	○	○	○	○	○	○	○

APPENDIX E: CERTIFICATE OF EDITING

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This certificate confirms that professional language editing services were rendered on the following submission:

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INSTITUTION:	**University of the Witwatersrand**
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We hope you find our work acceptable to your expectation.

Best regards

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