Gordon Institute of Business Science
University of Pretoria

The Role of Social Capital in the Appetite for Risk-Taking of Entrepreneurs in Business Incubation

Student Details:

Mzwakhe Mthombeni

17386412

(081) 771 4876

17386412@mygibs.co.za

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Abstract

The constructs of entrepreneurship, social capital and risk have been individually studied rigorously. However, these constructs have not been studied together very often and even less so within the South African business incubation environment. This research project explores the relationship between social capital and appetite for risk-taking by entrepreneurs in the business incubation environment.

Social capital was analysed through its latent variables namely being trust, networking and information sharing. In order to observe the nature of the relationship between perceived business incubation support, social capital (trust, networking and information sharing) and appetite for risk-taking, the study's electronic questionnaires were sent to business incubators across the Gauteng region.

Once reliability and validity of the studies constructs and instruments were observed, the study used descriptive analysis to draw insights from the data and made linkages to the literature of the field.

The study measured the relationship between the constructs using Structural Equation Modelling (SEM) and found the absence of a linear relationship between perceived business incubator support and the appetite for risk-taking by the entrepreneurs.

The SEM path analysis found a triangular relationship between Perceived Business Incubator Support, Information Sharing and Trust. Thus, suggesting that improved Perceived Business Incubator Support had a positive influence on Information Sharing and Trust. The Path Analysis also suggested improved Information Sharing led to improved Trust. The Path Analysis suggested a positive relationship between Trust and Networking. Finally, Appetite for Risk-Taking only had a direct relationship with Networking.

Limitations to the study were described in detail such as the study only having access to a small sample size and systematic errors such as the study inability to discern between different types of entrepreneurs (i.e. industry, product types, number of employees etc.). Recommendations for future studies outline suggestions for how literature in the field could be moved forward.

Keywords

Entrepreneurship, Business Incubation, Social Capital, Trust, Networks, Information Sharing, Appetite for Risk

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

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Mzwakhe Mthombeni 7 November 2018

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1. Chapter 1: Introduction to the Research Project

1.1 Research title

The Role of Social Capital in the Appetite for Risk-Taking of Entrepreneurs in Business Incubation

1.2 Introduction

A question that every developing nation needs to ask itself is how does it plan to grow and nurture its entrepreneurs. Understanding the components that contribute to successful entrepreneurship is important for most economies (Lim, Oh, & De Clercq, 2016). A lot of research has been done in the field of entrepreneurship (Piperopoulos & Dimov, 2015) which is an indication of its importance. There has been a boom of business incubators rising to the noble challenge of improving the rate of entrepreneurial success. This study will look at what role Social Capital plays in the appetite for risk of entrepreneurs in business incubation. The study will build on works such as (De Carolis & Saparito, 2006) and look at the relationship between latent variables of social capital (Trust, Networks and Information Sharing) and entrepreneur's appetite for risk-taking.

1.3 Problem statement

1.3.1 Background to problem statement

South Africa has a high unemployment issue and even though literature states that entrepreneurship is the driver of emerging market growth, entrepreneurial failure rates are still high. According to (Friedrich, 2016), failure rates of small businesses are between 70-80% and (Lai, Lin, & Wang, 2015) states that only 10% will make it past the 10-year mark. We need solutions that can improve entrepreneurial success. As a possible solution to curbing these high failure rates, should business incubators be encouraging risk-taking from their entrepreneurs?

1.3.2 The significance of entrepreneurship in South Africa

Regarding the importance of entrepreneurship, it has been hypothesised that entrepreneurship is the steam engine for developing economies (Antony, Klarl, & Lehmann, 2017) and (Lai et al., 2015). (Román, Congregado, & Millán, 2013) disagree with the popular notion that a priority for developing economies should be deploying government policies designed to boost entrepreneurship, in the hopes that it will have a positive influence on unemployment rates. (Román et al., 2013) claim that within the group of self-employed individuals, only a few are true entrepreneurs in the sense of creating job opportunities for

others. This creates an inadequacy for the government policies aiming to use supply-side economics to stimulate self-employment among the unemployed. To alleviate the pressure of unemployment, the focus could then be shifted to how to nurture existing entrepreneurs.

This is especially the case in countries such as South Africa, which has an unemployment rate of 27.33% (International Labour Organisation, 2018) while the youth unemployment rate staggers at 54% (Stats SA, 2017). The personal effects that unemployment have can be severe. Long-term unemployment has serious social and economic consequences that can lead to skills deteriorating and lowering unemployed person's ability to generate earnings in the future, psychological breakdown and depression, and even self-harm and suicide (Chowdhury, Islam, & Lee, 2013). Reducing unemployment can not only benefit the economy but the wellbeing of its citizens. Entrepreneurship's importance is not only revealed by its positive effects on economies and personal wellbeing but also the opportunities it provides. According to (Been & Knoef, 2017), self-employment can also act as an alternative to retirement.

As (Williams, Martinez-Perez, & Kedir, 2017) put it, entrepreneurs in developing countries spend more time in transient poverty due to high registration costs. Africa's developing nations are young, urbanizing and are experiencing rapidly accelerating technological transformations (Barton & Leke, 2016). Academia will need to accelerate it's understanding of new entrepreneurship as well.

1.3.3 The gap in literature

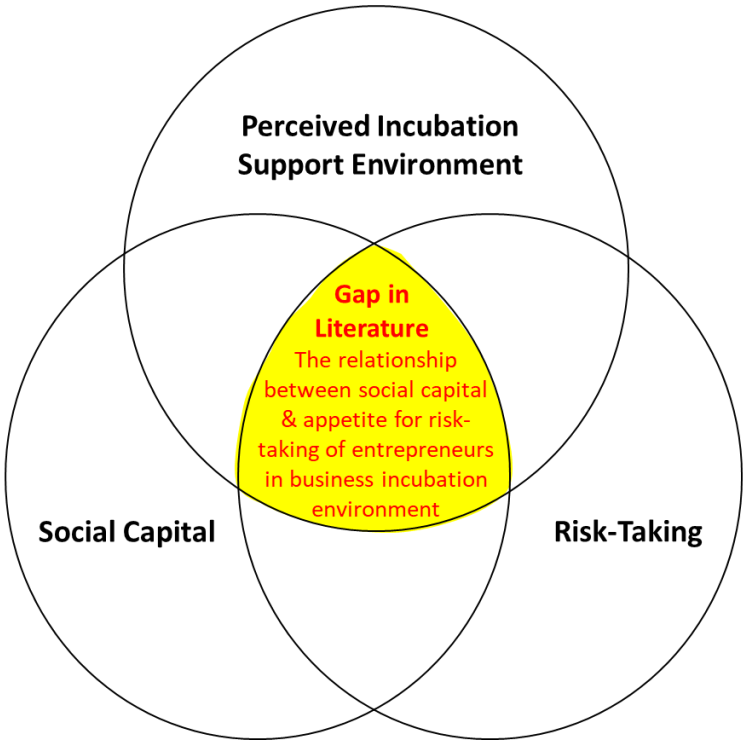


Figure 1: Own Venn Diagram of the Gap in Literature

Figure 1 is an indication of the gap in literature that this study will investigate. Many variables influence each other and the outcomes of business incubation. This study will hone in on the constructs Social Capital and Risk-Taking, within the Business Incubation environment of South Africa.

Even though the concept of risk-taking has probably existed for as long as humans have, the academic field of risk-taking (especially in the entrepreneurship space) still has many gaps where research has not clarified. According to (Mousavi & Gigerenzer, 2014), there is much confusion in the understanding of what risk really is. They state that risk management involves 3 distinct factors: certainty, risk and uncertainty. The main difference between risk and uncertainty is that whether or not all outcomes, as well as probabilities for each outcome, are known. Literature confuses uncertainty and risk which provides inaccurate findings. Risk calculation and mitigation is still more a science rather than an art. (Mousavi & Gigerenzer, 2014) state that the focus of literature should be studying Heuristics, which will be discussed in detail in chapter 2, rather than trying to reduce all uncertainty to risk. There is not much understood about why most decision-making by entrepreneurs is a result of instincts or 'gut-feeling. This could be a reactionary move based on a lack of good information or time-pressures (Mousavi & Gigerenzer, 2014). In a study looking at attitudes towards risk by different types of entrepreneurs, (Block, Sandner, & Spiegel, 2015) states that even though risk is widely discussed, most literature compares entrepreneurial risk against non-entrepreneurs such as bankers and not against other types of entrepreneurs or entrepreneurs in different contexts.

From a logical standpoint of view, it could be argued that entrepreneurs will have the higher confidence to take risks should they perceive higher social capital. Namely being access to networks that can produce opportunities and resources, trustworthy bonds with the people in the immediate social circles and free-flowing information that can assist the progress of entrepreneurship. (Block et al., 2015) backs this statement by stating that entrepreneurs who are entrepreneurs as a necessity of earning a living are negatively associated with risk attitude while their counterparts, meaning that they are less inclined to take risks. While those who are entrepreneurs as a means to exploit an opportunity are positively associated with risk. An alternative way to look at it is, entrepreneurs without the support of high social capital are driven by a "nothing to lose" attitude and therefore are more interested to take risks, unlike their counterparts who fear to lose what they already have. (Inkpen & Tsang, 2005) states that, even though social capital quickly grew to prominence within academia, there remains much uncertainty of its meaning and effects.

As (Baron & Markman, 2003) stated, an entrepreneur's network may provide access to information and resources that help entrepreneurs 'get through the door' as they make their way to success. (Mousavi & Gigerenzer, 2014) state that the information that entrepreneurs

receive (possibly from their networks) can shape their behaviour. They also claim that the same information coming from different sources can result in different actions. This study will determine if the appetite for risk forms part of the behaviour that is influenced by cognitive bias stemming from information sharing. In answering the question of why some entrepreneurs succeed and others don't, there is an imperative to answer the relationship that social capital can have on the appetite for taking risk of the entrepreneur as alluded by (Ahmad, 2014).

Recent South African literature has encouraged studies looking into business incubation and has looked at factors such as their role and contribution, success factors, challenges and the relationship between the incubator and incubatee (Lose, Nxopo, Maziriri, & Madinga, 2016). This study looks at the influence the variables within business incubation have on the entrepreneurs from their perspective. This is important because according to (Lose et al., 2016), in South African literature, there is a lack of literature that is of international standards.

1.4 Aim and objectives

The aim of this topic is to assess the relationship between perceived social capital through business incubation and how that relates to the appetite for risk of the entrepreneur. The study will seek to establish the existence of a positive/ negative relationship between them and if they have a direct influence on each other. This study will look at Appetite for Risk-Taking, Perception of Business Incubator Support and Social Capital (Trust, Networks and Information Sharing) of entrepreneurs in business incubators to determine the correlation of the three variables. The researcher believes that the findings of this research can contribute to Government's, Business Incubator's and Entrepreneur's understanding of how entrepreneurship works within business incubation.

1.4.1 The research's primary objectives are:

Objective 1: To identify the nature of the relationship between perceived Business Incubator support and Entrepreneurial Appetite for Risk-Taking

Objective 2: To determine the relationship between latent variables to Social Capital (Networking, Trust and Information Sharing) and perceived Business Incubator support

Objective 3: To determine the Influence of the latent variables to Social Capital (Networking, Trust and Information Sharing) and Entrepreneurial Appetite for Risk

1.5 The motivation for the study

Entrepreneurship is a relevant/ current topic within emerging markets and this study will make an important contribution towards understanding entrepreneurial success. Why do some entrepreneurs succeed and others fail? Is social capital one of them? (Inkpen & Tsang, 2005)

discuss how literature identify access to new knowledge as one of the main benefits of social capital. (Akram & Kumar Routray, 2013) back the argument of the importance of social capital by encouraging policymakers to make investments in the direct or indirect promotion of social capital within the entrepreneurship space by supplying the appropriate support. It appears then that literature seems to agree that social capital is a good thing for entrepreneurs and that it should be promoted. This study will contribute towards the understanding of how social capital influences entrepreneurship.

(Akram & Kumar Routray, 2013) make the argument that the benefits that social capital provides, which include trust and information flow, have a negative effect on opportunistic behaviour. (Johnson, Elliott, & Drake, 2013) follow this up by stating that opportunism may be checked by the threat of sanctions which come in the form of losing the benefits of social capital. However, these studies fail to make conclusive arguments and only took into consideration the traits of risk-taking and not the whole thing. (Akram & Kumar Routray, 2013) also, state that their findings are dependent on the structure and functions of association, this study will seek to analyse how business incubators influence that association. In a study looking at the role of social capital facilitating supply chain resilience, (Johnson et al., 2013) makes an argument against sentiments proposed by (Akram & Kumar Routray, 2013). (Johnson et al., 2013) argues that trust, shared values and mutually beneficial relationships have a positive relationship with risk. Johnson et al continue to say that it is especially during occasions of risk when there is a need for a strong link between trust and information in relationships.

Should Business incubators focus on these constructs? (Shane & Venkataraman, 2000) state that much of the innovative change that happens within capitalist societies happen through entrepreneurship. As a mechanism that converts technical information into products and services, entrepreneurship also discovers and mitigates inefficiencies within economies.

(Lose et al., 2016) state that there is a gap of knowledge when it comes to business incubation. (Theodorakopoulos, Kakabadse, & McGowan, 2014) follow this thinking up by saying that literature on business incubation lacks when it comes to consistencies with definitions, descriptive accounts and conceptual grounding. Taking into consideration the importance of intangible factors when it comes to business incubation, (Theodorakopoulos et al., 2014) recommend that different perspectives be taken during future studies.

(Lai et al., 2015) and (Lechner & Gudmundsson, 2014) highlight the importance of the intangible factors involved in business incubation, rather than business incubators being office facilities. In relation to the intangible factors (Adler & Kwon, 2002) state that entrepreneurs can augment the benefits of their social capital through the collective investment and development of their internal relations. The facilitation of entrepreneurs benefiting from these relations can be done through business incubation. (Adler & Kwon, 2002) follow up to state

that social capital is more than just a collection of relationships, but rather a lens that can reveal features of society that otherwise remain invisible.

(Ahmad, 2014) state that business incubation is the most comprehensive solution for the myriad of issues that face new ventures. (Ahmad, 2014) recommends that further research take a harder look at the dynamics of incubators and the relationships that associated variables have on the entrepreneurs.

1.6 The business need for the study

This study will contribute to the strategy formulation of business incubators. There could also be a link to government initiatives aimed at entrepreneurship and big business deploying supplier/ enterprise development programmes for their BEE score.

Although the focus of their study was on risk-taking and motivation of entrepreneurs rather than risk-taking and social capital, (Block et al., 2015) claim that such studies allow us to understand effects of programmes designed to improve entrepreneurship (such as business incubation), entrepreneurial success itself, innovativeness and also the effects of entrepreneurship of economic development.

Business incubators gain from studies that probe the mechanisms of effective business incubation (Mian, Lamine, & Fayolle, 2016). The research findings will provide the ability to ascertain with higher degrees of certainty which factors are critical to consider when seeking to nurture entrepreneur's behaviour whilst in incubation. This study could have the potential to contribute to the works of (Lins, Servaes, & Tamayo, 2017) from a perspective of the understanding of entrepreneurs and how the level of trust they have within their networks influences their decisions.

1.7 The theoretical need for the study

(Ahmad, 2014) makes the assertion that in order for theory to assist with the growth of firms, the perspective of literature needs to shift from the "incubators" to the factors that influence the process. This kind of perspective will reveal the context in which incubation positively influences new ventures. (Theodorakopoulos et al., 2014) follow this argument by stating that the shortcomings in business incubation literature can be resolved by focusing on the processes that the incubate entrepreneurs and their firms go through.

In the conclusion of their study (Block et al., 2015) reveal that there are many factors that can have an influence on risk-taking and this study will make a contribution by studying the relationship of social capital and risk.

Over the years, "social capital" and "trust" have become very popular in academia (Lins et al., 2017). The contributions that this study can make can continue the conversation by applying

a different lens that hasn't been fully explored yet. (Mian et al., 2016) discuss how scholars, policymakers, and business people realise the importance of seeding and accelerating entrepreneurship. A lot of research has been done in the field of entrepreneurship, however, failure rates still remain high (Friedrich, 2016) and therefore academia can still lend a hand to solving this issue.

1.8 Conclusion

In summary, the previous section emphasised the importance that the role of academia plays in pushing the understanding of entrepreneurship forward as this can have macro and socio-economic consequences. Even though Social Capital, Risk and Business Incubation are popular topics, there are still gaps in the understanding of defining these constructs and understanding how they work. There is a link between social capital and risk-taking that deserves to be researched.

This research project is structured in 7 chapters. Chapter 1 highlights the research problem and the motivations for the study. Chapter 2 will take an overview of the current literature. Chapter 3 will highlight the research questions, hypothesis and objectives. Chapter 4 will outline the methodology that the research will undertake. Chapter 6 will discuss the results found from the study and lastly, chapter 7 will provide the conclusion for the research.

2. Chapter 2: Literature Review

2.1 Introduction

The three constructs of business incubation, social capital and appetite for risk have in their individual capacity gained popularity in academia over time. This study suggests that the constructs are relational and seeks to observe how they interplay within the business incubation context. What is not clearly understood, however, is a collectively exhaustive list of constructs that influence Business Incubation.

Albeit previous findings having their limitations, business incubators have been found to have a positive relationship with business growth (Theodorakopoulos et al., 2014) and therefore justify further research seeking clarity on incubation dynamics. Credible South African literature within the fields of business incubation are difficult to come by and this study will aim to contribute to works such as (De Carolis & Saparito, 2006) have contributed, though from a South African context.

Literature from the business incubation field will take a close look at the narrative of current literature and hone in on the challenges that have been afflicting studies of business incubation. Linkages will also be made to social capital, risk-taking and business incubation.

Entrepreneurship has been covered extensively and thoroughly by literature although literature is lacking from a South African perspective. Even though the field has been covered extensively in previous research, it is still worth taking a look at how the field has progressed through current literature.

The concept of Social Capital has captured the interest of researchers for decades. This literature review will unpack latent variables that contribute to the social capital of entrepreneurs. Social Capital within the South African context will be discussed in an attempt to contribute to literature.

Lastly, this literature review will discuss how literature views risk from different perspectives and identify how risk is linked to entrepreneurs in business incubation and particularly how social capital may or may not influence the appetite of risk of entrepreneurs.

2.2 Entrepreneurship

2.2.1 What is the condition of the entrepreneurship landscape in South Africa currently?

The South African Government has increasingly played a large role in rallying the growth of entrepreneurship in the country. With a caveat that there is an absence of research from African and South American countries (Rivera-Santos, Holt, Littlewood, & Kolk, 2015), those interested in stimulating entrepreneurial development, including governments, businesses and

investors, make the use of business incubation (Mian et al., 2016). Getting into the right Enterprise Supplier Development (ESD) Programme, which through their focus on developmental processes can be seen to be similar to incubation, has the potential to be life changing for a business (Strydom, 2018). Lack of literature for the South African context of entrepreneurship is an identified gap. Governments have also been particularly interested in promoting social entrepreneurship in the hopes that they will garner social innovations that will solve social problems (Choi & Majumdar, 2014). This study hopes to contribute to the South African resource of literature regarding entrepreneurs.

2.2.2 Defining entrepreneurship

The topic of entrepreneurship is broad and depending on who you ask, you are likely to get a different definition. (Sørensen & Fassiotto, 2011) and (Dacin, Dacin, & Matear, 2010) describe how hopelessly literature has failed to reach consensus when it comes to defining entrepreneurship. (Rivera-Santos et al., 2015) on the other hand, state that finding a one size fits all definition of entrepreneurship undermines the complexity of entrepreneurship. With that as it may be, it is important for this study to identify a particular lens from which it will observe entrepreneurship through. This is an important distinction to make because the reason and context that people choose to become entrepreneurs determine their motivations, capabilities and aptitude for innovation (Román et al., 2013) which could have mediator variable effects on studies in the field.

2.2.3 Conceptualising entrepreneurship

In an attempt to unravel the reasons why literature has progressed with such impunity with regards to establishing a ubiquitous definition, it is worth to look at the varying conceptual definitions of the characteristics of entrepreneurship and examine their disparities. (Sørensen & Fassiotto, 2011) explains that there are two diverging schools of thought when it comes to defining entrepreneurship. The first view looks at entrepreneurs as “self-employed” and they are motivated to work for themselves. The second view according to (Sørensen & Fassiotto, 2011), states that entrepreneurs are focussed on “value creation” and economic growth as a motivator. This view does not strictly imply self-employment but emphasizes its innovative and creative aspects.

Albeit with three categories, (Román et al., 2013) provide a similar perspective to that of (Sørensen & Fassiotto, 2011). According to (Román et al., 2013), the three perspectives in which entrepreneurs fall in are: (i) people who enter entrepreneurship as a means to make a profit (pure entrepreneurs), (ii) those who enter entrepreneurship as a last resort due to lack of employment opportunities and (iii) those who have opportunities for employment, but rather

than working for someone else under an employment contract, choose the status of entrepreneur. The definitions proposed by (Sørensen & Fassiotto, 2011) and (Román et al., 2013) provide an interesting perspective from which to look at entrepreneurship from. This perspective highlights the identification and taking the risk of exploiting an opportunity to escape employment and create value through profits or innovations.

This theme is supported by (Block et al., 2015) who go on to describe two categories which are “Opportunity Entrepreneurs” As entrepreneurs that start new ventures to exploit an identified business opportunity and “Necessity Entrepreneurs” which, on the other hand, create new ventures as a means to an end because they have no other alternatives from which to earn a living from. The scale between opportunity and necessity is a continuum so a third category has been adopted which is a blend of the two called Mixed-Motivated Entrepreneurs (Block et al., 2015). It can be argued that pure Necessity Entrepreneurs face the greatest risk or uncertainty as they perceive themselves as having no other choice but to engage in entrepreneurship. A big concern for these entrepreneurs would be how to mitigate this risk.

Another reason for the lack of cohesion regarding a single definition being adopted could stem from the fact that there are different types of entrepreneurship that exist. (Dacin et al., 2010) provides a list of types of entrepreneurship which include: **Conventional Entrepreneurship:** “An agent who enables or enacts a vision based on new ideas in order to create successful innovations.”; **Institutional Entrepreneurship:** “An agent who can mobilize resources to influence or change institutional rules, in order to support or destroy an existing institution, or to establish a new one”; **Cultural Entrepreneurship:** “An individual who identifies an opportunity and acts upon it in order to create social, cultural, or economic value.” and **Social Entrepreneurship:** “An actor who applies business principles to solving social problems”. Another type of entrepreneurship which (Raffiee & Feng, 2014) speak about and which could be argued as a different approach to mitigating the effects of risk is **Hybrid Entrepreneurship**. This is defined as: “The process of initiating a business while simultaneously remaining employed for wages” (Raffiee & Feng, 2014). The stability offered by the steady income of a “day job” address the opportunity cost and risk related to entrepreneurship. According to (Sørensen & Fassiotto, 2011), at least 9 out of 10 entrepreneurs are involved in some form of hybrid entrepreneurship. (Raffiee & Feng, 2014) suggests that hybrid entrepreneurship can seem like a more attractive way of managing risk for risk-averse and less confident people.

Generally speaking, entrepreneurs are seen to be risk-takers (Block et al., 2015) and research suggests that risk and uncertainty are contributors to entrepreneurship failure rates (Raffiee & Feng, 2014). The gap in literature becomes evident when looking at different groups of entrepreneurs and how little is known about the variance of risk attitudes exist among them (Block et al., 2015).

These varying intentions which drive people into entrepreneurship provide additional complications when trying to find the single governing definition. The types of entrepreneurship by (Dacin et al., 2010) present the argument that perhaps the definitions that have been discussed so far are too simplistic. (Shane & Venkataraman, 2000) defines the field of entrepreneurship as “The scholarly examination of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited.”. (Román et al., 2013) state that the compositions related to the reasons why people enter entrepreneurship need to be taken into consideration before interpreting the impact of macroeconomic variables on the group as a whole.

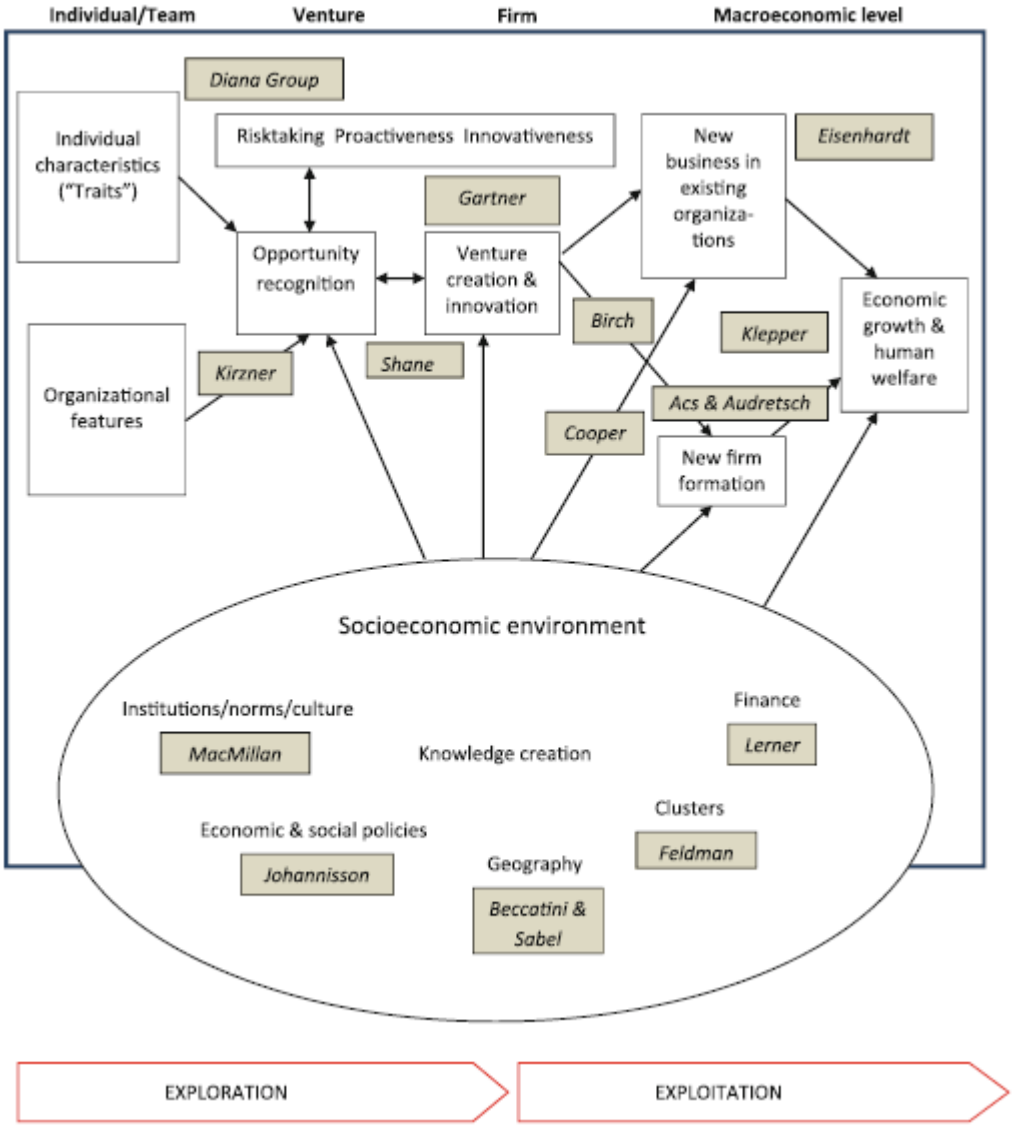


Figure 2: Domain of Entrepreneurship Research. Sourced from (Carlsson, B, Braunerhjelm, P., McKelvey, M., Olofsson, C., Persson, L. and Ylinepää, 2013)

Figure 2 provides an elegant view of the complexities involved in the field of entrepreneurship. The identifiable consistent themes that appear in this diagram and the literature that has been discussed so far in this chapter are exploration and exploitation of opportunities to create new ventures/ innovations for economic and social growth. The figure adds a dimension of socioeconomic environment that play a peripheral role in entrepreneurship which includes knowledge creation, institutions/ norms/ culture, economic and social policies, geography, clusters and finance which each variable demanding fields of studies of their own. The variable of risk-taking is depicted as having a two-way directional influence when it comes to opportunity recognition. This study will analyse the dynamic of an entrepreneur's appetite for risk when it comes to social capital which will contribute to literature.

As mentioned before, it is important to identify the perspective from which this study will observe entrepreneurship through. Thus, this study will use (Carlsson et al., 2013) definition which says: "Entrepreneurship is an economic function that is carried out to create new opportunities and ideas in a market and making decisions under uncertainty about location, product design, resource use, institutions and reward systems." This definition is beneficial to use because it covers identifying opportunities and making decisions, two constructs that involve taking certain levels of risk. The strong focus of exploring and exploiting opportunities within entrepreneurship insinuates that risk is an integral, if not synonymous entity of entrepreneurship.

(De Carolis & Saparito, 2006) state that entrepreneurship, by virtue of the many complicated decisions involving a lot of information required to be processed, entrepreneurship is notorious for its extensive level of risk. They continue to state that social capital plays a role in the discriminating of information and the availability of opportunities. It then begs the question as to how this dynamic play out within business incubation from a South African context. This study will examine if Social Capital influences the propensity for risk-taking by entrepreneurs in business incubators.

2.3 Social capital

2.3.1 Defining social capital

(De Carolis, Litzky, & Eddleston, 2009) defines social capital as, "Goodwill created through social relations that facilitate the attainment of needed resources, influence, and sponsorship". (Adler & Kwon, 2002) state that an important component of goodwill is trust, which is something that this study will look at in-depth. (Akram & Kumar Routray, 2013) suggests a more pragmatic definition of social capital which says: "Features of social organizations such as networks, norms, and social trust that facilitate cooperation for mutual benefit". (Johnson et al., 2013) follow up with a similar definition: "The information, trust and norms of reciprocity

inhering within social networks". (Akram & Kumar Routray, 2013) suggests that social capital can be utilised as a tool or resource that generates information sharing, support, collaboration and mutual trust. They go on to say that these resources can be accessed through being part of formal and informal associations (weak and strong ties networks), norms, engagement in community-based activities and interpersonal and institutional trust. These definitions suggest that Trust, Networks and Information Sharing are integral components of social capital.

2.3.2 How is social capital viewed in South Africa?

Racial exclusion has played a big role in South Africa and resulted in the unequal distribution of social capital (de Beer, Rothmann, & Pienaar, 2016). A form of this exclusion was the access to preferential jobs an access to good schooling, which shut out a majority of South Africans outside of networks that uplift social capital. These oppressive laws could have built impenetrable walls that prevent certain people from building social capital that could contribute to their entrepreneurial success.

According to (Vismara, 2016) and (Anderson & Jack, 2002), research suggests that social capital is positively related to entrepreneurial success. The importance of social capital is also well documented. The need to understand factors contributing to business success has propelled the field of social capital. Social Capital within literature is presented as an important ingredient to entrepreneurial success (Adler & Kwon, 2002), however, its unequal distribution presents advantages to some and not others. South Africa's oppressive history continues to divide people today. (Cascio & Luthans, 2014) describe how the psychological capital, which could include the efficacy, hope, optimism and resilience of the people can be affected by oppressive regimes. The psychological effects that the South African apartheid era has had on entrepreneurs are still not well understood within the entrepreneurial space.

An instrument that the South African government is implementing to address the unequal distribution of social capital is Broad-Based Black Economic Empowerment (BBBEE) (Ntim & Soobaroyen, 2013). BBBEE is "The economic empowerment of all black people including women, workers, youth, people with disabilities and people living in rural areas through diverse but integrated socio-economic strategies" (Republic of South Africa, 2004). In other words, this initiative is meant to "balance the playing field". However, a two-player contest study conducted by (Franke, 2012) found that introducing lump-sum bonuses to "balance the playing field" for previously disadvantaged players, disincentivised both players. The players ended up substituting effort for the bonus. Better results were received when the study introduced moderately disadvantaged players. It is especially the case in emerging economies that entrepreneurs leverage ties within their networks in order to best position themselves against competitors, suppliers and customers (Boso, Story, & Cadogan, 2013). Entrepreneurs using

these ties to their advantage can lead to the sharing of resources and information, reduce supply and distribution costs and minimise opportunities for competitors.

(Akram & Kumar Routray, 2013) warns about possible negative effects that could outweigh the benefits of social capital. In its initial stages, social capital is great for generating information inflows, norms and trust. (Akram & Kumar Routray, 2013) continue to state that on the other hand, social capital can result in a closed network that will influence behaviour by creating restrictive norms which tend to result in member exits. Homogenous networks also can generate redundant information while offering limited access to innovative or desired resources. Internal politics can lead to certain members receiving preferential treatment at the expense of the group (Akram & Kumar Routray, 2013).

(Shane & Venkataraman, 2000) make an argument that in the definition of entrepreneurship, there should also be a focus on the "Why, when and how some people and not others discover and exploit opportunities", which was covered in the definition of entrepreneurship. (De Carolis & Saparito, 2006) contends that social capital enables people to explore opportunities and start new ventures. Business incubators offer support through networks that could bolster the social capital of entrepreneurs.

2.3.3 Networks as a latent variable of social capital

(Boso et al., 2013) define networks as, "The resource available to actors as a function of their location in the structure of their social relations with social relations constituting the social structure underpinning social network ties." They go on to state that an entrepreneur's network entails the level of relationship they have with their community and peers. For these ties to be formed, networking and collaboration have to happen (Silvestre, 2015) and business incubators have a role to play in creating the advantages of linking up entrepreneurs that can collaborate or form supply-chains. (Boso et al., 2013) speak about how network (business and social) ties are important for advancing business performance, especially in developing countries.

(Theodoraki, Messeghem, & Rice, 2018) state that it's not the number of links with other members that are important when it comes to facilitating networks in incubation, but the real value is in the strength of the relationships. However, (Ahmad, 2014) draw from Network and Social Capital Theory and argue that the density of the networks in the business incubator leads to the success of the incubation process. A fair assessment from these arguments would be that a balanced approach regarding quality and density of the networks should be the preferred option. (Ahmad, 2014) state that as a result of the networks that involve living organisms, their nature is constantly evolving and therefore difficult to manage.

In the exercise of studying the role that networks have, it would be a mistake not to consider how digitization has influenced how humans, entrepreneurs in incubation to be specific, have

changed. Social networks have brought a change in how people engage with their communities and society as a whole and for entrepreneurs, this presents opportunities (Vismara, 2016). They continue to explain how network ties are important for entrepreneurs seeking funding and social networks have revolutionised investing in new concepts such as crowdfunding emerging. (Vismara, 2016) discuss a study that used simple reward-based projects that showed a positive relationship between the entrepreneur's social network connections and the capital raised from that project.

With the networks of the entrepreneurs being highlighted as a key component to running their business, the consideration of whether they have "strong ties" or "weak ties" becomes important. (Liu, Sidhu, Beacom, & Valente, 2017), found weak ties to be more effective for bridging information because as opposed to strong ties, which tend to share similar information from within the network, weak ties allow fresh perspective from outside the network to proliferate. However, in contradiction to this, (De Carolis & Saparito, 2006) state that strong ties facilitate the ease of information due to increased levels of trust by the parties. (De Carolis & Saparito, 2006) speak about the dimensions of social capital which have been increasingly adopted in recent research.

Dimensions of social capital	Different forms of the dimensions		
Structural dimension	Bridging	Linking	Bonding
Relational dimension	Arms-length relations		Embedded relations
Cognitive dimension	Cognitive dissonance		Cognitive resonance

Figure 3: Three Dimensions of Social Capital and its Different forms. Sourced from (Doornich, 2018)

As can be seen from the above table, the dimensions are: structural dimension, relational dimension and cognitive dimension and they offer a multidimensional view of social capital. Structural dimension is defined as the patterns and connections between actors within a network (De Carolis & Saparito, 2006). (Theodorakopoulos et al., 2014) identified entrepreneurial networks as one of the 10 success factors for business incubators. This then suggests that incubation support and networks have a positive relationship.

2.3.4 Trust as a latent variable of social capital

(Johnson et al., 2013) define trust as "The belief in the good intent and concern of partners, combined with confidence in their competence, reliability and openness". Even though there exists a wide range of ontological and epistemological perspective in the field (Scarbrough,

Swan, Amaeshi, & Briggs, 2013), trust contributes as one of the important components of the relational dimension of social capital (Akram & Kumar Routray, 2013). In a study looking at the role of social capital in facilitating supply chain resilience, (Johnson et al., 2013) identified that without trust, suppliers were reluctant to share information and resources.

The influence of trust is not as straightforward as one would presume (Welter, 2012). Trust is very dependent on the context of which it occurs and according to (Welter, 2012), it remains unclear as to how the context of business incubation influences the levels of trust of entrepreneurs, particularly from a South African context. Welter goes on to state that behaviour has an impact on personal and institutional trust. He goes on to state that a recommendation for future studies would be to develop a critical analysis of the role that trust has within entrepreneurship. In a study observing early-stage tech-entrepreneurs, (Scarbrough et al., 2013) observed the influence of trust as having wide-ranging effects and with little known about its role in the process of turning weak ties into strong ties. They go on to say though that trust does produce a collaborative advantage in strong, embedded ties.

(Scarbrough et al., 2013) state that an issue that could be prevalent in the studying of trust within entrepreneurs could stem from the different forms of trust playing out in different contexts, such as business incubation. (Scarbrough et al., 2013) define the first two forms as Characteristic-Based Trust and Process-Based Trust which are trust based on social similarities and frequency of exchange between parties in a network respectively. Both forms highlight the importance of information shared in a network in order to maintain trust. The third form defined by (Scarbrough et al., 2013) of trust is Institutionally-based trust which is trust embedded by formal mechanisms, systems and institutions. Institutions such as business incubators are established with the noble intention of growing businesses and thus, suggests that perception of business incubation and trust could have a positive correlation. On the other hand, (Scarbrough et al., 2013) state that within the entrepreneurial setting, trust is considered to have a wide-ranging influence in helping entrepreneurs overcome risk and uncertainty, suggesting a positive relationship between trust and appetite for risk-taking.

2.3.5 Information sharing as a latent variable of social capital

Findings from (Raffiee & Feng, 2014)'s study suggest that the risk of non-survival of entrepreneurs can be mitigated by their capacity to process information. (Johnson et al., 2013) suggests that through reinforcing commitment to sharing information, information sharing may be used as a form of social currency by entrepreneurs in business incubation. During a "risk event situation", (Johnson et al., 2013) found that higher levels of trust boosted effective decision making. This result was linked to improved visibility and information sharing which prevented undesired actions such as overreactions and unnecessary interventions. Trust also had an influence on the velocity of information access by negating the need for formal or

contractual requisitions (Johnson et al., 2013). (Scarbrough et al., 2013) states though that in order for entrepreneurs seeking to make deals, they need to maintain weak ties in their networks, while simultaneously working on the stronger collaborative ties that will in future create new opportunities.

(Adler & Kwon, 2002) suggests that social capital enhances the timing, relevance, and quality of information, however, (De Carolis & Saparito, 2006) found that individuals given the exact same information could perceive different levels of risk. Which highlight a gap in the understanding of the relationship between information sharing and appetite for risk-taking. Entrepreneurs can cut out information sharing completely when managing risk. (Mousavi & Gigerenzer, 2014) define heuristics as "Simple rules of thumb that solve complex uncertain situations precisely because of their simplicity, not despite it". Heuristics offer entrepreneurs the luxury of a guiding light for when they step out into terrain filled with uncertainty. It is impossible for entrepreneurs to have all of the knowledge related to their field, but according to (Mousavi & Gigerenzer, 2014), decisions based on heuristics allow for faster decision-making utilising fewer resources. They go on to suggest that by ignoring the information that is readily available, beneficial learning, low total error and higher accurate predictions under uncertainty can be achieved by utilising a degree of bias, flexibility and variance to decision making. With that said, the relationship between information sharing and appetite for risk-taking is unclear and this study aims to make contributions towards this understanding.

2.4 Entrepreneurial Appetite for risk

2.4.1 Definitions of risk

Classical literature defines propensity for risk-taking as, "The perceived probability of receiving the rewards associated with the success of a proposed situation, which is required by an individual before he will subject himself to the consequences associated with failure, the alternative situation providing less reward as well as less severe consequences than the proposed situation." (Brockhaus, 1980). This definition is ideal because it is a pragmatized view of risk and makes a link to the actions of the entrepreneurs. However, more recent research such as (De Carolis & Saparito, 2006) and (Raffiee & Feng, 2014) have had a focus on the perception of risk which is the entrepreneur's ability to identify risk situations, which is a link to their views and does not necessarily make a link to their actions. (De Carolis & Saparito, 2006) conceptualises risk perceptions as the entrepreneur's belief in the magnitude of potential loss related to a risk situation.

There is a reason to look at "appetite of risk" rather than "perception of risk". This might sound like semantics but perception relates to how entrepreneurs identify and calculate the levels of risk involved with certain decisions. Appetite for risk suggests how willing entrepreneurs are

to engage in decisions that involve certain levels of risk based on their attitudes towards risk (Block et al., 2015).

Appetite for risk is a recall of classic works (Brockhaus, 1980) and (Schwer & Yucelt, 1984). Appetite for risk contributes to literature based on why some people take opportunities and others don't. Perception of risk may lead to views that upside outcomes are viewed as opportunities while only downside outcomes such as financial loss are seen as risk (De Carolis & Saparito, 2006).

2.4.2 Entrepreneur's options and opportunities

Much of how an entrepreneur's appetite for risk is formed can be linked to the kind of opportunities that they are presented. Social capital creates opportunities for some and not others (de Beer et al., 2016). Having networks with appropriate levels of trust and the right information shared timeously, it would suggest that social capital and risk-taking have a positive relationship.

From business incubator's perspective, Real Options Theory suggests a different approach to handling risk. Real Options Theory is based on strategic management and shares light on how strategic decision making are influenced by the options decision makers have. In simpler terms (Trigeorgis & Jeffrey Reuer, 2017) describe the approach of Real Options Theory as the analysis of what makes possibilities options, what makes them real and implementation. This suggests that business incubators can contribute to the appetite of the risk of entrepreneurs based on the opportunities the incubation environment produces.

(De Carolis & Saparito, 2006) present another dark side of social capital which states that structural holes may provide redundant information as a result of the inertia created by strong ties within networks. The lack of fresh information permeating into the networks of entrepreneurs may have a negative impact on the 'good' opportunities that they are presented and thus, affecting their appetite for risk. In the conclusion of their study (De Carolis & Saparito, 2006) and (Wales, Gupta, & Mousa, 2013) make a call to research to investigate moderating influences to entrepreneurial risk and this study aims to make contributions to this.

Section 2.3.5 has already described how heuristics may undermine the importance of information within networks. (Cheng, Mukhopadhyay, & Schrift, 2017) stated that when people have the multiple options available to them to reach the same goal, and the only differentiator amongst these options is cost, then very often the cost of the option can be used to predict the choice that will be made. This negates the requirements for information highlighted by (Raffiee & Feng, 2014) and argues the importance of options and opportunities. (Cheng et al., 2017) present an interesting perspective regarding the influences of risk-taking by entrepreneurs. However, they continue to state that even though there has been a rise in

literature looking at heuristics, there hasn't been a consensus regarding the cause/ origin of the heuristics.

What is known regarding appetite for risk is that there is a strong case that through the opportunities that they provide, business incubators have a role to play. Thus, this suggests that appetite for risk has a positive relationship with perceived business incubation support. Though what remains unclear is how social capital and its latent variables (Trust, Networking and Information Sharing) influence the appetite for risk-taking of the entrepreneurs.

2.5 Business Incubation

2.5.1 Defining business Incubation

Interest into business creation through business incubation has intensified in the past 30 years (Mas-Verdú, Ribeiro-Soriano, & Roig-Tierno, 2015). Meaningful contributions by studies to this field are impaired by a myriad of definitions that fail to create cohesion in the understanding of what business incubation really entails. The first definition by well-known entrepreneurial publication, (Entrepreneur, 2018) states: "Business Incubation is an organization designed to accelerate the growth and success of entrepreneurial companies through an array of business support resources and services that could include physical space, capital, coaching, common services, and networking connections." In symmetry with the previous definition, (Kelly, 2017) defines incubators as institutions that offer workspace along with mentoring and training to entrepreneurs. From these two definitions, it is emphasised that business incubators go beyond just offering physical amenities that support the entrepreneurs, but they also offer intangible support through mentorship and coaching.

(Mas-Verdú et al., 2015) calls business incubators "catalysts of entrepreneurship" which also boosts the important role incubators play which is more than simply as landlords to entrepreneurs. (Albort-Morant & Ribeiro-Soriano, 2016) defines business incubators as: "A centre that helps young companies to grow in their early stages by providing them with a rental space, shared office, and assistance through business consulting services". The inclusion of "young companies" in this definition, who also can be described as "nascent entrepreneurs", makes the insinuation of the phase that suitable entrepreneurs who qualify for incubation should be in the growth phase.

Table 1: Different Types of Incubators. Source modified from (Udell, 1990)

Non-Profit Incubators	**University-related incubators**	**Privately Sponsored Incubators**	**Publicly Sponsored Incubators**

Sponsored by chambers of commerce, industrial development associations and community-based organizations typically target economic development in specific neighbourhoods or industrial sectors	Attempt to transfer the findings of university research and development into new products and technologies, provide students with real-life experience in business management and play a role in a state's continuing industrial development	Intended to make a profit and to help establish an entrepreneurial environment as part of a community development strategy	Generally oriented toward job creation and new enterprise development, along with product development, economic diversification and stimulation of entrepreneurship

According to (Mas-Verdú et al., 2015) the value proposition in terms of the business and innovation that business incubators offer needs to be studied closely. In a study looking at the different types of support that business incubators provide and the influence they have on the entrepreneurs, (Lai et al., 2015) stated that "Business Incubators must provide office facilities and basic consultant services and also exert more effort in providing advanced services to tenants." They go on to list examples of other support services such as business plans, strategy development and creating organizational structures as key offerings that should be provided by business incubators. This indicates that the business incubators should not play a passive role and that they take responsibility to ensure that the SMEs grow.

This means that above and beyond providing office space, convenient location to suppliers and customers and (Lai et al., 2015) follow up this suggestion with their definition of business incubation as: "Business Incubators provide integrated services such as technology, capital and knowledge to promote the development of new firms; including office space, business support services to reduce overhead costs; professional business advice and internal or external network provision". These definitions focus more on the tangible outcomes of the services that business incubators provide such as capital, access to networks and information. The definitions fail to specify the full degree of influence that the business incubation process has on entrepreneurs and this study will focus on specific variables, such as risk and social capital, and make contributions to further the understanding of business incubation.

Figure 4 below provides a framework from The Department of Trade and Industry (DTI) of South Africa which describes the characteristics defining business incubators, what they do

and variances found in the different business incubators. Albeit with less detail, (DTI, 2014)'s definition of a business incubator is consistent with (Albort-Morant & Ribeiro-Soriano, 2016; Entrepreneur, 2018; Lai et al., 2015; Mas-Verdú et al., 2015) and (Kelly, 2017). (DTI, 2014) contributes that business incubator's services come in two variations which are Programme Models (predetermined programme with a sequence of services that entrepreneurs go through) and Product Models (which are based on a per needs basis). (DTI, 2014) does a decent job of providing a consolidated view of defining business incubation.

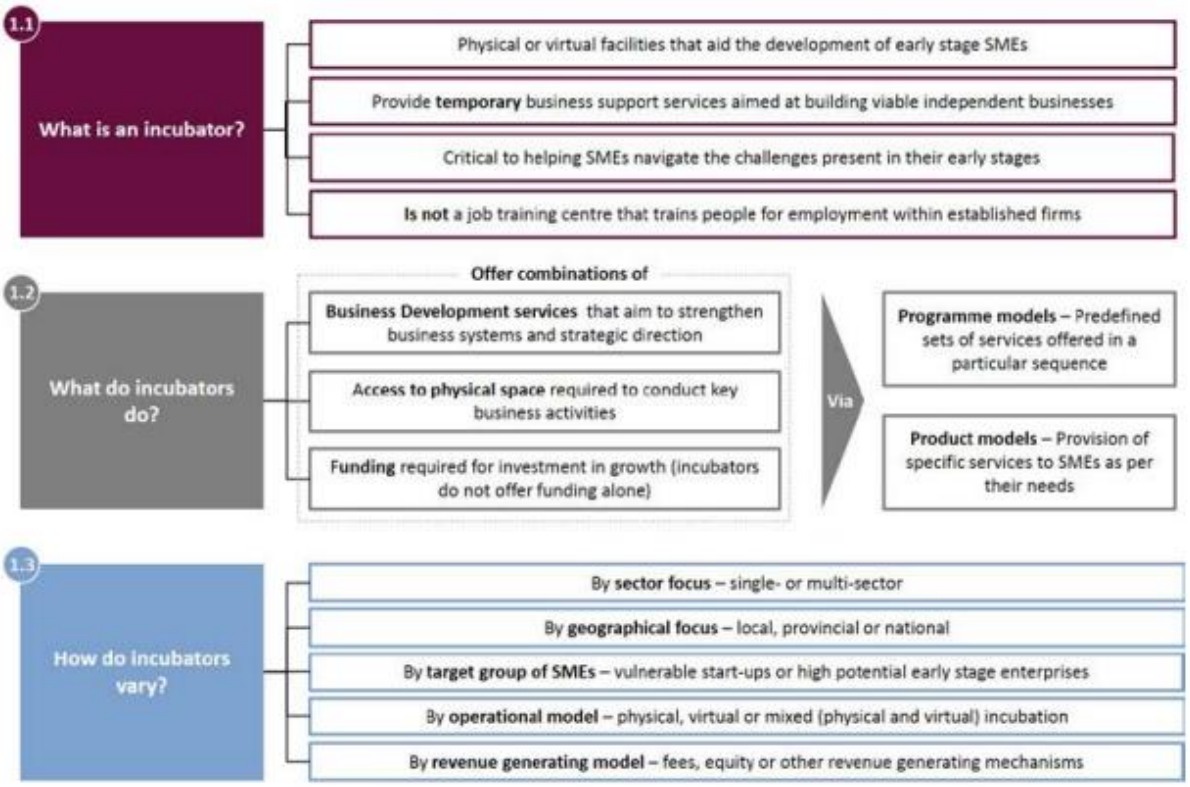


Figure 4: What are Incubators? Sourced from (DTI, 2014)

2.5.2 The difficulty of studying business incubators

Why has studying business incubators been so difficult? (Lechner & Gudmundsson, 2014) was able to find a positive relational bond between the incubator and the incubate (member entrepreneur of the incubator). However, factors such as ground rules, subtle signals and personal histories make the non-linearity of incubation difficult to predict. (Ahmad, 2014) state that a problem with previous literature on business incubation is that the impact was viewed in a too simplistic manner. Incubators are found to not only be beneficial to the SMEs that they serve but the economy as well. The problem with the data used to make these claims is that most incubators are Government funded and require to show good results in order to continue to get funding. This can lead to misrepresented figures being used to overestimate the impact

of incubators. A study involving 204 incubators, (Udell, 1990) speaks about signs of another problem that still plagues the field of studying business incubators till this day. Interest in business incubators has grown significantly over time and respondent fatigue in studies continues to make it difficult to get access to good data. Such problems can then influence the validity of studies done on business incubators and require fresh new ideas on how to conduct research on business incubation.

Literature has failed to give us a consistent understanding of what exactly business incubation is (Albort-Morant & Ribeiro-Soriano, 2016) with literature remaining disparate, fragmented and isolated. According to (Albort-Morant & Ribeiro-Soriano, 2016) and (Theodorakopoulos et al., 2014), there lacks consensus behind a single definition. Even though there exists a large number of studies having been done on business incubation, research lacks the perspective of the companies being incubated and suffers a limited theoretical approach (Theodorakopoulos et al., 2014). What is still unknown within literature is if business incubators have shifted their value propositions to include more recent incubation paradigms (Bruneel, Ratinho, Clarysse, & Groen, 2012). This study seeks to analyse specifically if the social capital that entrepreneurs receive by being part of a business incubator, influences their appetite for risk-taking.

2.5.3 Theories that may influence business incubation

Multiple theories exist from which literature has explored the concepts that offer valuable contributions towards entrepreneurial growth. It would be helpful to take a moment to scan literature and identify how research has conceptualized concepts for growing entrepreneurs as this pertains to the objectives of business incubators deeply. The 5 theories this research will take a high-level look at are: New Venture Creation, The Resource-Based View, Social Network Theory, Dyadic Theory and Real Options Theory.

New Venture Creation, according to (Ahmad, 2014), is described as “A number of mutually exclusive components or stages of the incubation process such as diagnosis of needs; selection and monitoring; capital investment; and access to expert networks”. Particular to the access to expert networks, the role that business incubators play in facilitating networks for their entrepreneurs is very important (Lai et al., 2015).

The **Resource-Based View (RBV)** is described as: “Resources and capabilities as bundles of tangible and intangible assets, including a firm’s management skills, its organizational processes and routines, and the information and knowledge it controls that can be used by firms to help choose and implement strategies” (Barney, Ketchen, & Wright, 2011). Social capital, a component important to access information and opportunities, can be seen as a critical resource for entrepreneurs (De Carolis & Saparito, 2006).

The third theory on the list is **Social Network Theory** which is**:** "The connection pattern between the actors who initiate, relay, and adopt innovations can be viewed as a social network, where network connections may take the form of friendship, advice, communication, or social support." (Liu et al., 2017). The entrepreneur's peers in the incubation play a role in the social capital of fellow entrepreneurs and business incubators should pay attention to having members that will be able to support one another.

(Aarstad, Haugland, & Greve, 2010) define **Dyadic Theory** as: "Dyads in a network influence each other either as an effect of direct interaction or through one or more mediating firms." (Aarstad et al., 2010) continues to state that performances can be increased of firms who circumvent their lack of social capital by creating cohesion with other firms. Business incubators can play the mediating role to connect entrepreneurs with one another.

The last theory from the literature scan is **Real Options Theory.** Real Options Theory is defined as**:** "A strategic and intuitive way of thinking, a logical tool or rhetorical device for creating or keeping options open and exploiting them." (Trigeorgis & Jeffrey Reuer, 2017). They go on to state that Real Options Theory has given literature insights on strategic management, including market entry timing, modes of entry and organizational forms. Incubators can offer 'bailout options' for when risky decisions by their entrepreneurs do not pay off or coaching services to help entrepreneurs develop clear analysis before making decisions. (Trigeorgis & Jeffrey Reuer, 2017) continue to explain that Real Options Theory encourages entrepreneurs to take on riskier projects since the value of having options rises when uncertainty increases.

2.5.4 The role of business incubators

Academic literature of Business Incubators has been contradictory when compared to itself (Albort-Morant & Ribeiro-Soriano, 2016). It is understood that entrepreneurship is important for developing economies (Albort-Morant & Ribeiro-Soriano, 2016) and (DTI, 2014) and in a South African context, business incubators are seen to have a significant impact on economic growth and development (Lose et al., 2016).

Business Incubators can help fight poverty and inequality through job creations (Lose et al., 2016) with 70% of national employment coming from Small to Medium Enterprises (SMEs) (DTI, 2014). This statement begs the question if start-ups really create employment/ address unemployment issue. (Raffiee & Feng, 2014) state that entrepreneurship can only drive economic growth if they avoid early failure within their life-cycle. Most start-ups will then require experienced and well-educated candidates to work for them in order to obtain the highest probability of survival. Availability of the right skills is scarce which means most start-ups are more likely to attract people who work at large corporates (instead of unemployed,

less skilled or experienced people) with the kind of experience that will accommodate the high demands of new ventures.

(Adler & Kwon, 2002) suggests that social capital has a role to play in finding good people to hire by creating a richer pool to recruit from, exchange of resources, creation and innovation of intellectual capital, reduced turnover rates, stronger supplier relations and ultimately, promotion of creation of new companies. Social Capital, therefore, creates bubbles of strong networks and by poaching from the same talent pool, start-ups then would fail to alleviate the high unemployment levels within emerging markets such as South Africa as a majority of labour remains unskilled or lacks experience and are not connected to these networks. Future studies will need to take a closer look at the true effectiveness of start-ups and unemployment in South Africa.

While Business Incubators should take on more responsibility with the initiatives used to support entrepreneurs, academia has the responsibility to conduct further research to ascertain the factors that contribute to how the entrepreneurs work, such as what influences their risk behaviour. (Lai et al., 2015) state that in order to improve the failure rate of new firms, there needs to be a better understanding of why certain businesses fail and what is required to run a business successfully. (Sentana, González, Gascó, & Llopis, 2017) argue that even though business incubators may not be economically profitable, they offer social profitability. Their activities in the development of new businesses provide returns in the form of a widening the tax pool. In a study looking at 40 out of the 42 incubators in the independent Spanish Valencian Community, (Sentana et al., 2017) found that for every Euro spent on starting incubators, 2.8 Euros were collected in taxes.

(Theodorakopoulos et al., 2014) identified 10 success factors which highlighted a direct correlation between application of the factors and the success of the business incubation. The factors are highlighted in Figure 5. These factors however dominantly have a perspective from the business incubator and not of the entrepreneurs. More literature is required that studies the entrepreneur's influences and not the business incubators.

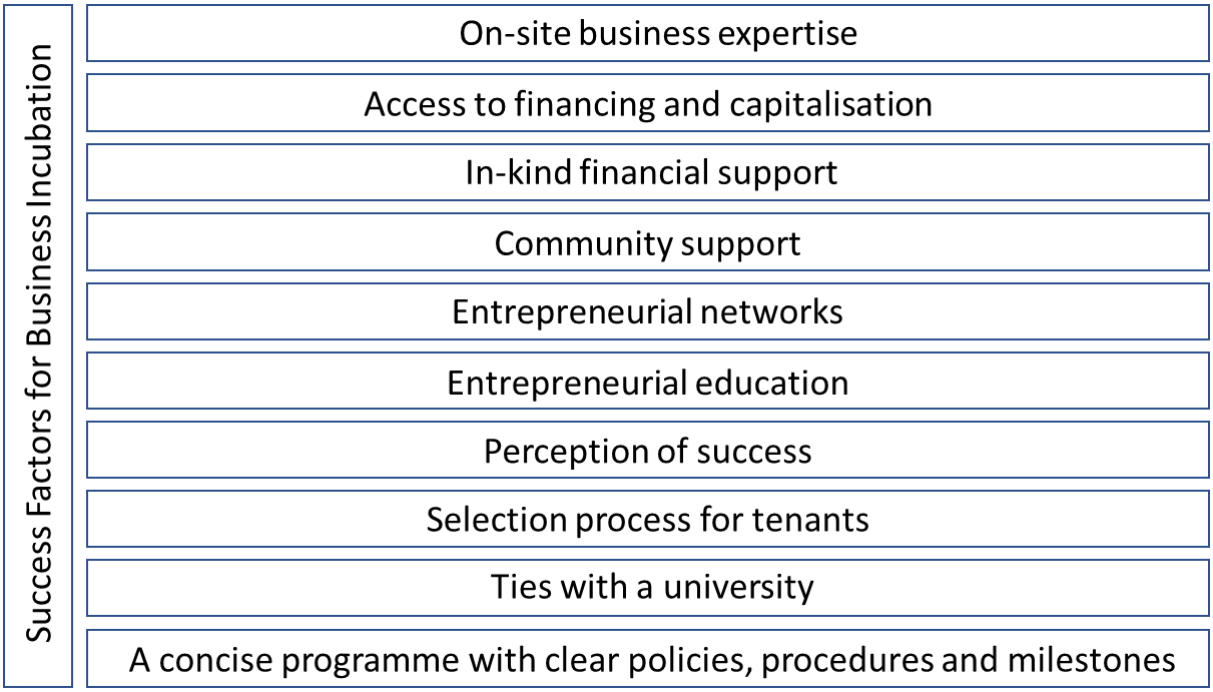


Figure 5: Success Factors for Business Incubation. Source modified from (Theodorakopoulos et al., 2014)

Though business incubators may be heralded as imperative supporting pillars for entrepreneur's growth, they are not without shortfalls. As discussed earlier, incubators are expected to provide more than facility support and (Mas-Verdú et al., 2015) emphasised this point through their findings that incubators alone are not sufficient to influence survival likelihood. (Sentana et al., 2017) lists a handful of drawbacks and limitations as well. Their findings are that the dependency on government aids and subsidies; regional clusters of incubators based on political influences without taking socioeconomic considerations; lack of validated evidence to quantify incubator's social profitability related to new jobs created and uncertainty about how incubators increase the likelihood of survival of post-incubated businesses.

The role of Business incubators is increasing. Most corporates deal with decision-making by hiring the services of consultants who most-likely have more experience in the field, however, this may be a valid option for large corporates, but for cash-strapped SMEs, they could require alternative options such as business incubators. There remains a gap in the literature in this field. Acceptance of definitions that offer clarity of the nature of business incubation will move the field forward. Conceptualizing more sophisticated explanations to specify the social "cogs and wheels" that contribute to relationships in incubators is important as it will aid improved rates of new venture creation (Ahmad, 2014).

2.6 Conclusion

Within the context of emerging markets such as South Africa, it appears that the entrepreneurship is growing in its importance for socio-economic growth. Literature from a South African context though still has some catching up to do.

What we know is that business incubators play a positive role in building businesses, although not much is known about what happens to the businesses once they leave business incubation. Business incubation gains much of their positive perception from their work with nascent entrepreneurs who require access to opportunities.

What we don't know from a South African context, is how the history of segregation has affected social capital within the entrepreneur space. With the growing popularity of business incubators, literature needs to fill the gap in the understanding of the relationship between social capital (trust, networks and information sharing) and business incubation.

Risk-taking is seen as synonymous or an integral part of entrepreneurship. Through the access to opportunities, literature suggests that business incubation and risk-taking could have a positive relationship. However, what is unclear is how entrepreneurs perceive the support from their business incubators – a positive or negative perception may have an influence on the appetite for risk-taking by the entrepreneurs.

3. Chapter 3: Research Questions/ Hypothesis

Based on the interpretation of the literature discussed in Chapter 2, it is clear that the constructs discussed in this study are relevant and there is a gap in literature concerning the objectives identified in Chapter 1. It was also revealed in Chapter 2 that there were disparities in the understanding of constructs that are viewed as being important to entrepreneurship such as social capital and business incubation (Albort-Morant & Ribeiro-Soriano, 2016) and (Theodorakopoulos et al., 2014).

The purpose of the research is to determine the nature of the relationship between social capital and the appetite for risk by entrepreneurs within business incubation. There exists vast literature about the constructs individually, albeit from a South African context (Lose et al., 2016) and this study aims to contribute towards South African literature. These disparities in literature offer an opportunity to ask research questions that aim to clarify the understanding of dynamics related to important constructs within entrepreneurship.

Question 1: What is the relationship between business incubator support and appetite for risk-taking for entrepreneurs in business incubation?

The reason for this question is to assess the entrepreneur's perception of the involvement of the incubators and what relationship this may have on their appetite for risk-taking. Thus, this will test whether (Trigeorgis & Jeffrey Reuer, 2017) is correct in their assertion that through the provision of opportunities, the incubator environment has a direct influence on the entrepreneur's appetite for risk.

- H_{01}: Perceived business incubation support has a positive relationship with the appetite for risk-taking of entrepreneurs
- H_{A1}: Perceived business incubation support has a negative relationship with the appetite for risk-taking of entrepreneurs

Question 2: Does the perception of business incubator support have a positive correlation with social capital (trust, networking and information sharing)?

(Mas-Verdú et al., 2015) state that business incubation plays an important role in the social capital of entrepreneurs and literature suggests that there is a positive relationship between business incubation and social capital. Though, (Sørensen & Fassiotto, 2011) and (Dacin et al., 2010) highlight that literature has disparities in its definition of social capital. Thus, this question will address whether the perception of business incubation support and social capital and specifically trust, networking and information sharing of entrepreneurs have a positive relationship from a South African context.

- H_{02}: Perceived business incubation support has a positive relationship with trust

- H_{A2}: Perceived business incubation support has a negative relationship with trust
- H_{03}: Perceived business incubation support has a positive relationship with networking
- H_{A3}: Perceived business incubation support has a negative relationship with networking
- H_{04}: Perceived business incubation support has a positive relationship with information sharing
- H_{A4}: Perceived business incubation support has a negative relationship with information sharing

Question 3: Does social capital (trust, networking and information sharing) have a positive correlation with appetite for risk-taking?

Literature views business incubation and social capital positively (Mas-Verdú et al., 2015) and (Trigeorgis & Jeffrey Reuer, 2017) states that business incubators may have a positive influence on the appetite of risk-taking of entrepreneurship. However, (De Carolis & Saparito, 2006) makes the suggestion that the "bad side" of social capital may lead to a negative relationship between social capital and risk-taking within entrepreneurs. This happens through bad information being shared and tunnel vision/ inertia created through strong ties within networks. This creates a contradiction within literature because business incubation is suggested to have a positive relationship with social capital and appetite for risk-taking, however, within the same business incubation environment, it is suggested that social capital could have a negative relationship with an appetite for risk-taking. (De Carolis & Saparito, 2006) make admissions of limitations of their study and they make recommendations for future studies to take a closer look at constructs such as social capital and risk under different context/ moderating factors.

The reason for this question is to contribute to South African literature on the relationship of two important constructs that can assist business incubators to understand how to garner entrepreneurial growth.

- H_{05}: Trust has a positive relationship with appetite for risk-taking
- H_{A5}: Trust has a negative relationship with appetite for risk-taking
- H_{06}: Networking has a positive relationship with appetite for risk-taking
- H_{A6}: Networking has a negative relationship with appetite for risk-taking
- H_{07}: Information sharing has a positive relationship with appetite for risk-taking
- H_{A7}: Information sharing has a negative relationship with appetite for risk-taking

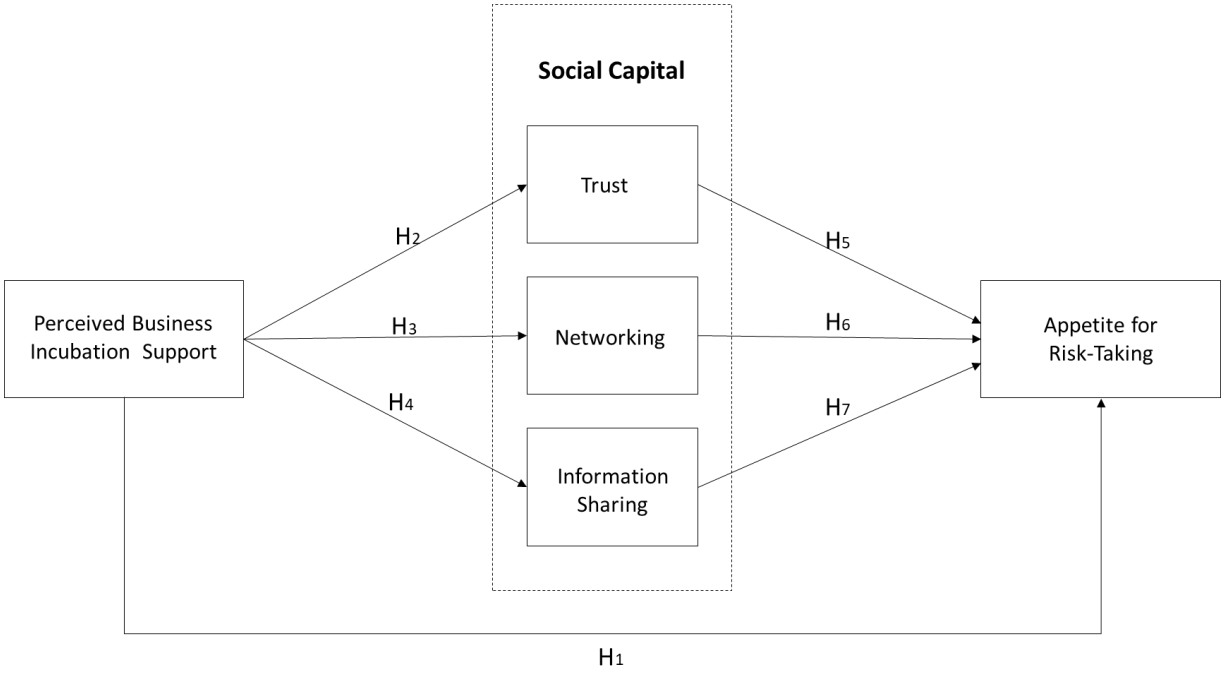


Figure 6: Hypothesis Tree

4. Chapter 4: Research Methodology

Chapter 1 highlighted key issues that require addressing while Chapter 2 revealed where literature currently stands. Chapter 3 presented key questions based on the gaps found in literature. Chapter 4 will describe how the research was conducted in order to accomplish the objectives outlined in Chapter 1.

4.1 Research philosophy

Positivism philosophy was used as the research took a structured approach. Based on the nature of the GIBS MBA thesis, a mono-method and survey strategy were utilised. The objective of the research was to identify the nature of the relationship between constructs.

4.2 Research design

This study was Quantitative and cross-sectional in nature. Only taking a 'snapshot' of the current reality does not offer a full spectrum of what is being observed, but a limitation of this study is the brevity of the study and therefore the cross-sectional approach was ideal. According to (Bell & Bryman, 2015), quantitative research emphasizes the quantification in the collection and analysis of data in a research study. The reason behind the choice to use the quantitative method was based on an observation coming out of the literature review of a strong trend of studies looking into social capital using qualitative methods. This study aimed to contribute towards the field using a quantitative lens with a refreshing perspective adjacent to the trend. An argument made by (Blaikie, 2003) was the risk of manipulation of data when interpreting conversations in qualitative studies is always a concern. (Fremeth, Holburn, & Richter, 2016) follows-up this argument by stating that qualitative results are not easily adapted to the direction or magnitude of a phenomenon's effect. The direction of the relationship of the constructs was important to analyse in this study, hence the quantitative method was implemented.

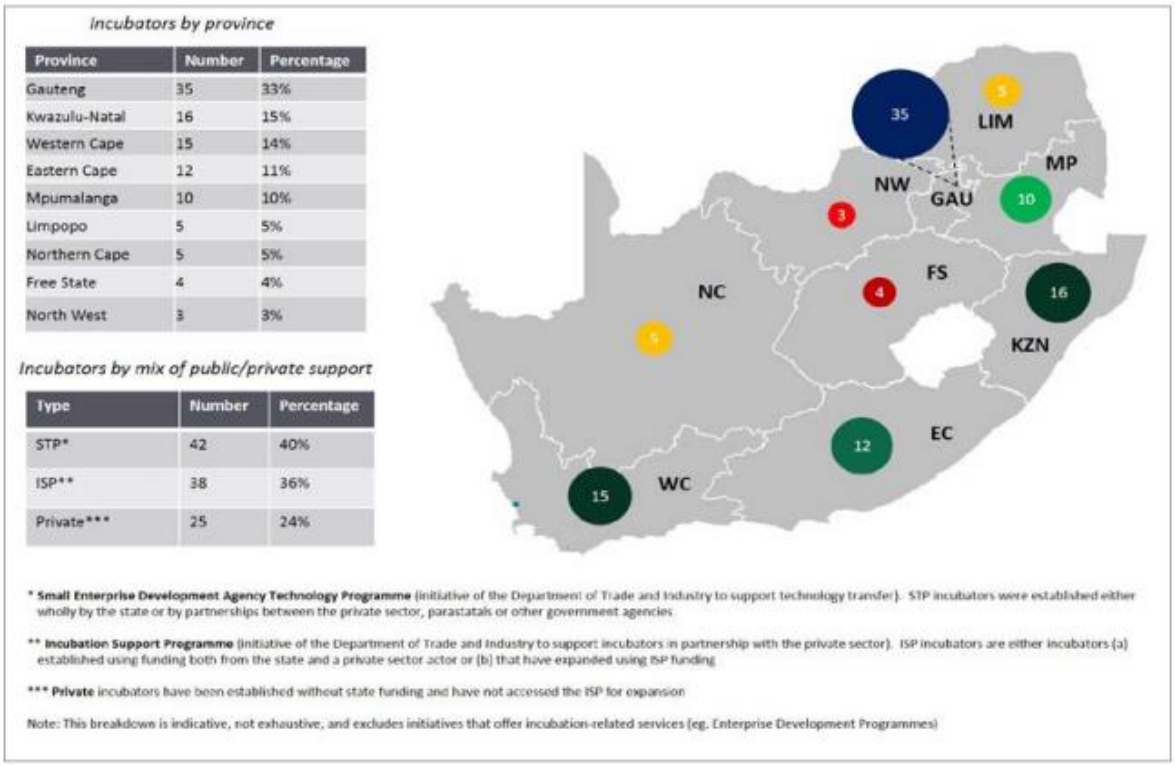
The study sought to describe constructs that are not observable within the reality of entrepreneurs in business incubation and test hypothesis of the relationships between the constructs being studied. Literature held Social Capital and Risk-Taking in positive regard and as being important to entrepreneurship, thus, the research utilised deductive reasoning to describe the dynamics of the relationships of the constructs.

The diagnostic analysis of the entrepreneur's inclination to behave in a certain way was a key objective of the study as explained in Chapter 3. Meaning, the objectives of the research required an exploratory research design that would clarify the ambiguity of correlation between social capital and risk-taking (Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, 2013).

4.3 Population

Chapter 2 highlighted the importance of entrepreneurship in developing countries and also business incubators role in growing entrepreneurship. As can be seen in Figure 7, there were 105 incubators in South Africa, 35 were registered in Gauteng (DTI, 2014). (SABTIA, 2018) offer an updated figure of business incubators and according to their website, the number has grown to approximately 150 in 2018. The researcher could not find a single definitive list including all the business incubators and thus created a limitation to the study. Majority of business incubators are based in the Gauteng province (DTI, 2014), hence the study focused on Business Incubators based in Johannesburg.

Focussing on entrepreneurs in business incubators was based on the fact that extrapolating findings on a population-based on all entrepreneurs, in general, would not have been practical considering the time limitations of the study. According to (SEDA, 2016), South Africa had 2.25million SMMEs in Q2 2015 and the 687 556 that were operating in the Gauteng region have grown by 14%. Thus, justifying this study looking at entrepreneurs within business incubators in Johannesburg.



Incubators by province

Province	Number	Percentage
Gauteng	35	33%
Kwazulu-Natal	16	15%
Western Cape	15	14%
Eastern Cape	12	11%
Mpumalanga	10	10%
Limpopo	5	5%
Northern Cape	5	5%
Free State	4	4%
North West	3	3%

Incubators by mix of public/private support

Type	Number	Percentage
STP*	42	40%
ISP**	38	36%
Private***	25	24%

* **Small Enterprise Development Agency Technology Programme** (initiative of the Department of Trade and Industry to support technology transfer). STP incubators were established either wholly by the state or by partnerships between the private sector, parastatals or other government agencies

** **Incubation Support Programme** (initiative of the Department of Trade and Industry to support incubators in partnership with the private sector). ISP incubators are either incubators (a) established using funding both from the state and a private sector actor or (b) that have expanded using ISP funding

*** **Private** incubators have been established without state funding and have not accessed the ISP for expansion

Note: This breakdown is indicative, not exhaustive, and excludes initiatives that offer incubation-related services (eg. Enterprise Development Programmes)

Figure 7: Geographical Distribution and Mix of Public/ Private Support of Incubators in South Africa. Sourced from (DTI, 2014)

Entrepreneurs were looked at as a homogeneous group. For student research projects, (Thomas, 2011) recommends that students use a homogeneous approach. The nature of their

varying backgrounds/ industries were ignored. Entrepreneurs were purely looked at as members of business incubators. Entrepreneurs in business incubators were judged to be operating on equal grounds without specific demographic advantages or disadvantages. A recommendation for future studies would be to take a stratified approach.

4.4 Unit of analysis

The unit of analysis was the business owners of SMEs participating in the study. As discussed in chapter 2 and according to (Gartner, 1990), there isn't consensus on a single definition of what it means to be an entrepreneur. This study used (Carlsson et al., 2013)'s definition of entrepreneurship to identify business owners who create opportunities and make decisions under uncertainty, within the business incubation environment. This study targeted business owners of the SMEs as they were most likely to have the best exposure to the effects of social capital, decision making authority that involves risk and business incubation support.

4.5 Sampling method

The research utilized nonprobability sampling methods. The reason for this was that the sampling frame could not be developed because as mentioned in section 4.3, the entire list of the population of entrepreneurs in business incubation was unknown. (SABTIA, 2018) gave an estimate of the number of business incubators in South Africa. However, due to the variations in types of business incubation, some formal and others informal, the number of member SMEs the business incubators have compounded by the unclear definition of a business incubator, there was no way the researcher could derive an exhaustive list of target participants. Therefore, random sampling could not be used (Terhanian, Bremer, Olmsted, & Guo, 2016).

This research used Judgemental (Purposive) and Snowballing sampling methods. (Saunders, M. N., & Lewis, 2012) defines Judgemental Sampling as a type of sampling where the researcher uses their judgement to select sample members. The Judgemental (Purposive) approach was an appropriate method for this study because the researcher had to find business incubators that were willing to provide the researcher with permission to send the survey to their entrepreneurs for responses. The researcher searched on the internet and used sources such as (SABTIA, 2018) and (Entrepreneurmag, 2018) among other internet-based platforms. This was a limitation to the research as the research's ability to include a fair representation of entrepreneurs in business incubation relied heavily on the researcher's ability to find and reach to the incubators out using an appropriate channel of communication. Emails with a description of the research and link to the questionnaire were sent to the contact details found from each business incubator. In some cases, the researcher was able to find

the contact details of the business incubator management. Where a response was not forthcoming from the emails, follow-up phone calls were made in an attempt to make the request for responses.

Regarding the Snowballing approach, the survey also requested respondents to forward the link for the questionnaire to other people they believed would be relevant to the study. (Heckathorn & Cameron, 2017) describes Snowball Sampling as a system whereby after the respondent completes the survey, they identify subsequent respondents to complete the survey. The researcher strived to collect as rich quality of data as possible and deemed that the snowball sampling technique was beneficial for the study because this made use of the respondent's network and it allowed for a greater number of responses. The snowballing technique also means that respondents are likely to share the online survey with other people who are like them which will contribute to a more homogeneous sample (Zikmund et al., 2013).

4.6 Sample size

A total of 66 responses were collected through the electronic survey. The researcher was surprisingly not able to determine the number of SMEs that are currently in business incubation in South Africa. Most business incubators that participated in the study did not wish to disclose that kind of information. Credible institutions such as (DTI, 2014) could only provide non-exhaustive lists of business incubators, but not the number of SMEs. Thus, the researcher could not even extrapolate the estimate of SMEs in order to realise the response rate. 10 of the responses indicated that they were either not self-employed and/ or not part of an incubation programme. These responses were discarded from the study which left a final sample size of 56 (N=56) responses to be analysed.

In a metanalysis of large sample size research having little effect, (Combs, 2010) argues that the trend and pressure for recent research to have larger and larger sample sizes could possibly have negative effects on the quality of research designs. He continues to state that the power of sample size leads researchers to focus on the significance of small effects. By focussing on construct validity, smaller sample size research can contribute to theoretical and managerial knowledge (Combs, 2010).

Survey fatigue, which is the incremental disinterest from participants to participate in research surveys due to an abundance of requests from multiple researchers (Savage & Waldman, 2008), is a reality, especially in the business incubation scene. As discussed in Chapter 2, the growing interest in business incubation has meant more studies being done on the limited business incubators available and nonresponse error could have occurred (Zikmund et al., 2013). The low number of responses could have also been a result of the proliferation of no contact, which according to (Zikmund et al., 2013) is the inaccessibility of people following attempts of contacting the respondents.

4.7 Measurement instrument

Primary instruments were used to conduct this study and the data was collected using “Survey Monkey” and electronic links to the questionnaire were emailed to business incubation managers. Electronic surveys are a quick, cost-effective and reasonably simple method of collecting data (Blasius & Brandt, 2010) and was justified for this type of research. (Blasius & Brandt, 2010) describe a downside of electronic surveys as dependency on the availability of internet access, however, the researcher argues that for the type of entrepreneurs and business incubators the researcher approached, this was not an issue.

Even though the incubator managers were sent emails requesting permission to conduct the research on their member entrepreneurs, a consent form was attached to the survey to ensure that participants understood the reason for the research and that they could exit the research at any point they wanted. The consent letter can be found in Appendix B. This contributed to the legitimacy of the study.

Keeping the data confidential and exclusively for the use of the study was a top priority of the research. A benefit of using surveys sent electronically was that participants had the opportunity to keep their responses anonymous. Their personal information and the names of their businesses were not integral to the objectives of the research and therefore not requested.

The participants were requested to provide their responses using a Likert Scale. Respondents were asked to rate their responses based on true are the statements related to the constructs (i.e. “There is a very high possibility to ask and also to get help from fellow incubator members”). The use of the Likert Scale mirrors the methodology used in (De Carolis et al., 2009)’s study looking at social capital and cognition. The Likert Scale interval was consistent throughout all the sections measuring the different constructs and the range of the interval was from 1 = “Strongly Disagree to 5 = “Strongly Agree”.

Table 2: 5-Point Likert Scale

5	Strongly Agree
4	Agree
3	Neutral
2	Disagree
1	Strongly Disagree

The survey was divided up into 6 sections including demographics, the appetite for risk, networking, trust, information sharing and perceived support from incubation environment.

The questions for the survey were adapted from studies that were looking at similar constructs. The full survey can be seen in Appendix C.

Table 3: Table with Survey Details

Section	Construct	Number of Questions	Article
1.	Demographics	5	Self-Generated
2.	Appetite for Risk	9	(Curry, 2014)
3.	Networking	14	(Gamba, 2017)
4.	Trust	6	(Ellison, Steinfield, & Lampe, 2006)
5.	Information Sharing	6	(Ebewo, 2017)
6.	Perceived Support from Incubation Environment	7	(Gamba, 2017)

4.7.1 Demographics

(Spector & Brannick, 2011) recommends the implementation of control variables to mitigate the contamination or distortion of the relationships being observed. The dangers of this mechanism are that if the research does a poor job of interpreting variables that are relevant, this can lead to inaccurate results. The survey collected demographic profile information as a control variable.

The questions for demographics requested information of Age, Gender and Education of the participants. This would allow for the observation to be made if biases amongst the different demographics exist such as younger people having higher risk appetites versus their older counterparts. Other examples of observations made from demographic data could be whether or not the responses were skewed heavily for a specific gender group and if the level of education could influence the participant's perception of the quality of information shared.

To protect the validity of the research, participants were given the opportunity to send anonymous responses. Thus, the research did not collect information about the participant's identity, the name of their business or the business incubator they were part of. The research dealt with sensitive and confidential information such as the entrepreneur's perception of how much support they were getting from their business incubator. (Klein, Maher, & Dunnington, 1967) highlight the threat of response distortion that identification of respondents may have.

The researcher did not want respondents to be influenced by the possibility of their business incubator seeing their responses and thus, not giving honest responses.

The final questions in the demographics section asked participants to confirm whether or not they were self-employed because the study was seeking the business owners. The participants were also asked if they were part of a business incubation programme. Responses to these questions would indicate the suitability of the participant's involvement in the study which mitigated the effects of the snowballing technique reducing the researcher's ability to target suitable participants.

A weakness of this design was that in the attempt to keep the questionnaire short in order to improve response rates and decrease response fatigue (Deustkens, Ruyter, Wetzels, & Oosterveld, 2004) and (Savage & Waldman, 2008), a lot of possible questions were left out of the questionnaire. Questions such as the size of the business, time (months/years) spent under incubation, industry, location etc were deliberately not asked and a recommendation for future studies is to include such variables.

4.7.2 Appetite for risk-taking

The questions for appetite for risk-taking were taken from the Domain-Specific Risk-Taking Scale (DOSPERT) (Curry, 2014). The researcher utilised 9 questions aimed to provide a descriptive view of the participant's attitude and propensity for making risky decisions. The researcher favoured the use of this instrument because entrepreneurs work in risky environments and in order to succeed, they need to make risky financial decisions (Curry, 2014).

4.7.3 Social capital (trust, networking and information sharing)

In this study, trust, networking and information sharing were studied as latent variables of social capital. (Ellison et al., 2006) offered 6 questions for Trust, (Gamba, 2017) provided 14 questions to measure Networking and 6 questions were taken from a study by (Ebewo, 2017) to measure information sharing. Studies such as (De Carolis & Saparito, 2006) speak at length about the role that trust, information sharing and networking play in social capital. Thus, giving the researcher confidence in the utilisation of this research instrument.

4.7.4 Perceived business incubation support

The 7 questions in this section were sourced from (Gamba, 2017) and aimed to provide insight into how the entrepreneurs felt that they were sufficiently supported by their business incubator. The word "support" is wide in meaning and therefore the questions cast a wide net

that covered topics that (Gamba, 2017) felt in their study covered how entrepreneurs perceived support from their incubators.

4.8 Data gathering process

The researcher identified incubation hubs where entrepreneurs can be found within Gauteng's major metropolitans. An email requesting that the Survey Monkey questionnaire be disseminated to member entrepreneurs was sent to the incubator's management. An example of an email sent to the business incubator management can be found in Appendix D. These communications were sent out as soon as the researcher received ethical clearance (Appendix A) on 19 July 2018. The researcher never made direct contact with the entrepreneurs and instead used the business incubator's management as a conduit for communication.

In the cases where the researcher was notified that the survey was distributed to the entrepreneurs, the researcher would follow-up at least once to request a reminder be sent to the entrepreneurs to fill out the survey. According to (Deustkens et al., 2004), follow-up mailings and incentives are very important factors for improving the quality of response rate to online surveys. In cases where no responses were forthcoming from the business incubator's management, the researcher would follow up by phone calls and emails in an attempt to get participation for the study.

On 21 September 2018, after about 2 months of sending requests for participation and follow-up communications, the researcher closed the survey. A total of 63 Business Incubators were sent communications as a request for approval for the researcher to have access to their entrepreneur members to participate in the study. However, even after follow-up communications, it was unclear how many of the business incubators forwarded the survey to their entrepreneurs.

As a result of the fact that it was unclear of how many business incubators participated in the study, the snowballing request included in the emails and also compounded by the fact that some business incubators would not disclose the number of entrepreneurs within their organisation, the researcher was unable to determine the response rate to the survey. Without the understanding of a number of responses per business incubation, the researcher was unable to control for weighting bias. Thus, the study could not prevent the data being skewed by perceptions coming from a few very large incubators.

Following the analysis of the results of the study, the researcher sent the findings of the study as a token of appreciation to the business incubator and its entrepreneurs for participating in the study.

4.9 Analysis approach

4.9.1 Cleaning the data

Once the Survey Monkey link was closed, the researcher extracted the data collected in the format of an MS Excel spreadsheet. A total of 66 responses were gathered for the study. The data was then observed and cleaned of obvious errors. 10 respondents indicated that they were not self-employed. The total number of respondents that indicated that they were not self-employed and/or not part of a business incubator was 10. These 10 responses were removed from the data and the final sample size for the study was 56. The “raw data” of 56 responses were codified and entered into (SPSS).

4.9.2 Performing construct validity

To measure internal validity, Pearson’s bivariate correlation was performed to ensure internal consistency (Kothari, 2004). The cumulative mean of the construct was calculated by compiling the average of the questions within the construct (Davidai & Gilovich, 2016). Then the correlation test was performed against the means of the questions within that construct to see if they had a significant correlation above 95% ($p<0.05$). This would tell us where a question scale ranked against a composite scale (Kothari, 2004).

4.9.3 Measuring reliability

Reliability is defined as the extent to which measurements are repeatable and that external stimulus that create variations in different measurements are a source of measurement error (Cortina, 1993). (Cortina, 1993; Peterson, 1994) discussed the importance and popularity of Cronbach’s Coefficient alpha within academia. Cortina describes the alpha as a generalisable Kuder-Richardson coefficient of relevance because alpha applies to any set of items regardless of the response scale. In order to determine the reliability of the research instrument, Cronbach’s alpha test was performed for each construct. In a study examining the theory and application of Cronbach’s alpha, (Cortina, 1993) expresses how widely Cronbach’s alpha is interpreted. He continues to state that the interpretation of the alpha is based a multitude of factors which may have varying effects on the precision of the alpha (i.e. homogeneity of items). Studies by (Ray, Barney, & Muhanna, 2004) and (Calantone, Garcia, & Dröge, 2003) accepted alphas with the limit of 0.65 and this study chose this level to be satisfactory.

4.9.4 Descriptive statistical analysis

Once the validity and reliability of the instrument were reviewed, descriptive stats were performed in order to get a closer view of the sample. The mean was observed to understand

the central tendency and the average responses. The maximum score indicated the highest response, while the minimum showed the lowest. (Wegner, 2016) highlight the risks of using the minimum and maximum data datapoints for insights as these are the extreme data values that do not provide information about how the data is clustered. The minimum and maximum data points are great though as an indication of spread. Further to this, the researcher utilised observations made from the standard deviation of each construct, which provided insights as to how dispersed the responses were from the mean. (Wegner, 2016) highlight the strength and stability of this technique when used to draw insights from data.

4.9.5 Comparing demographics to the constructs

A one-way ANOVA test was conducted comparing the age, gender and level of education categories to the constructs of the study. This test was appropriate as a (p-value) less than 0.05 would indicate bias amongst the demographic category. Comparing for differences in the means of the demographic categories and constructs is a very useful exercise in research (Kothari, 2004). Demographics have played a role in the distribution of social capital in South Africa (de Beer et al., 2016). Comparing demographics to the constructs will provide insights into whether business incubators need to pay closer attention to certain factors (i.e. age segments or education level) when it comes to certain constructs (i.e. Business Incubation Support or Information Sharing). This could yield great information when business incubators form their strategies.

4.9.6 Establishing relationships between constructs

Pearson's Correlation was used to establish whether or not a relationship exists between demographics and each construct. This test was also done to determine the strength of the relationships (Kothari, 2004). This test contributed to the understanding of how the constructs influence one another in a simple and clear fashion.

4.9.7 Testing the hypothesis

The researcher then finally sought to determine the statistical significance of the independent and dependent variables of the study. The researcher used Structural Equation Modelling (SEM). (Babin & Svensson, 2012) defines SEM as a multivariate technique for research validity and reliability that looks at the linear or causal relationships between multiple exogenous (independent) and endogenous (dependent) constructs through a simultaneous, multiple equation estimation processes. The analysis from the path model would be utilised to identify the significant relationships and what influence the constructs have on one another by observing the path coefficient (McDonald & Ho, 2002). The advantages of using path analysis

are the ability to observe the relationship of constructs at once. The measurement accounts for all variables and relationships of one another all at one time. This is an efficient method which results in less measurement error.

4.10 Limitations

In previous sections, the limitations of the research design were briefly discussed, however, this section will discuss the main limitations. The inability to generate a larger sample size prevented the results of the study being eligible to be inferred to the general population. The prescribed limit of sample size is highly contested with (MacCallum, Widaman, Zhang, & Hong, 1999) citing multiple authors stating that the minimum for such studies should be around the 250 respondents mark. However, (Fritz & Mackinnon, 2007) state that a sample size with a limit of 405 is required. Clearly, consensus with this regard has not been achieved.

The researcher described the efforts taken in an attempt to improve number responses (i.e. emails, phone calls, follow-up communications). It is possible that an effect of survey fatigue restricted the motivations of the entrepreneurs to participate in the study. It was likely that the sample bias left out potential respondents and relied on the researcher's ability to identify and reach out to the business incubators. The judgemental and snowball sampling methods, in combination with the lack of a comprehensive database of business incubators, limited the researcher's ability to mitigate against this limitation. (Heckathorn & Cameron, 2017) highlights a drawback of the snowballing technique which is that compared with statistical methods, snowballing does not allow for control by the researcher for the questionnaire to be sent to suitable participants.

The research's inability to include a sample inclusive of entrepreneurs in business incubations across South Africa and as well as to control the number of responses from within the business incubations (i.e. how many responses were collected from each business incubator), sited non-response error and limited the study's ability to infer the findings from the research to the population. (Zikmund et al., 2013) states though that even with relatively low response rates, it is still possible for the sample to represent the interests of the population.

Obtaining a fair representation of business incubators and entrepreneurs was a weakness of the research design. (Blasius & Brandt, 2010) argue that online samples are biased when it comes to age, gender and education. They state that for example, getting a sample representative for elderly women with low levels of education is disproportionate to young men with high education. Therefore, this study assumed entrepreneurs as a homogeneous group. The researcher argues that this allowed the research to focus on its primary objective within the limited time and resources available. Homogenous samples are preferable for studies using smaller sample sizes (Etikan, 2016).

The questionnaire was kept short and left out questions that could have provided more in-depth insights into the constructs. The study looked at the existence of a correlation between the constructs and the SEM Path Analysis assisted in indicating the linear relationship in which the variables influence each other. This would contribute further to the understanding of social capital and appetite for risk-taking in the business incubator context. Systematic error impacts many studies and the design of this study was prioritised to be suitable with the time and resource limitations.

5. Chapter 5: Results

5.1 Introduction

This chapter outlines the results of the statistical analysis undertaken for this study. The structure of the chapter is as follows. First, the demographic profile of the sample is described. Secondly, the process to determine the construct validity and instrument reliability are discussed. Then, the chapter discusses descriptive analysis of the sample before comparing the demographics of the sample to constructs of the study. Finally, the chapter observes tests to investigate the relationship between constructs and test the hypothesis discussed in Chapter 3.

As discussed in Section 4.8.1, the research collected 66 responses. The researcher removed 10 (15%) of those responses to ensure that the study focussed on self-employed people who were in a business incubation programme to land at a final sample size of 56 (N=56). The 56 responses offered the opportunity to analyse a homogenous group of entrepreneurs which means sample participants are closely similar to one another (Thomas, 2011). The study looked within the business incubation environment and explore the relationship between social capital and appetite for risk that may exist.

5.2 Demographic descriptions of the sample

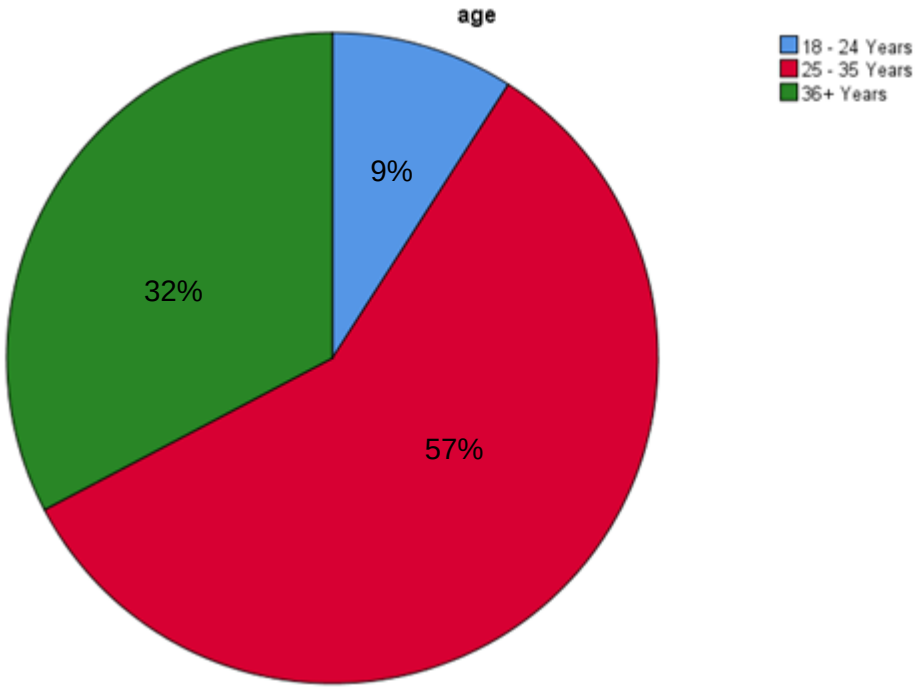


Figure 8: Age Breakdown of Sample

Approximately half (32 (57%)) of responses came from people between the ages of 25-35 years old. The second largest contributors with 18 (32%) responses came from respondents 36 years and older. There was a lack of younger respondents with people 25-35 years old only contributing 5 (9%) of the sample. None of the respondents were younger than 18 years old.

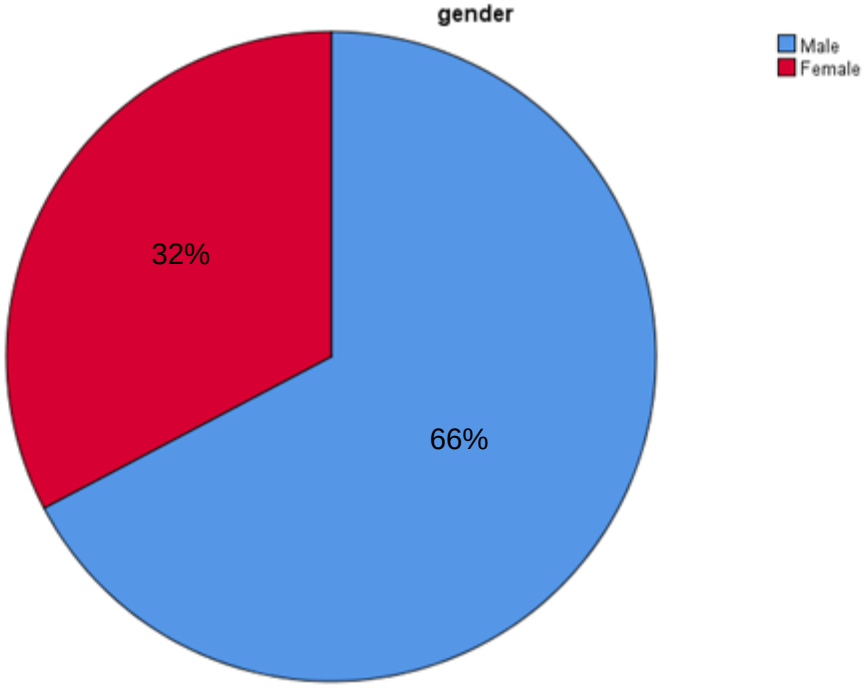


Figure 9: Gender Breakdown of Sample

The sample showed a bias towards male entrepreneurs. 37 (66%) of the sample were male. 1 (2%) respondent opted not to indicate their gender.

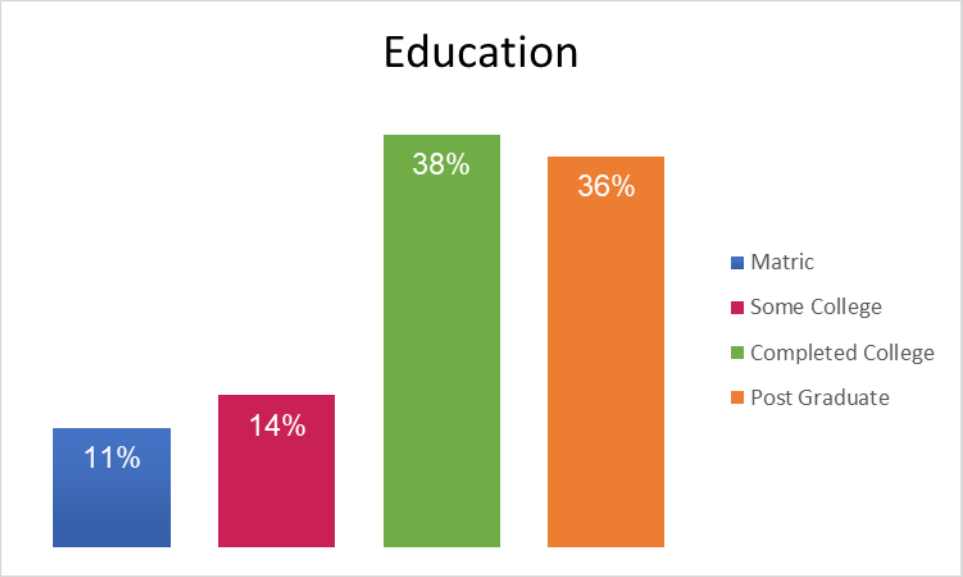


Figure 10: Education Breakdown of Sample

There were no responses from respondents with lower than matric level education. The data showed that the majority of respondents had completed college and postgraduate degrees with 21(38%) and 20 (36%) responses respectively. Other respondents indicated their education as Matric 6 (11%) and some college 8 (14%) while 1 respondent chose not to disclose. Further discussion of the possible implications of the results will be discussed in Chapter 6.

5.3 Construct validity and reliability of the Instrument

Pearson's bivariate correlation was used to determine the validity of the constructs (Kothari, 2004). To measure the reliability of the instrument, the Cronbach's alpha test was performed. For this study, alpha will be acceptable at (α> 0.65). The process for measuring the validity involved four distinct steps. These are:

1) Compute the composite score for the items
2) Run bivariate correlations for all the items in the scale together with the composite one
3) Check the significance of these correlations
4) Drop the items whose correlation to the composite score is not significant

5.3.1 Appetite for risk-taking

The Pearson's bivariate correlation show a strong correlation to the cumulative score of the construct "R". The Pearson's correlation can be viewed in Table 4.

Table 4: Appetite for Risk-Taking Pearson's Correlation

		r1	r2	r3	r4	r5	r6	r7	r8	r9	R
r1	Pearson Correlation										
	Sig. (2-tailed)										
r2	Pearson Correlation	.071									
	Sig. (2-tailed)	.606									
r3	Pearson Correlation	.363**	.209								
	Sig. (2-tailed)	.006	.122								
r4	Pearson Correlation	.555**	.244	.315*							
	Sig. (2-tailed)	.000	.070	.018							
r5	Pearson Correlation	.138	.216	.333*	.292*						
	Sig. (2-tailed)	.309	.110	.012	.029						
r6	Pearson Correlation	.184	-.057	.431**	.260	.092					
	Sig. (2-tailed)	.175	.676	.001	.053	.499					
r7	Pearson Correlation	.141	.266*	.143	.342**	.058	.183				
	Sig. (2-tailed)	.299	.048	.295	.010	.669	.178				
r8	Pearson Correlation	.041	.045	.207	.261	.097	.209	.307*			
	Sig. (2-tailed)	.765	.744	.126	.052	.478	.123	.021			
r9	Pearson Correlation	.081	.085	-.052	.411**	.063	.086	.302*	.258		
	Sig. (2-tailed)	.552	.533	.702	.002	.644	.529	.024	.055		
R	Pearson Correlation	.510**	.478**	.573**	.762**	.458**	.424**	.612**	.458**	.521**	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.001	.000	.000	.000	
**. Correlation is significant at the 0.01 level (2-tailed).											
*. Correlation is significant at the 0.05 level (2-tailed).											

The reliability for the questions related to the appetite for risk-taking is acceptable with a Cronbach's alpha of 0.677. No questions were removed as it would not have resulted in a higher Cronbach's alpha. Therefore all 9 questions will be used to test hypothesis related to the appetite for risk.

Table 5: Appetite for Risk-Taking Cronbach's Alpha

Cronbach's Alpha	N of Items
.677	9

5.3.2 Networking

The Pearson's Bivariate correlation show a strong correlation to the cumulative score of the construct "N". The Pearson's correlation can be viewed in Table 6.

Table 6: Networking Pearson's Correlation

		n1	n2	n3	n4	n5	n6	n7	n8	n9	n10	n11	n12	n14	N
n1	Pearson Correlation														
	Sig. (2-tailed)														
n2	Pearson Correlation	.740**													
	Sig. (2-tailed)	.000													
n3	Pearson Correlation	.746**	.655**												
	Sig. (2-tailed)	.000	.000												
n4	Pearson Correlation	.601**	.659**	.710**											
	Sig. (2-tailed)	.000	.000	.000											
n5	Pearson Correlation	.707**	.528**	.829**	.655**										
	Sig. (2-tailed)	.000	.000	.000	.000										
n6	Pearson Correlation	.674**	.520**	.796**	.560**	.876**									
	Sig. (2-tailed)	.000	.000	.000	.000	.000									
n7	Pearson Correlation	.627**	.459**	.567**	.517**	.738**	.727**								
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000								
n8	Pearson Correlation	.605**	.439**	.635**	.542**	.783**	.822**	.794**							
	Sig. (2-tailed)	.000	.001	.000	.000	.000	.000	.000							
n9	Pearson Correlation	.510**	.252	.471**	.411**	.589**	.528**	.595**	.611**						
	Sig. (2-tailed)	.000	.061	.000	.002	.000	.000	.000	.000						
n10	Pearson Correlation	.320*	.230	.292*	.333*	.368**	.289*	.348**	.374**	.460**					
	Sig. (2-tailed)	.016	.088	.029	.012	.005	.031	.008	.005	.000					
n11	Pearson Correlation	.586**	.369**	.592**	.425**	.645**	.554**	.513**	.561**	.582**	.376**				
	Sig. (2-tailed)	.000	.005	.000	.001	.000	.000	.000	.000	.000	.004				
n12	Pearson Correlation	.542**	.448**	.595**	.491**	.720**	.688**	.617**	.733**	.779**	.438**	.663**			
	Sig. (2-tailed)	.000	.001	.000	.000	.000	.000	.000	.000	.000	.001	.000			
n14	Pearson Correlation	.579**	.577**	.651**	.514**	.665**	.732**	.670**	.729**	.629**	.362**	.523**	.693**		
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.006	.000	.000		
N	Pearson Correlation	.814**	.685**	.847**	.746**	.897**	.857**	.803**	.849**	.728**	.493**	.725**	.821**	.810**	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
**. Correlation is significant at the 0.01 level (2-tailed).															
*. Correlation is significant at the 0.05 level (2-tailed).															

The reliability of the instrument observing networking yielded a Cronbach's alpha of 0.946. However, as can be seen in Table 7, upon removing questions r10 and r13, the Cronbach's alpha improves to an impressive 0.950 which the researcher found to be acceptable.

Table 7: Networking Cronbach's Alpha

Cronbach's Alpha	N of Items
.950	12

5.3.3 Trust

The Pearson's bivariate correlation show a strong correlation to the cumulative score of the construct "T". The Pearson's correlation can be viewed in Table 8.

Table 8: Trust Pearson's Correlation

		t1	t2	t3	t5	T
t1	Pearson Correlation					
	Sig. (2-tailed)					
t2	Pearson Correlation	.783**				
	Sig. (2-tailed)	.000				
t3	Pearson Correlation	.480**	.493**			
	Sig. (2-tailed)	.000	.000			
t5	Pearson Correlation	.612**	.599**	.643**		
	Sig. (2-tailed)	.000	.000	.000		
T	Pearson Correlation	.826**	.824**	.729**	.850**	
	Sig. (2-tailed)	.000	.000	.000	.000	
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

The Cronbach's alpha was found to be 0.848. Question t4 was removed which and the Cronbach's alpha test run again which yielded a new Cronbach's alpha of 0.849. The researcher removed question t6 which improved the Cronbach's alpha to 0.855. As can be seen in Table 9 this Cronbach alpha was acceptable and could not be improved further by the removal of any more questions.

Table 9: Trust Cronbach's Alpha

Cronbach's Alpha	N of Items
.855	4

5.3.4 Information sharing

The Pearson's bivariate correlation show a strong correlation to the cumulative score of the construct "IS". The Pearson's correlation can be viewed in Table 10.

Table 10: Information Sharing Pearson's Correlation

		is1	is2	is3	is4	is5	is6	IS
is1	Pearson Correlation							
	Sig. (2-tailed)							
is2	Pearson Correlation	.430**						
	Sig. (2-tailed)	.001						
is3	Pearson Correlation	.344**	.576**					
	Sig. (2-tailed)	.009	.000					
is4	Pearson Correlation	.632**	.401**	.363**				
	Sig. (2-tailed)	.000	.002	.006				
is5	Pearson Correlation	.507**	.386**	.497**	.630**			
	Sig. (2-tailed)	.000	.003	.000	.000			
is6	Pearson Correlation	.767**	.412**	.415**	.711**	.666**		
	Sig. (2-tailed)	.000	.002	.001	.000	.000		
IS	Pearson Correlation	.796**	.682**	.689**	.805**	.801**	.861**	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
**. Correlation is significant at the 0.01 level (2-tailed).								
*. Correlation is significant at the 0.05 level (2-tailed).								

The results of the Cronbach's alpha test ran on the construct of information sharing provided an alpha of 0.865. As can be seen in Table 11, removing any more questions would have not improved the alpha.

Table 11: Information Sharing Cronbach's Alpha

Cronbach's Alpha	N of Items
.865	6

5.3.5 Perceived business incubation support

The Pearson's bivariate correlation show a strong correlation to the cumulative score of the construct "PBIS". The Pearson's correlation can be viewed in Table 12.

Table 12: Perceived Business Incubator Support Pearson's Correlation

		pbis1	pbis2	pbis3	pbis5	pbis7	PBIS
pbis1	Pearson Correlation						
	Sig. (2-tailed)						
pbis2	Pearson Correlation	.362**					
	Sig. (2-tailed)	.006					
pbis3	Pearson Correlation	.722**	.641**				
	Sig. (2-tailed)	.000	.000				
pbis5	Pearson Correlation	.668**	.533**	.757**			
	Sig. (2-tailed)	.000	.000	.000			
pbis7	Pearson Correlation	.396**	.496**	.616**	.653**		
	Sig. (2-tailed)	.003	.000	.000	.000		
PBIS	Pearson Correlation	.687**	.728**	.882**	.843**	.778**	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
**. Correlation is significant at the 0.01 level (2-tailed).							
*. Correlation is significant at the 0.05 level (2-tailed).							

The results of the Cronbach's alpha test provided an alpha of 0.862. Question pis6 was removed to improve the alpha to 0.875. Then question pis4 was removed to provide a final alpha of 0.878 as shown in Table 13.

Table 13: Perceived Business Incubator Support Cronbach's Alpha

Cronbach's Alpha	N of Items
.878	5

Thus, in summary, we find that the appetite for risk-taking had the lowest Cronbach's alpha (0.677), while networking had the strongest (0.950). Even though the trust construct had the least number of questions (4), the construct still had a decent alpha (0.855). The constructs information sharing and perceived business incubation support also had decent alphas (0.865) and (0.878) respectively.

Table 14: Summarised Cronbach's Alpha

Variables	Latent Variables	Questions	Cronbach's Alpha
Appetite for Risk-Taking	-	r1,r2,r3,r4,r5,r6,r7,r8,r9	.677
Networking	-	n1,n2,n3,n4,n5,n6,n7,n8,n9, n10,n11,n12,n14	.950
Social Capital	Trust	t1,t2,t3,t5	.855
	Information Sharing	is1,is2,is3,is4,is5,is6	.865
	Perceived Business Incubation Support	pbis1,pbis2,pbis3,pbis5,pbis7	.878

5.4 Descriptive statistical analysis

5.4.1 Appetite for risk-taking

The appetite for the risk-taking questionnaire was developed from 9 questions intended to measure the respondent's attitude towards risk. Chapter 4 describes how Likert scales were used for all constructs and the scale was from 1 "Strongly Disagree" to 5 "Strongly Agree".

Table 15: Appetite for Risk-Taking Questions Mean and Standard Deviation

	Mean	Std. Deviation
r1_I admit that my preferences are different from those of my peers and friends	4.18	.917
r2_I am comfortable with taking short-term gambles	3.48	1.175
r3_I am comfortable with doing things on my own and disagreeing with an authority figure on a major issue	3.95	1.069
r4_I can invest 10% of my annual income in a new business venture	4.13	.992
r5_ I will choose a business venture that I truly enjoy over a more secure one	4.14	.943
r6_I will not shy away from a challenge or speaking my mind	4.46	.687
r7_I will not hesitate to move to a city or town far away from my extended family	3.89	1.275
r8_I am ready to start a new business venture or expand or diversify my current business venture	4.55	.711
r9_I can invest 10% of my annual income in the stock market or bitcoin	2.95	1.354

The overall mean shows that respondents felt that they were neutral or agreed to questions indicating their acceptance for taking risk (M = 3.97; SD = 0.55). The mean was relatively towards the higher end of the scale meaning that most of the respondents agreed with decisions related taking risk. The relatively low standard of deviation indicates that responses were clustered around the mean point and were not scattered widely.

Table 16: Appetite for Risk-Taking Descriptive Statistics

N	Valid	56
	Missing	0
Mean		3.9702
Std. Error of Mean		.07321
Median		4.0000
Mode		4.22a
Std. Deviation		.54782
Variance		.300
Skewness		-.194
Std. Error of Skewness		.319
Kurtosis		-.736
Std. Error of Kurtosis		.628
Range		2.22
Minimum		2.78
Maximum		5.00
Sum		222.33
Percentiles	25	3.5556
	50	4.0000
	75	4.4444

The histogram shows that the data is slightly negatively skewed, although represents a relatively normal distribution. Skewness is -0.194 which has an absolute value smaller than 0.5 which means it is fairly symmetrical (Wegner, 2016).

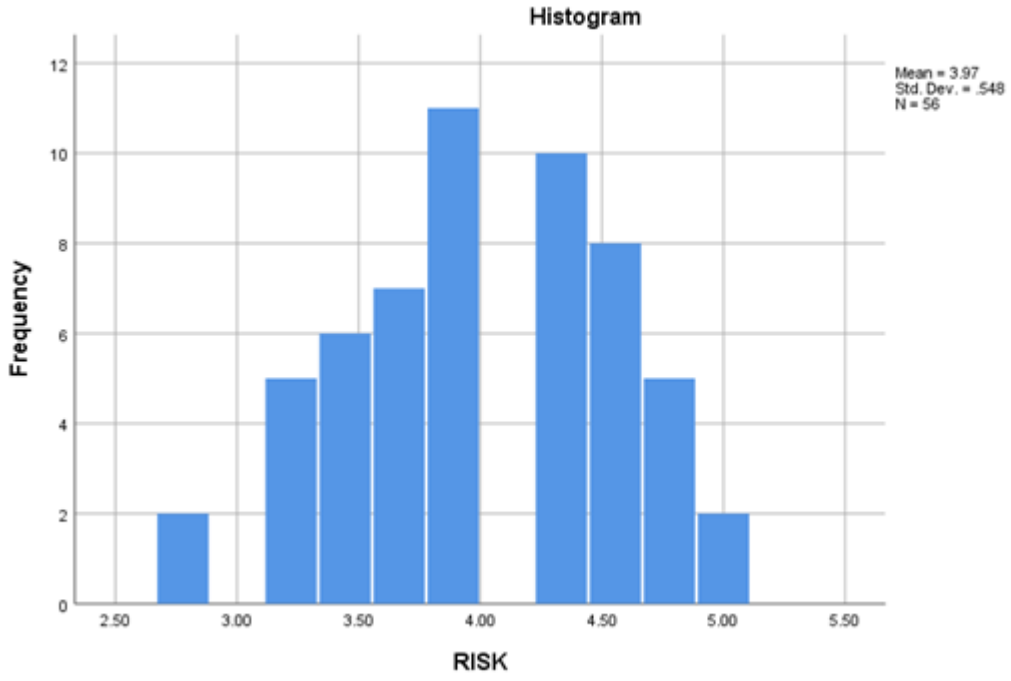


Figure 11: Appetite for Risk-Taking Histogram

5.4.2 Networking

The construct of networking was measured using 12 questions that according to the Pearson's bivariate correlation, showed significant correlation amongst one another.

Table 17: Networking Questions Mean and Standard Deviation

	Mean	Std. Deviation
n1_I feel I am part of the incubator community	3.80	1.069
n2_I am interested in what goes on at my business incubator	4.02	.924
n3_My business incubator is a good place to be	4.14	1.017
n4_I would be willing to contribute money to my business incubator	3.75	1.083
n5_Interacting with people at the incubator makes me want to try out new things	4.11	1.039
n6_Interacting with people at the incubator makes me feel like a part of a larger community	4.04	1.095
n7_At the incubator, I come into contact with new people all the time	3.91	1.032
n8_Interacting with people at the incubator reminds me that everyone in the world is connected	4.21	1.022
n9_There are several people at the incubator I trust to solve my problems	3.55	.971
n11_There is someone at the incubator I can turn to for advice about making very important decisions	3.71	1.187
n12_The people I interact with at the incubator would be good trade references for me	3.82	.974
n14_I would be able to find information about a business opportunity from a member at the incubator	3.82	1.029

The mean and standard deviation results were as follows (M=3.91; SD=0.83). The relatively high mean suggests that the respondents perceive the existence of networking within business incubation.

Table 18: Networking Descriptive Statistics

N	Valid	56
	Missing	0
Mean		3.9077
Std. Error of Mean		.11145
Median		4.0833
Mode		4.25
Std. Deviation		.83404
Variance		.696
Skewness		-1.618
Std. Error of Skewness		.319
Kurtosis		3.385
Std. Error of Kurtosis		.628
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		218.83
Percentiles	25	3.5833
	50	4.0833
	75	4.4792

The histogram shows data that is very positively skewed with a skewness of -1.618. The skewness has an absolute value higher than 0.5 indicating that the data is not normally distributed. The histogram also is indicative of the high kurtosis value of 3.385.

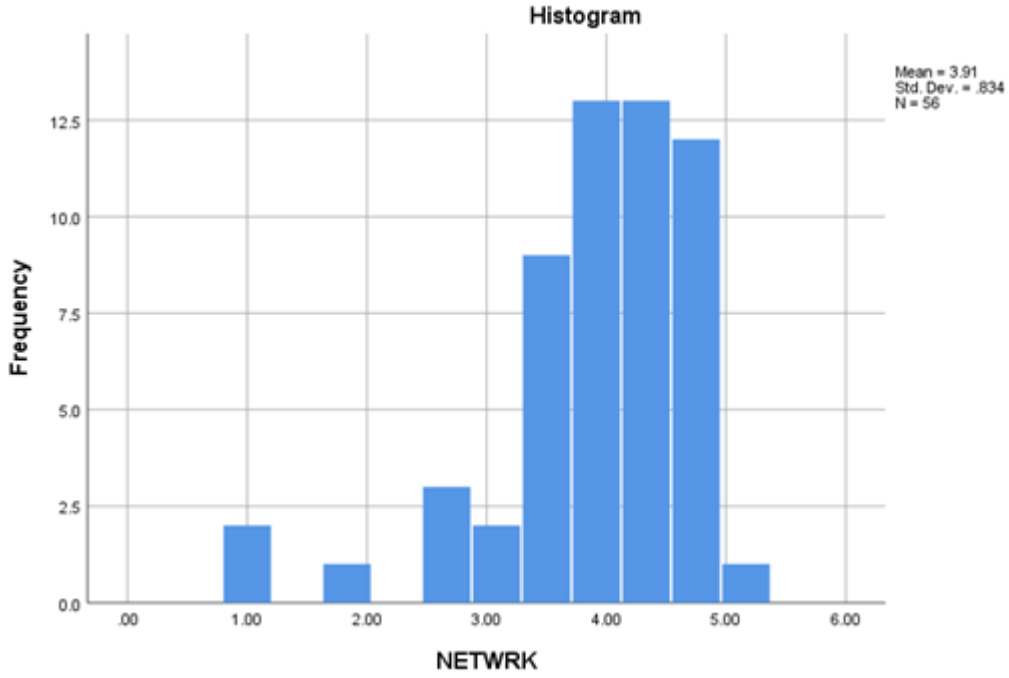


Figure 12: Networking Histogram

5.4.3 Trust

Trust measurement was constructed from 4 questions that according to the Pearson's bivariate correlation, showed significant correlation amongst one another.

Table 19: Trust Questions Mean and Standard Deviation

	Mean	Std. Deviation
t1_I feel valued by the Incubator	3.62	1.027
t2_I trust incubator leaders	3.78	1.031
t3_I trust members of the incubator	3.82	.796
t5_There is a very high possibility to ask and also to get help from fellow incubator members	3.84	.918

For the construct trust, we find the following results for the mean and standard deviation, (M=3.79; SD=0.80). The relatively high mean for trust suggests a consensus of trust within business incubation.

Table 20: Trust Descriptive Statistics

N	Valid	56
	Missing	0
Mean		3.7857
Std. Error of Mean		.10706
Median		4.0000
Mode		4.00
Std. Deviation		.80118
Variance		.642
Skewness		-.385
Std. Error of Skewness		.319
Kurtosis		.295
Std. Error of Kurtosis		.628
Range		3.75
Minimum		1.25
Maximum		5.00
Sum		212.00
Percentiles	25	3.2500
	50	4.0000
	75	4.5000

The histogram shows that the data is fairly negatively skewed, although represents a relatively normal distribution. Skewness is -0.385 which has an absolute value smaller than 0.5 which means it is fairly symmetrical (Wegner, 2016).

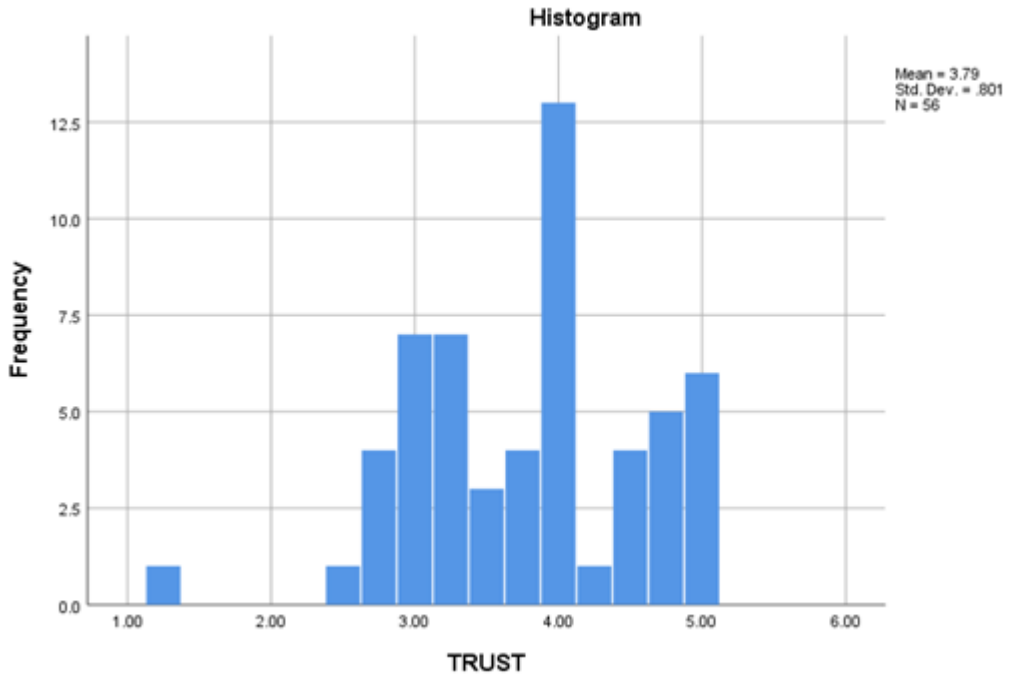


Figure 13: Trust Histogram

5.4.4 Information sharing

The construct Information Sharing was constructed from 6 questions that according to the Pearson's bivariate correlation, showed significant correlation amongst one another.

Table 21: Information Sharing Questions Mean and Standard Deviation

	Mean	Std. Deviation
is1_The incubator hosts meetings and events for members to share information about businesses	3.75	1.132
is2_Incubator members visit each other often to exchange ideas	3.27	1.036
is3_I hold telephone conversations on entrepreneurship with fellow incubator members	2.96	1.144
is4_The incubator is a source of knowledge and appropriate information on entrepreneurship	3.82	1.081
is5_The incubator is my first choice of information source on businesses	3.29	1.171
is6_The incubator promotes information sharing	3.59	1.156

The results of the mean and standard deviation were as follows, (M=3.45; SD=0.87). The mean is not high and suggests that most respondents were neutral about information sharing in business incubation.

Table 22: Information Sharing Descriptive Statistics

N	Valid	56
	Missing	0
Mean		3.4464
Std. Error of Mean		.11577
Median		3.5833
Mode		4.00
Std. Deviation		.86638
Variance		.751
Skewness		-.215
Std. Error of Skewness		.319
Kurtosis		-.791
Std. Error of Kurtosis		.628
Range		3.33
Minimum		1.67
Maximum		5.00
Sum		193.00
Percentiles	25	2.8333
	50	3.5833
	75	4.0000

The histogram shows that the data is fairly negatively skewed, although represents a relatively normal distribution. Skewness is -0.215 which has an absolute value smaller than 0.5 which means it is fairly symmetrical (Wegner, 2016).

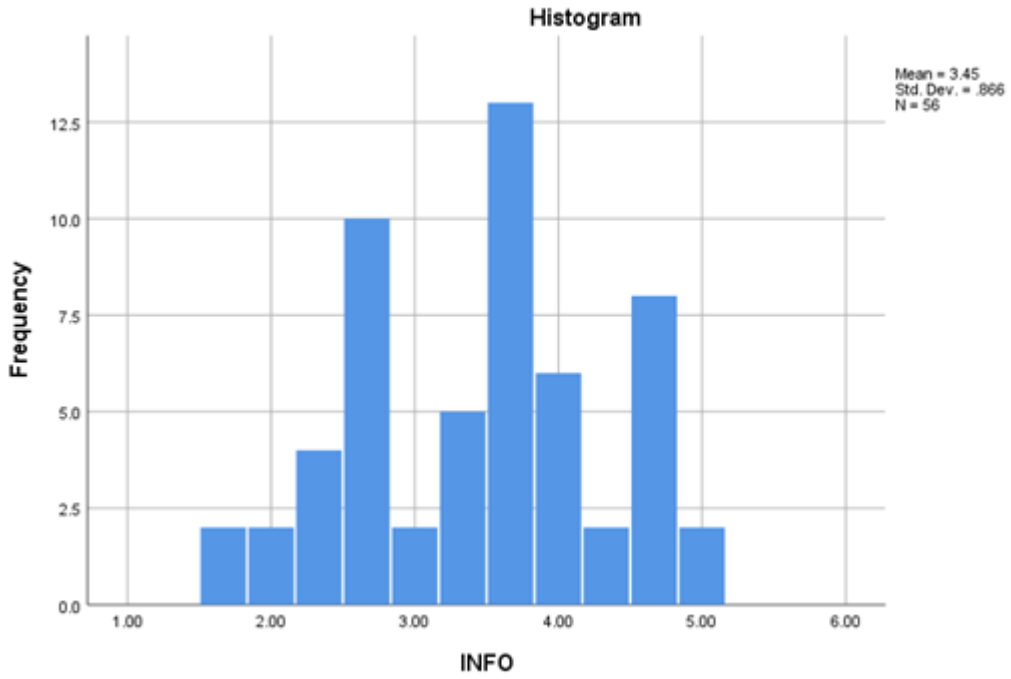


Figure 14: Information Sharing Histogram

5.4.5 Perceived business incubation support

The construct Information Sharing was constructed from 5 questions that according to the Pearson's bivariate correlation, showed significant correlation amongst one another.

Table 23: Perceived Business Incubation Support Questions Mean and Standard Deviation

	Mean	Std. Deviation
pis1_At my incubator, people are actively encouraged to pursue their own business ideas	3.93	.900
pis2_In my incubator, you get to meet lots of people with good ideas for a new business	4.00	.839
pis3_Entrepreneurship subjects at my incubator prepare me adequately for an entrepreneurial career	3.76	.999
pis5_I know many people from my incubator who have successfully started their own businesses	3.84	1.050
pis7_My incubator has infrastructure in place to support the start-up of new businesses	3.95	.911

For the construct trust, we find the following results for the mean and standard deviation, (M=3.88; SD=0.77). The relatively high mean for trust suggests a consensus of trust within business incubation.

Table 24: Perceived Business Incubator Support Descriptive Statistics

N	Valid	56
	Missing	0
Mean		3.8830
Std. Error of Mean		.10294
Median		4.0000
Mode		3.60a
Std. Deviation		.77032
Variance		.593
Skewness		-.349
Std. Error of Skewness		.319
Kurtosis		-.409
Std. Error of Kurtosis		.628
Range		3.00
Minimum		2.00
Maximum		5.00
Sum		217.45
Percentiles	25	3.4000
	50	4.0000
	75	4.4000

The histogram shows that the data is fairly negatively skewed, although represents a relatively normal distribution. Skewness is -0.349 which has an absolute value smaller than 0.5 which means it is fairly symmetrical (Wegner, 2016).

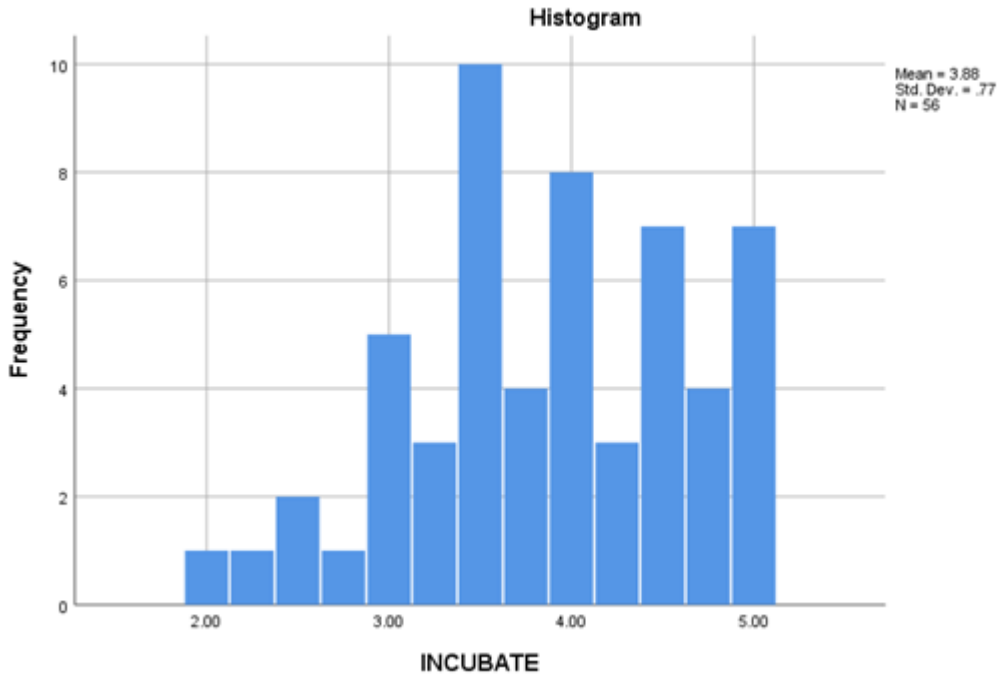


Figure 15: Perceived Business Incubator Support Histogram

5.5 Comparing demographics to constructs

As per section 4.9.5, one-way ANOVA tests were done to determine whether there was a significant difference across the different demographic categories with a confidence level of 95% ($p<0.05$).

5.5.1 Comparing Scores by age

Only information sharing shows a significant difference at a 5 per cent confidence across the different age groups.

Table 25: Age Group ANOVA

APPETITE FOR RISK-TAKING					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.513	2	.757	2.636	.081
Within Groups	14.928	52	.287		
Total	16.441	54			
NETWORKING					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.315	2	.658	.961	.389
Within Groups	35.579	52	.684		
Total	36.895	54			
TRUST					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.261	2	1.130	1.840	.169
Within Groups	31.951	52	.614		
Total	34.211	54			
INFORMATION SHARING					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4.864	2	2.432	3.597	.034
Within Groups	35.158	52	.676		
Total	40.022	54			
PERCEIVED BUSINESS INCUBATION SUPPORT					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.188	2	.594	1.008	.372
Within Groups	30.655	52	.590		
Total	31.842	54			

5.5.2 Comparing scores by gender

None of the constructs suggests a difference based on the demographic category at a significance level of 0.05.

Table 26: Gender Group ANOVA

APPETITE FOR RISK-TAKING					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.660	1	.660	2.215	.143
Within Groups	15.782	53	.298		
NETWORKING					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.077	1	.077	.111	.740
Within Groups	36.817	53	.695		
Total	36.895	54			
TRUST					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.125	1	.125	.195	.661
Within Groups	34.086	53	.643		
Total	34.211	54			
INFORMATION SHARING					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.051	1	1.051	1.429	.237
Within Groups	38.972	53	.735		
Total	40.022	54			
PERCEIVED BUSINESS INCUBATION SUPPORT					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.018	1	.018	.030	.863
Within Groups	31.824	53	.600		
Total	31.842	54			

5.5.3 Comparing scores by level of education

None of the constructs suggests a difference based on the demographic category at a significance level of 0.05.

Table 27: Level of Education ANOVA

APPETITE FOR RISK-TAKING					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.442	3	.481	1.634	.193
Within Groups	14.999	51	.294		
Total	16.441	54			
NETWORKING					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.289	3	.430	.615	.608
Within Groups	35.606	51	.698		
Total	36.895	54			
TRUST					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.439	3	.146	.221	.881
Within Groups	33.773	51	.662		
Total	34.211	54			
INFORMATION SHARING					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.143	3	.381	.500	.684
Within Groups	38.879	51	.762		
Total	40.022	54			
PERCEIVED BUSINESS INCUBATION SUPPORT					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.623	3	.208	.339	.797
Within Groups	31.220	51	.612		
Total	31.842	54			

5.6 Establishing relationships between constructs

The correlation test across the constructs revealed that all constructs are significantly correlated at a confidence level above 0.05. Across the constructs, we see significant correlations of a positive nature.

Risk and Networking showed a significant correlation of 0.438. The strength of the correlation was noticeable, however, due to the fact the test viewed the correlation in isolation, too many inferences are not made. Risk had a significant correlation with Networking (0.438). Risk and Trust had a significant correlation of 0.329. Risk had a significant correlation with Information Sharing of 0.305. Risk had a significant correlation with Business Incubation of 0.280. This test was able to provide early indications of the relationships of the constructs, however, was not able to indicate independent and dependent variables.

Table 28: Correlation Between Constructs

		RISK	NETWRK	TRUST	INFO	INCUBATE
RISK	Pearson Correlation					
	Sig. (2-tailed)					
NETWRK	Pearson Correlation	.438**				
	Sig. (2-tailed)	.001				
TRUST	Pearson Correlation	.329*	.770**			
	Sig. (2-tailed)	.013	.000			
INFO	Pearson Correlation	.305*	.696**	.798**		
	Sig. (2-tailed)	.022	.000	.000		
INCUBATE	Pearson Correlation	.280*	.691**	.807**	.831**	
	Sig. (2-tailed)	.037	.000	.000	.000	
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

The Correlation of Table 28 suggested that strong relationships exist across all constructs which were already alluded by literature. The table indicated significant relationships for all of the constructs (Appetite for Risk-Taking, Networking, Trust, Information Sharing and Perceived Business Incubation Support).

5.7 Testing hypothesis

This section re-caps the hypothesis of the study. Secondly, the process used to test the hypothesis is discussed. Thirdly, the results of the test are provided and finally, the results are interpreted in preparation of the discussion in Chapter 6.

5.7.1 The hypothesis of the study were:

- H_{01}: Perceived business incubation support has a positive relationship with the appetite for risk-taking of entrepreneurs
- H_{A1}: Perceived business incubation support has a negative relationship with the appetite for risk-taking of entrepreneurs
- H_{02}: Perceived business incubation support has a positive relationship with trust
- H_{A2}: Perceived business incubation support has a negative relationship with trust
- H_{03}: Perceived business incubation support has a positive relationship with networking
- H_{A3}: Perceived business incubation support has a negative relationship with networking

- H_{04}: Perceived business incubation support has a positive relationship with information sharing
- H_{A4}: Perceived business incubation support has a negative relationship with information sharing
- H_{05}: Trust has a positive relationship with appetite for risk-taking
- H_{A5}: Trust has a negative relationship with appetite for risk-taking
- H_{06}: Networking has a positive relationship with appetite for risk-taking
- H_{A6}: Networking has a negative relationship with appetite for risk-taking
- H_{07}: Information sharing has a positive relationship with appetite for risk-taking
- H_{A7}: Information sharing has a negative relationship with appetite for risk-taking

5.7.2 Description of test used to test the hypothesis

The path model illustrates through path arcs the relations of dependency, often linearity, of latent variables (McDonald & Ho, 2002). The path coefficients were observed in conjunction with their significance. The path coefficients mean that every time there is an increase of 1 step (on a scale of Likert scale) by the independent variable, then the dependent variable will increase by the value of the path coefficient. The relationships between the constructs business incubation (INCU), trust (TRUST), networking (NETWRK), information sharing (INFO) and appetite for risk-taking (RISK) were measured.

5.7.3 Results of the hypothesis testing

The output as can be seen in Table 16 provide the results of the hypothesis tested. The model below indicates that business incubation and appetite for risk-taking do not have a direct relationship. Business incubation has a linear relationship with information sharing (path=0.89) and business incubation is an independent variable to the dependent variable information sharing. Business incubation has a direct relationship with Trust (path=0.49) and business incubation is an independent variable to the dependent variable trust. Information Sharing has a direct relationship with Trust (path=0.38) and information sharing is an independent variable to the dependent variable Trust. Trust has a direct relationship with Networking (path=0.76) and Trust is an independent variable to the dependent variable Networking. Networking has a direct relationship with Appetite for Risk-Taking (path=0.26) and Networking is an independent variable to the dependent variable Appetite for Risk-Taking.

5.7.4 Interpretation of the results and what they mean

The hypothesis testing was not able to find a significant relationship between business incubation and appetite for risk-taking and Business incubation and Networking. Business

incubation was found to be an independent variable to information sharing and trust. Trust was found to be an independent variable of information sharing and a dependent variable of Networking. Interestingly, the appetite for risk-taking only had one linear relationship and was found to be a dependent variable of Networking. Path analysis repeat in chapter 6

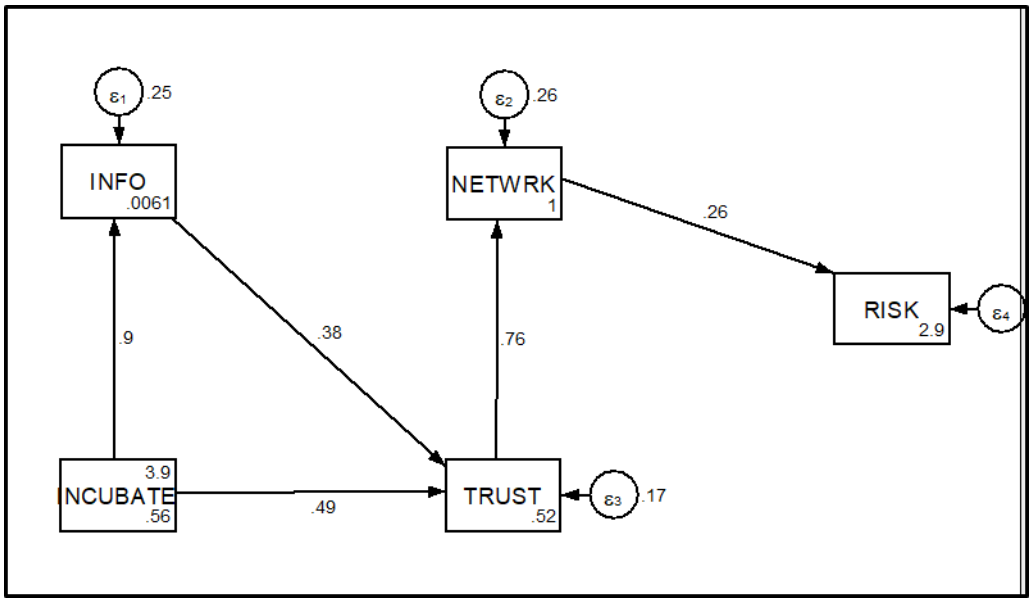


Figure 16: Path Model Coefficient Results

Based on the results from Table 29, the model yielded acceptable fit. The highlighted indices exceeded their required minimum threshold. The (Relative/ Normed Chi-Squared) X2/ df and (Root Mean Square Error of Approximation) RMSEA were less than their thresholds of 3 and 0.08 respectively (Hooper, Coughlan, & Mullen, 2008). The CD (Coefficient of Determination) result was 0.772. This meant that the R squared is high. When analysing a model, the CD informs of the level of accuracy of the model and thus, the model is able to define a very good portion of variables influencing the constructs. CFI (Comparative Fit) and TLI (Tucker Lewis Index) were both greater than their threshold of 0.9 (Hair et al., 2010).

Table 29: Model Goodness of Fit Results

Fit Index	Threshold	Value
X2		4.689
df		5
X2/ df	< 3	.9378
RMSEA	<.08	.000
CFI	>.9	1.000
TLI	>.9	1.003
CD	Close to 1	.772

Table 30 provides an overview/ summary of the findings from the hypothesis testing. The results present interesting findings that appear to have implications on the originally proposed research model Figure 6. Hypothesis 01, 03, 05 and 07 were rejected as they do not appear in Figure 16. Two new relationships were discovered and the resulting impact will be unpacked in Chapter 6.

Table 30: Summary of Hypothesis Testing

Independent Variable	Dependent Variable	Beta Coefficient	P Value	Hypothesis	Conclusion
Perceived Business Incubator Support	Appetite for Risk-Taking	**		H_{01}	Hypothesis rejected
Perceived Business Incubator Support	Trust	.49	.000	H_{02}	Hypothesis accepted
Perceived Business Incubator Support	Networking	**		H_{03}	Hypothesis rejected
Perceived Business Incubator Support	Information Sharing	.89	.000	H_{04}	Hypothesis accepted
Information Sharing	Trust	.38	.000	*	-
Trust	Networking	.76	.000	*	-
Trust	Appetite for Risk-Taking	**		H_{05}	Hypothesis rejected
Networking	Appetite for Risk-Taking	.26	.001	H_{06}	Hypothesis accepted
Information Sharing	Appetite for Risk-Taking	**		H_{07}	Hypothesis rejected
*Was not in Hypothesis Tree (Figure 6)					
**Does not appear in Path Analysis (Figure 16)					

5.8 Conclusion

The strength of the reliability and validity tests performed on the construct and instrument of the study gave the researcher a lot of confidence in that the results of the study would be meaningful. All the constructs yielded results that showed significant correlation and the reliability tests showed acceptable Cronbach's alpha. The descriptive statistics of the sample showed interesting results which gave us a peek into the context of business incubation in

South Africa. The results from the correlation test and path analysis produced rich insights into the dynamics of the relationships of the constructs of the study. The results of the tests conducted in Chapter 5 will be discussed in Chapter 6.

6. Chapter 6: Discussion

6.1 Introduction

This section will take a critical analysis of the statistical results provided in Chapter 5. The researcher was pleased that the research received 100% completion on all the survey responses and this indicated that the participants were interested in the survey. The online survey was emailed to 63 business incubators and a total response of 66 responses from entrepreneurs from those business incubators. The researcher was not able to determine the total number of entrepreneurs from those business incubators as most refused to disclose that kind of information.

The researcher used a feature on survey monkey that required participants to complete a certain percentage of the questions before moving onto the next section of the survey. This may have contributed to the impressive 100% completion from the respondents, the researcher is confident that this did not contribute to the small sample size as the data would have registered people dropping out after filling in the first few questions. The researcher believes that survey fatigue played a large role in the small sample size based on the follow-up calls the researcher made and the feedback that was given by incubator managers. The researcher was confident that even though the limitations of the sample size would not allow for inferences from the study to be made to the general population, key insights can still be drawn from the study to share light and understanding.

Construct validity and reliability was conducted on the research instrument and the results of the tests were encouraging. The Pearson's bivariate correlation showed strong correlations to the cumulative score of all the constructs of the study. This proved internal consistency as the individual questions were related highly to the construct which they were measuring.

Using a Cronbach's alpha > 0.65, the reliability of the measurement instrument was assessed and the results for all of the constructs of the study yielded Cronbach's alpha higher than 0.65. This gave the researcher confidence moving forward that the measurement instruments were appropriate for this study.

The descriptive data which provided an indication of who are the people in the sample are will be discussed. Then the constructs of the study will be discussed based on the findings of the study and the researcher will attempt to make interpretations. The research hypothesis will then be discussed to determine whether or not the themes drawn out of literature to postulate the hypothesis were, in fact, correct, or if the data suggests otherwise. Finally, Chapter 6 provides a discussion of how the research objectives were met before a conclusion is given for the chapter.

6.2 Demographic discussion

The three demographic classifications provide an opportunity for the researcher to observe who the participants are. Based on the theme of literature viewing business incubators positively (Ahmad, 2014), the researcher expected demographic results indicating a fair and inclusive space that welcomed entrepreneurs of varying backgrounds into their doors.

Interesting observations can be made from the proportions of the different age groups. Based on arguments from (Lose et al., 2016), business incubators play a role in fighting poverty through job creation. However, the data contradicts that the business incubation environment is a diverse place where entrepreneurs of all ages can go to get the support they need to run and grow their businesses. (Stats SA, 2017) give the alarming statistic that 54% of the youth in South Africa are unemployed. The data showed that only 9% of the sample were younger than 35 years old and none younger than 18 years old. The research design of self-administered quantitative studies does not allow for the flexibility to ask non-standardised questions and the data begs the question as to why young people are not finding themselves in entrepreneurial positions getting support from business incubators. The reason for the lack of young people could be a symptom of many factors such as tough application requirements for membership into business incubation that young people are unable to satisfy; location of the business incubators not ideal for young people with less resources; business incubators are not seen as helpful or necessary by young people. The researcher acknowledges that reasons as to why young people are not prominent within business incubation is beyond the scope of this study.

The skewed data of gender was not indicative of the positive and noble view that literature has of business incubation (Mas-Verdú et al., 2015) and (Albort-Morant & Ribeiro-Soriano, 2016). The data painted a picture of a male dominant space with it not being clear as to why the responses from genders were not more equal.

There were no responses from respondents with lower than matric level education. This corroborates with age data that showed no entrepreneurs younger than 18 as this is the typical age of someone in matric or younger. The data suggested that the question raised in Chapter 2 if business incubators really contribute towards creating jobs as a valid question to ask. A majority of South Africans were denied access to good schooling and (de Beer et al., 2016) argue that South Africa's oppressive history could have resulted in an unequal distribution of social capital. Business incubators not showing the presence of entrepreneurs without education could possibly be a perpetuation of the exclusion of the majority of South Africans in participating in the economic market. This would be a grandiose assertion to make based on basic demographic statistical analysis. However, it still begs the question as to why business incubators are not helping "uneducated" entrepreneurs, who could be argued as needing the help the most.

6.3 Appetite for risk-taking

The data seems to suggest that there is a consensus that the sample agrees with statements indicating taking risky decisions with a mean of (M=3.97; SD 0.55). This was higher than the midpoint of the Likert scale (2.5). (Block et al., 2015) discuss how entrepreneurs are known to be risk takers so this finding did not come as a surprise and in fact, the researcher expected a relatively high score for risky decisions by the sample. The researcher was validated that the topic of risk-taking is relevant for this sample and therefore justifies studies looking into the construct. The low standard deviation which was way above the midpoint also indicated that not only is the average entrepreneur agreeing that they would make risky decisions, but the majority of the entrepreneurs felt this way.

All the means for the questions within the construct had scores above the midpoint. The question “r8_I am ready to start a new business venture or expand or diversify my current business venture” had the highest mean score of 4.55. The reason why question r8 could have been rated so highly was by virtue of the participants being within a business incubation environment.

This high appetite for risk-taking phenomenon could be explained by a multitude of variables. The first could be very well the nature of the people or entrepreneurs themselves. A question raised the study by (Shane & Venkataraman, 2000) was to determine why certain people take opportunities and others do not. (Román et al., 2013) discussed in Chapter 2 that the reasons why people choose to join entrepreneurship can have an impact on their motivations, capabilities and aptitude for innovation. The varying motivations, capabilities and aptitude could then have a positive influence on their self-efficacy and attitude towards risk-taking.

The next variable that could explain the high appetite for risk-taking could stem from the nature of the SMEs. (Albort-Morant & Ribeiro-Soriano, 2016) and (DTI, 2014) describes that the types of businesses found within business incubators are young and these small to medium enterprises require aid with their early development stages of growth. The aggressive requirements of resources that entrepreneurs need at this early stage of business could influence their appetite for risk-taking.

Finally, the nature of the business incubator’s environment could have an influence on the appetite for risk-taking of the entrepreneurs. Real Options Theory, (Trigeorgis & Jeffrey Reuer, 2017) discusses how risky decision making by entrepreneurs can be influenced by the increased value of having available options during risk events. It’s possible that the support role that business incubators play can create options, or make entrepreneurs aware of options that they have at their disposal. Dyadic Theory was another one of the theories that were touched at a high-level in section 2.2.3 that could explain how business incubators influence

appetite for risk-taking. (Aarstad et al., 2010) discusses how sharing proximity with other entrepreneurs that are driven and motivated, could influence one another.

6.4 Trust

The research was unable to find a significant difference in the responses across the demographic categories and the construct.

The mean of (M=3.79; SD=0.80) for the Trust construct suggested that most of the entrepreneurs in the sample expressed perceived trust within business incubation. Literature had already alluded that the noble intentions of business incubators could generate positive attitudes of trust. In an attempt of explaining how this trust may play out within business incubation, (Scarbrough et al., 2013) describes trust as having three forms which are Characteristic-Based Trust, Process-Based Trust and Institutionally-Based Trust. The responses to questions t5 and t3 could have alluded to the perceived characteristic-based trust and process-based trust. The question “t5_There is a very high possibility to ask and also to get help from fellow incubator members” was an interesting question which had a mean of 3.84 for its responses. This was closely followed by the question “t3_I trust members of the incubator” was an interesting question which received a mean score of 3.82 which are higher than the midpoint of the Likert scale. Business incubators create an environment where similar entrepreneurs or businesses can share proximity and connect with one another on a frequent basis (Kelly, 2017). The data suggests that this communal setup may facilitate the establishment of a relationship with embedded trust.

On the other hand, Institutionally-Based Trust (or lack thereof) may have been exemplified by questions t2 and t1. Questions “t2_I trust incubator leaders” (M=3.78; SD=1.03) and “t1_I feel valued by the Incubator” (M=3.62; SD=1.03) both had standard deviations above 1. This suggested that people were less convinced about the leadership of the business incubators. As discussed in Chapter 2, the real impact of business incubators from a performance as we as a socio-economic perspective is arguable. (Mas-Verdú et al., 2015) may describe business incubators as “catalysts of entrepreneurship” but the high SME failure rates discussed by (Friedrich, 2016) and (Lai et al., 2015) could be perceived by entrepreneurs as a failure by the business incubators to implement the 10 success factors discussed by (Theodorakopoulos et al., 2014). Compounded by the lack of clarity and disparities in defining the role of business incubation, it’s understandable to see why some entrepreneurs may lack faith and trust in the business incubators ability to deliver real impact in their businesses.

6.5 Networks

The relatively high mean of 3.91 suggested that there was a consensus around networking within business incubation. Having received the second highest mean score amongst the construct measured (Appetite for Risk-Taking received the highest mean score), networking appears to be a powerful construct within business incubation.

The construct of Networking showed no difference across the different demographic categories (age, gender and level of education).

The question “n9_There are several people at the incubator I trust to solve my problems” received a mean above the midpoint (M=3.55; SD=0.97) which could be reflective of the context of the business incubator environment. This data seems to be in line with what was discussed in section 6.4. The Characteristic and Process-Based Trust within the business incubation environment seems to be perceived positively by the entrepreneurs. The data could suggest that strong-ties exist within the networks in the business incubators. The suggestion would reflect the works of (De Carolis & Saparito, 2006) which discuss the ease of information sharing due to enhanced trust. (De Carolis & Saparito, 2006) speaks about the structural dimension of social capital which relates to the patterns and connections between actors in a network. Strong bonds could possibly exist within the business incubation environment which allow people to trust each other enough help with each other’s problems. For businesses still in their growth phase, it’s important that the communal environment of business incubation is perceived with trust. This is an indication that social capital is influential within business incubators. Business incubators and entrepreneurs alike should be aware of the elements that influence their access to the networks.

6.6 Information sharing

Information Sharing and Age were the only comparisons of demographics and constructs that proved to have a significant difference of 0.03. This was smaller than the 5% acceptance level for the study. This was an interesting finding as it indicated that the type or quality of information accessed in business incubation, related to certain age groups. The demographic data seemed to show a bias against young entrepreneurs in the business incubation environment. (Sentana et al., 2017) described how business incubators are under pressure to protect and promote funding for their operations. This could influence the requirements for joining business incubation more stringent in order to improve failure rates of incubates. By looking for businesses with experience or showing high chances of exceeding, it could be the case that ageism is a reality in the incubator context. Further studies would be required to substantiate this assertion.

The mean of (M=3.45; SD=0.87) was not that high in Table 21 and that could have possibly been indicative of a multitude of things. (Akram & Kumar Routray, 2013) discusses how

homogenous networks could circulate redundant information while stifling access to innovative or desired resources. In section 6.5 we described how the data suggested that strong ties were at play within the sample. Unlike in strong ties, (Liu et al., 2017) describes how weak ties are found to be effective for ease of new and innovative information proliferating from outside the network. A possible reason for this trend low means within the construct could be that the community forms strong ties within business incubation and the networks do not allow new and fresh into the networks. The question “is3_I hold telephone conversations on entrepreneurship with fellow incubator members” only had a mean of 2.96. The question was specific around “telephone conversations” and could be interpreted as that telephone conversations for incubates are unnecessary as they probably work from the same location. However, it begs the question as to why entrepreneurs in business incubation do not feel more confident to seek or share information with their counterparts.

6.7 Perceived business incubation support

The different demographic categories did not prove to show a significant difference against perceived business incubator support construct.

Question “pis7_My incubator has infrastructure in place to support the start-up of new businesses” received a high mean of (M=3.95; SD=0.91) from the midpoint. This would corroborate the data from the question “r8_I am ready to start a new business venture or expand or diversify my current business venture” from the Appetite for Risk-Taking construct, which had the highest mean score of 4.55.

According to (DTI, 2014), the three major contributions of business incubators are Business Development Services, Access to physical space and Funding. These are delivered through two types of models: Programme models, which are pre-planned services that happen in a sequence and Product Models which are bespoke services provided to SMEs based on their needs. This definition of the functions of a business incubator is consistent with the definitions provided by (Albort-Morant & Ribeiro-Soriano, 2016; Entrepreneur, 2018; Lai et al., 2015; Mas-Verdú et al., 2015) and (Kelly, 2017). The data from the study would appear to suggest that entrepreneurs perceived the delivery of these services as satisfactory support by the incubators.

The question “pis2_In my incubator, you get to meet lots of people with good ideas for a new business” received a high mean of (M=4.00, SD=0.84). This suggested a consensus among the sample regarding the strength of the networks within the business incubation context.

6.8 Hypothesis 1

H_{01}: Perceived business incubation support has a positive relationship with the appetite for risk-taking of entrepreneurs

H_{A1}: Perceived business incubation support has a negative relationship with the appetite for risk-taking of entrepreneurs

6.8.1 Results of hypothesis testing

The results from the path analysis indicated that there was no linear relationship between business incubation and appetite for risk-taking. Thus, both null and alternative hypothesis are rejected.

6.8.2 Discussion from literature

This finding seems to go against the prominent suggestions made by literature. The availability of options was highlighted as a key component of driving entrepreneurs' risky decisions. With business incubators fulfilling the support role for young and growing businesses, it was assumed that business incubation would influence the appetite for risk-taking directly. The rejection of both the null and alternate hypothesis means that the study could not find a linear relationship. In Chapter 2, (De Carolis & Saparito, 2006) highlighted the possibilities of social capital preventing opportunities through impenetrable strong ties within networks. This suggests that the networks in business incubators are too dense and tightly packed to allow fresh and innovative information to enter and present new opportunities. Alternatively to this, (Liu et al., 2017) suggest through Social Network Theory, entrepreneurs need good and strong connections in their networks and perhaps the respondents of this study were not urged strongly enough by their peers to take risky decisions. Other explanations could be that business incubators are not providing entrepreneurs with the options they need to make risky decisions. Real Options Theory suggests that decisions made in risk events are made easier when decision makers perceive the availability of options (Trigeorgis & Jeffrey Reuer, 2017). These opposing views are strong points and explanations, however, the hypothesis remains inconclusive.

6.9 Hypothesis 2

H_{02}: Perceived business incubation support has a positive relationship with trust

6.9.1 Results from hypothesis testing

The path analysis indicated that there is a linear relationship between business incubation and trust. Business incubation is an independent variable while trust is a dependent variable. Thus, the null hypothesis is accepted.

6.9.2 Discussion from literature

When looking at factors that could lead to entrepreneurs trusting business incubators, the 10 success factors for business incubation mentioned in Figure 5 make a good reference point. (Theodorakopoulos et al., 2014) lists the success factors as On-site business expertise; access to financing and capitalisation; in-kind financial support; community support; entrepreneurial networks; entrepreneurial education; perception of success; selection process for tenants; ties with a university and a concise programme with clear policies, procedures and milestones. Should entrepreneurs perception of success be aligned with the business incubators, this could explain why the study's results suggest a positive relationship between perceived business support and trust.

6.10 Hypothesis 3

H_{03}: Perceived business incubation support has a positive relationship with networking

H_{A3}: Perceived business incubation support has a negative relationship with networking

6.10.1 Results from hypothesis testing

The path analysis was not able to find a linear relationship between business incubation and networking. Thus, both null and alternative hypothesis are rejected.

6.10.2 Discussion from literature

A perspective taken from the Dyadic Theory offer interesting insights regarding this finding. (Aarstad et al., 2010) describes Dyadic Theory as networks of firms influencing each other directly or through an intermediary. This was an unexpected finding because an expectation made by literature was that business incubators facilitated the networking of entrepreneurs. This corresponds with the discussion in section 6.8.2 which suggests that business incubators do not influence the networking and the appetite for risk-taking the way literature suggested.

6.11 Hypothesis 4

H_{04}: Perceived business incubation support has a positive relationship with information sharing

6.11.1 Results from hypothesis testing

The path analysis was able to find a linear relationship between business incubation and information sharing. Information sharing is a dependent variable while business incubation is an independent variable. Thus, accepting the null hypothesis.

6.11.2 Discussion from literature

The notion that entrepreneurs go to business incubators to access information that they would otherwise not have access to makes sense. Not only are business incubators expected to support entrepreneurs with information, but the entrepreneurs have their peers as well to gain information from. Hence the findings from hypothesis 3 came as a surprise to the researcher. It is possible that the entrepreneurs are particular about where they get information that they trust from. The path analysis suggests that business incubation support and information sharing influences trust. This is understandable as through the selection process, entrepreneurs would have developed a relationship with the business incubator before the other entrepreneurs within the incubator. The process through New Venture Creation: diagnosis of needs; selection and monitoring; capital investment and access to expert networks (Ahmad, 2014) and all the other auxiliary services provided by business incubators could create a relationship where entrepreneurs prefer to get information from them.

6.12 Hypothesis 5

H_{05}: Trust has a positive relationship with appetite for risk-taking

H_{A5}: Trust has a negative relationship with appetite for risk-taking

6.12.1 Results from hypothesis testing

The path analysis was not able to find a linear relationship between trust and appetite for risk. Thus, rejecting both the null and alternative hypothesis.

6.12.2 Discussion from literature

According to the path analysis, Networking is a dependent variable to Trust and only Networking has a direct relationship with Appetite for Risk-Taking. Even though the study was able to find a relationship between Perceived Business Incubator Support and Trust, the results of this hypothesis suggest that Trust does not necessarily influence the Appetite for Risk-Taking by entrepreneurs.

6.13 Hypothesis 6

H_{06}: Networking has a positive relationship with appetite for risk-taking

6.13.1 Results from hypothesis testing

The path analysis was able to find a linear relationship between networking and appetite for risk. Networking is the independent variable and appetite for risk is the dependent variable. Thus, accepting the null hypothesis and rejecting the alternative hypothesis.

6.13.2 Discussion from literature

The findings from the path analysis confirmed the theme coming out of literature, which is that networking should have a positive effect on the Appetite for Risk-Taking by entrepreneurs (de Beer et al., 2016). Business Incubators can attract entrepreneurs seeking to grow their businesses by taking risky decisions. The results of the study suggest that entrepreneurs are encouraged by the networks in the study to make risky decisions.

6.14 Hypothesis 7

H_{07}: Information sharing has a positive relationship with appetite for risk-taking

H_{A7}: Information sharing has a negative relationship with appetite for risk-taking

6.14.1 Results from hypothesis testing

The path analysis was not able to find a linear relationship between Information and appetite for risk. Thus, rejecting both the null and alternative hypothesis.

6.14.2 Discussion from literature

The path analysis could not find a direct relationship between Perceived Business Incubator Support and Information Sharing. (Johnson et al., 2013) found that improved visibility and information sharing aided the decision making in “risk events”. Even though (Adler & Kwon, 2002) followed-up this statement by suggesting the importance of quality information in improving social capital, (De Carolis & Saparito, 2006) found that people that were provided with the same information, perceived different levels of risk.

6.15 Summary of discussion

The purpose of the study was to determine the existence and dynamics of the relationship between the constructs Social Capital, Perceived Business Incubation Support and Appetite for Risk-Taking. The hypothesis tree (Figure 6) formed as a guide stemming from literature when establishing how the constructs were going to be tested. Upon analysing the results in Chapter 5, it became clear that the data did not support the Hypothesis Tree (Figure 6). The initial assumption was overly simplistic and what the results of the path analysis (Figure 16)

indicated was a more intricate model. A theme coming out was that appetite for risk-taking is something that develops over time. The appetite for risk-taking construct appears to come from a process of socialisation. The process for business incubators to influence the appetite for risk-taking appears to require more deliberate and linear thinking. The findings suggest that first of all, within the process of incubation, entrepreneurs develop two things at once. Information sharing and trust are acquired as a result of the business incubation support. Then trust enables them to build networks and it is only through networks are entrepreneurs able to build risk.

6.15.1 Demographic findings

Based on the findings of the study, the differences in the age, gender and level of education did not play a major role in the perceptions of the respondents. The exception, however, was the responses coming from different ages and the information sharing construct. This was an interesting finding considering the discovery the study made of the existing age breakdown within business incubators. The sample showed a bias against young entrepreneurs with just 9% of the respondents being under the age of 35 and none under 18. A theme coming from literature was that business incubators help young businesses and the data from the study suggests that this does not necessarily mean young entrepreneurs. The research also suggested that it was educated people who are in business incubators which has major impacts on the future economy of South Africa. South Africa's education system is notoriously ineffective and the hardest hit is young people. The employability of people in South Africa takes level of education very seriously and those without decent education are left out of the labour market. (Albort-Morant & Ribeiro-Soriano, 2016; DTI, 2014; Lose et al., 2016) claim that business incubators play a significant role in developing the nation's economy, however, it would appear that they are failing young, uneducated people by empowering them to escape the unemployment trap.

6.15.2 Question 1: What is the relationship between business incubator support and appetite for risk-taking for entrepreneurs in business incubation?

The study suggests that there is no direct relationship between perceived business incubator support and appetite for risk-taking. This came as a surprise to the researcher because according to literature (i.e. Real Options Theory), the suggestion was that the interventions/ support that business incubators provide, gave entrepreneurs the confidence to make risky decisions.

6.15.3 Question 2: Does the perception of business incubator support have a positive correlation with social capital (trust, networking and information sharing)?

Perceived Business Incubator Support and Trust are positively related. This finding supports the theme coming from literature and did not come as a surprise to the researcher. The study suggests that in order to improve the trust dynamic between entrepreneurs and the business incubator, the business incubators need to deliberately work on their support and information sharing. (DTI, 2014) support this notion in their description of what an incubator needs to do. This makes sense then when the study also suggests that Perceived Business Incubator Support and Information Sharing are positively related.

Even though Table 27 found a significant correlation between the constructs, the study found no direct relationship between perceived business incubation support and networking. Table 27 suggested that the increase in business support correlated with the increase in networking, however, the path model in Figure 16 suggested that the relationship was not linear.

6.15.4 Question 3: Does social capital (trust, networking and information sharing) have a positive correlation with appetite for risk-taking?

The study was not able to find a linear relationship between Trust and Appetite for Risk-Taking. This study was unable to clarify the ambiguity of the role that Trust plays regarding the appetite of risk-taking by entrepreneurs within business incubation context. (Welter, 2012) alluded to the complexity of understanding the influence of trust and the findings of this study corroborate that statement. Table 27 found a significant correlation between the two constructs, however, the researcher would recommend that future studies take a closer look using larger sample sizes to draw out rich data.

The study was not able to find a linear relationship between Information Sharing and Appetite for Risk-Taking. This contradicted suggestions made by literature. (Johnson et al., 2013) highlighted the importance of information sharing in boosting the decision-making of entrepreneurs during “risk events”. However, the findings of this study supported the suggestion made by (De Carolis & Saparito, 2006) which found that individuals given the same information, perceived different levels of risk. It then becomes clear that other factors could be at play in influencing the levels of risk within entrepreneurs and more investigation is required.

The study found a linear relationship between Networking and Appetite for Risk-Taking. The relationship between Social Capital and Appetite for Risk-Taking showed to be complex in how it works. Literature has highlighted the importance of networking within business incubation in driving opportunities and performance of the entrepreneurs (Boso et al., 2013; Silvestre, 2015). The suggestion of a linear relationship by this study only emphasizes the imperative to facilitate networking opportunities by business incubators.

6.16 Conclusion

Chapter 7 will link back to the objectives of the study and summarise the findings of the research. Then implications at a theoretical will be discussed while recommendations for government, business incubators and entrepreneurs will be provided. The Chapter will close out with limitations of the study and recommendations for future studies and finally with concluding remarks from the researcher.

7. Chapter 7: Conclusion

7.1 Introduction

The aim of this dissertation was to gain understanding in the role of social capital in the appetite for risk-taking of entrepreneurs in business incubation. The study also wanted to take a particular focus on the South African context and contribute towards literature.

This chapter will provide a summary of the findings of the study looking at the constructs of appetite for risk, social capital (trust, networks and information sharing) and perceived business incubation support.

7.2 A recap of the research questions

At the beginning of the research journey, the researcher had a strong curiosity of how entrepreneurship worked. A particular question that stood out was, why do some entrepreneurs succeed and others don't. This question became even more interesting to the researcher when considering South Africa's socio-political context. Albeit not from a South African context, (De Carolis & Saparito, 2006) took a gander into social capital and its influence in entrepreneurial processes. Particularly why certain entrepreneurs have access to opportunities. The availability of options appears to be linked to the decision making and considerations of levels of risk by entrepreneurs (Trigeorgis & Jeffrey Reuer, 2017). Linking this to the South African context seemed to be imperative considering that little is known regarding the impact that South Africa's oppressive past has had on the social capital of entrepreneurs. Literature speaks about the rise in importance business incubators are playing in improving entrepreneurial success rates, however, gaps still remain in our understanding (Lose et al., 2016). The author then considered whether these themes, social capital, the appetite for risk-taking and business incubation had a relationship, and if so, what was the nature of this relationship? This led to the researcher to formulate the research questions and hypothesis already discussed in Chapter 3

- **Question 1:** What is the relationship between Business Incubator Support and Appetite for Risk-Taking for entrepreneurs in business incubation?
- **Question 2:** Does the perception of Business Incubator support have a positive correlation with Social Capital (Trust, Networking and Information Sharing)?
- **Question 3:** Does Social Capital (Trust, Networking and Information Sharing) have a positive correlation with Appetite for Risk-Taking?

7.3 Summary of findings

It was interesting to find that the study was not able to find a direct relationship between Perceived Business Incubation Support and Appetite for Risk-Taking. The study was able to find a relationship between Social Capital (Trust, Networking and Information Sharing) and Appetite for Risk-Taking, although the only direct link between those two constructs comes from Networking. Differences across different demographic categories did not carry much weight with Information Sharing and Age showing significant biases. The consensus from literature was confirmed in that entrepreneurs, in general, are high-risk takers and they tend to favour risk-laden decisions. Trust and Networking were perceived as high within business incubators. However, information sharing was surprisingly low compared to the other two latent variables of Social Capital. Support in general from the business incubators was perceived as being high by the entrepreneurs.

The results gave us an interesting perspective on how the relationships of the constructs work. When an entrepreneur goes for business incubation, they get information and trust. The entrepreneurs then use this newly established trust to build networks which in turn drives their appetite for risk. An incubator is more like a social setting. Entrepreneurs are empowered to develop their access to information which has a cascading effect on their levels of trust. Trust boosts networks which then has a linear relationship with the appetite for risk-taking.

The research eluded to 4 overarching themes that the researcher found to be interesting. Firstly, when business incubators are looking at how to inculcate support, social capital or a risk-friendly environment, the approach should not be a haphazard thing. The findings of the study appear to suggest that working with these constructs has to be intentional and with a clear understanding of the dynamics of the construct relationships. The second overarching theme coming from the results of the study was that business incubation on its own does not directly influence an entrepreneur's appetite for risk-taking. Business incubators appear to play the role of a social setting and a mix of factors seem to be at play regarding influencing attitudes towards risk-taking. Business incubators do appear to have a significant influence on trust and information sharing. The Third overarching theme coming out of the research was that the incubation process still needs further investigation. From the incubator management's perspective, it is important for them to find out how the dynamics of business incubation affect entrepreneurs and how to best draw out better business performance. The study offers interesting insights from the entrepreneur's perspective. Further investigation into the field will unravel information that will guide entrepreneurs to find the right incubator for their business and assessing/ measuring their current business incubators. The final overarching theme is that there should be a consideration made in within the field that there will always be other factors that could be influencing the results of the studies. The difficulty of research in this field comes from the complexity of measuring samples with reliability and validity.

7.4 Academic implications

Particularly from a South African context, it would be pertinent to identify whether or not business incubation is playing a role to include previously disadvantaged people into the economic market. The wide-ranging economic effects that business incubators are slated to influence (Albort-Morant & Ribeiro-Soriano, 2016) should be investigated to establish how they can contribute to rebuilding South Africa's damaged socio-economic condition.

The skewed responses from male and female responses were an interesting observation that could make a call for future studies to investigate further. The researcher acknowledges that the research did not accommodate people who do not identify with conventional gender classification. This could have resulted in non-response error. Future studies are recommended to take this into consideration and possibly add an "other" option when asking about gender or taking a closer look as to how research can catch -up with shifting understandings of gender.

The lack of young people found in the sample taken from the business incubators was an interesting finding of the study. The researcher recommends further studies, perhaps of a qualitative nature to ground the theory as to what perception do young entrepreneurs have of business incubators. These studies could contribute as to what challenges do young entrepreneurs have regarding access to entrepreneurship/business incubators, the perception of support received from the business incubators and longitudinal studies could look into the effect business incubators have on the success rate of young entrepreneurs.

Future studies should consider the benefits of not only including the business owners but also the senior managers within the business that have decision making authority. The researcher felt that not limiting the study to only "self-employed" business owner would have contributed to the sample size. The study only looked at entrepreneurs that are already in business incubation. (Wales et al., 2013) in their empirical study making recommendations for future studies of entrepreneurial orientation, stated that risk-taking is at the heart of entrepreneurial orientation. Future studies can expand the unit of analysis to include people that are still in the ideation phase so that the studies can observe the influences of entrepreneurial orientation.

Finally, the Cronbach's alpha of 0.677 which was found for the research instrument observing the appetite for risk-taking was the lowest out of all the other constructs and lower than the widely accepted 0.70. However, studies such as (Ray et al., 2004) and (Calantone et al., 2003) accepted alphas as low or lower than 0.65. Thus, the researcher felt justified carrying on with the alpha of the study's constructs. A recommendation would be for future studies to establish research instruments that could yield higher Cronbach's alpha and therefore be given higher credibility in their findings.

7.5 Recommendations

7.5.1 Government

The imperative for business incubators to understand the variables at play becomes apparent when looking at how business incubators are funded. Their dependence on financing from third parties puts a great deal of pressure to be able to show the impact and effectiveness of the incubation programmes. The recommendation is for government institutions to reconsider the funding models of business incubation. Finding ways to measure success that does not place pressure on business incubators could yield positive results as this will allow for more transparent research to be conducted.

7.5.2 Business incubators

The demographic data indicated that business incubators may still have some way to go in offering an environment that is free, open and diverse with entrepreneurs of varying backgrounds. The lack of entrepreneurs without formal education could be an indication that business incubators are missing the opportunity to help a large portion of the South African population to escape the trap of South Africa's antiquated education system.

Perceived Business Incubation Support and Information Sharing showed to have a direct relationship with improving the Trust of the entrepreneurs. Business incubators can continue to take a look into the types of content that they make available to their entrepreneurs and make sure that it is tailor-made for the entrepreneurs' needs. The study also suggested that entrepreneurs enjoy being at the business incubator's facilities so business incubators should continuously seek feedback on how they can improve the aesthetics as well as the environment at the business incubator. The research gave a nod to literature by confirming that entrepreneurs are relatively high-risk takers. Business incubators can take this insight and ensure that the entrepreneurs have "safety nets" to fall back on when they take make risky decisions.

7.5.3 Entrepreneurs

Entrepreneurs need to improve their understanding of the factors influencing their business. In Chapter 1, it was highlighted that the failure rates of new ventures remain high and therefore justifies further enlightenment. The unexpected results found from this study gave clear indication that more research is required in the field. Further research will feedback to entrepreneurs and inform them of the appropriate ways they can navigate their businesses. The study expressed systematic errors that limited the ability for inferences to be made to the general population. However, the results suggested certain themes that could be worthwhile for entrepreneurs to look into. If in fact, business incubators are settings for socialising, they

should take into consideration the quality of information and networks that can contribute to the performance of their businesses. These two constructs could have an influence on the levels of trust and ultimately, their appetite for risk.

7.6 Limitations of the study

The study had noble intentions to further the understanding of the entrepreneurship field, which we understand that it's very important in alleviating poverty in emerging markets. However, the study had limitations, such as a small sample size, which impeded its ability to infer its results unto the broader population.

The nature in which participants of the study were identified could have resulted in sample bias. Chapter 2 of the study discussed how business incubators come in different forms and therefore, without a comprehensive database, getting a representative sample was difficult.

Once the email with the survey link attached was sent, the researcher acknowledges that the study depended heavily on the participant's ability to understand what the research was about and the different questions they needed to respond. This is a limitation of self-administered questionnaires (Blasius & Brandt, 2010).

The research made the trade-off in an attempt to improve the response rate by keeping the survey questions brief. This was done by excluding questions that weren't viewed as critical to achieving the objectives of the research. Examples of themes that could have been included but were not included were the size of the business, time (months/years) spent under incubation, industry, location etc were deliberately not asked and a recommendation for future studies is to include such variables. Literature spoke about the increasing interest within academia of entrepreneurship and particularly business incubation and therefore the researcher felt justified making this trade-off.

7.7 Recommendations for the future studies

The research's objective was to only look at the existence of a correlation between the different variables. A longitudinal study would have been able to not only observe occurrences pertaining to the "snapshot" that the research observed but make more considerable contributions to the understanding of the variables and their influences. Including a control group of entrepreneurs who are not in business incubation could further validate the results of the study.

The method of using a homogenous approach to the unit of analysis for this study was narrow and the researcher recommends that future studies cast a wider net when profiling its participants. Deeper insights can be found by stratifying participants based on categories that could influence the data produced.

Further to this, the researcher made attempts to outline all the various limitations of this study. Though they were justified, for research to move forward, future studies will need to address these limitations in order to draw out more meaningful inferences.

7.8 Concluding remarks

The South African entrepreneurial is a fascinating field this made complex and more interesting due to the socio-political environment. Literature gave a sense of how important and relevant business incubation, social capital and risk are to entrepreneurs. The findings of this research suggested significantly positive relationships between the perceived business incubation support, social capital (trust, networks and information sharing) and the appetite for risk-taking constructs. The interesting finding was that the study found a research model suggesting dynamics between the constructs that was unexpected and very different from the initial assumed hypothesis tree. Business incubators need to emphasise their socialisation role for entrepreneurs to build trust and information sharing. These factors contribute to the networks within the business incubation environment which ultimately help to influence the appetite for risk-taking of the entrepreneurs. A call to future studies is to investigate how these constructs can be utilised to develop entrepreneurship and ultimately, the South African economy.

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9. Appendix A: Ethical Clearance

Gordon Institute of Business Science
University of Pretoria

19 July 2018

Mthombeni Mzwakhe

Dear Mzwakhe

Please be advised that your application for Ethical Clearance has been approved.

You are therefore allowed to continue collecting your data.

Please note that approval is granted based on the methodology and research instruments provided in the application. If there is any deviation change or addition to the research method or tools, a supplementary application for approval must be obtained

We wish you everything of the best for the rest of the project.

Kind Regards

GIBS MBA Research Ethical Clearance Committee

Gordon Institute of Business Science
Reg. No. 99/19816/08

26 Melville Road, Illovo, Johannesburg
PO Box 787602, Sandton, 2146, South Africa

telephone **(+27) 11 771 4000**
fax **(+27) 11 771 4177**

website **gibs.co.za**
University of Pretoria

10. Appendix B: Consent Letter

Consent Letter

Dear Sir/Madam

I am conducting research, in my capacity as a GIBS MBA student, on the relationship between Social Capital and Appetite for Risk-Taking in entrepreneurs in business incubation. To this end, you are asked to complete a three-part survey on your perceived social capital (i.e. Network, Trust and Information Sharing within your membership of your business incubator) and your appetite for risk as an entrepreneur/ business owner. This will help us better understand the influence of the social environment within business incubator's context and risk-taking. Your participation is voluntary, and you can withdraw at any time without penalty. Please note that your participation is anonymous and only aggregated data will be reported. By completing the survey, you indicate that you voluntarily participate in this research. If you have any concerns, please contact either my supervisor or myself. Below you can find our details:

Mzwakhe Mthombeni
Email: Mzwakhe225@gmail.com
Cell: (081) 771-4876

Dr Thembekile Ntshakala
Email: thembie.ntshakala@gmail.com

11. Appendix C: Research Questionnaire

SECTION A: Demographics

1. What is your age (in years)?

Less than 18 years	**1**
18 – 24 years	**2**
25 – 35 years	**3**
36+ years	**4**

2. What is your gender?

Male	**1**
Female	**2**

3. What is your level of education?

No formal education	**1**
Some primary school	**2**
Completed grade school	**3**
Some high school	**4**
Matric	**5**
Some college	**6**
Completed college	**7**
Postgraduate degree	**8**

4. Are you self-employed?

Yes	**1**
No	**2**

5. Are you a member of a business incubator?

Yes	**1**
No	**2**

SECTION B: Social Capital, Risk & Business Incubation

Appetite for Risk		**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
R1	I admit that my preferences are different from those of my peers and friends	1	2	3	4	5
R2	I am comfortable with taking short-term gambles	1	2	3	4	5
R3	I am comfortable with doing things on my own and disagreeing with an authority figure on a major issue	1	2	3	4	5
R4	I can invest 10% of my annual income in a new business venture	1	2	3	4	5
R5	I will choose a business venture that I truly enjoy over a more secure one	1	2	3	4	5
R6	I will not shy away from a challenge or speaking my mind	1	2	3	4	5
R7	I will not hesitate to move to a city or town far away from my extended family	1	2	3	4	5
R8	I am ready to start a new business venture or expand or diversify my current business venture	1	2	3	4	5
R9	I can invest 10% of my annual income on the stock market or bitcoin	1	2	3	4	5
Networking		**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
N1	I feel I am part of the incubator community	1	2	3	4	5
N2	I am interested in what goes on at my business incubator	1	2	3	4	5
N3	My business incubator is a good place to be	1	2	3	4	5
N4	I would be willing to contribute money to my business incubator	1	2	3	4	5

N5	Interacting with people at the incubator makes me want to try out new things	1	2	3	4	5
N6	Interacting with people at the incubator makes me feel like a part of a larger community	1	2	3	4	5
N7	At the incubator, I come into contact with new people all the time	1	2	3	4	5
N8	Interacting with people at the incubator reminds me that everyone in the world is connected	1	2	3	4	5
N9	There are several people at the incubator I trust to solve my problems	1	2	3	4	5
N10	If I needed an emergency loan, I know someone at the incubator I can turn to	1	2	3	4	5
N11	There is someone at the incubator I can turn to for advice about making very important decisions	1	2	3	4	5
N12	The people I interact with at the incubator would be good trade references for me	1	2	3	4	5
N13	I do not know people at the incubator well enough to get them to do anything important	1	2	3	4	5
N14	I would be able to find information about a business opportunity from a member at the incubator	1	2	3	4	5
Trust		**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
T1	I feel valued by the Incubator	1	2	3	4	5
T2	I trust incubator leaders	1	2	3	4	5
T3	I trust members of the incubator	1	2	3	4	5
T4	I frequently visit fellow incubator members for business discussions and advice	1	2	3	4	5
T5	There is a very high possibility to ask and also to get help from fellow incubator members	1	2	3	4	5

T6	I have the freedom to speak freely at incubator discussions	1	2	3	4	5
Information Sharing		**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
IS1	The incubator hosts meetings and events for members to share information about businesses	1	2	3	4	5
IS2	Incubator members visit each other often to exchange ideas	1	2	3	4	5
IS3	I hold telephone conversations on entrepreneurship with fellow incubator members	1	2	3	4	5
IS4	The incubator is a source of knowledge and appropriate information on entrepreneurship	1	2	3	4	5
IS5	The incubator is my first choice of information source on businesses	1	2	3	4	5
IS6	The incubator promotes information sharing	1	2	3	4	5
Perceived Incubation Environment Support		**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
I1	At my incubator, people are actively encouraged to pursue their own business ideas	1	2	3	4	5
I2	In my incubator, you get to meet lots of people with good ideas for a new business	1	2	3	4	5
I3	Entrepreneurship subjects at my incubator prepare me adequately for an entrepreneurial career	1	2	3	4	5
I4	I know many people from my incubator who have successfully started their own businesses	1	2	3	4	5
I5	The incubator provides resources to assist new entrepreneurs	1	2	3	4	5
I6	Participation in incubators should be made compulsory	1	2	3	4	5
I7	My incubator has infrastructure in place to support the start-up of new businesses	1	2	3	4	5

12. Appendix D: Email Sent to Incubator Managers

Subject: Mzwakhe (GIBS research)

Hi there,

Hope you are well,

I am currently doing my MBA at GIBS business school and I'm in the process of collecting responses for my thesis project. I am studying the role of social capital (networks, trust and information sharing) in the risk-taking of entrepreneurs in business incubation.

I'm asking if you would be able to share my survey link to your entrepreneurs or decision-makers in the businesses?

I'm hoping to reach out to as many entrepreneurs as I can to improve the quality of the research and would appreciate your assistance with this, the survey will only take 5-10 minutes to complete. **Here's the link:** https://www.surveymonkey.com/r/ZBYJQFS
Responses are collected anonymously to protect the confidentiality of the participants and only aggregate data will be reported.

I would also be happy to share my findings once I've completed the research so to provide you with insights on how these factors could be influencing the entrepreneurs that you work with.

Please let me know if you have any questions - I'm happy to hop on a quick call to explain further.

Thanks
Mzwakhe