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Entrepreneurial intensity, capability and external environmental influences in state-owned agencies, entities and components in the Gauteng Province, South Africa

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2023
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Title: Entrepreneurial Intensity, Capability and External environmental influences in state-owned Agencies, Entities and Components in the Gauteng Province, South Africa

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

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2022

ABSTRACT

The raging debate on the extent of entrepreneurship within the public sector environment is not abating. There is a school of thought which contends that a version of public sector entrepreneurship (PSE) is possible within the confines of government regulatory regime. With this in mind, the aim of the research was to investigate corporate entrepreneurship by examining how the influence of entrepreneurial intensity and capability at the organisational level influence performance, while at the same time considering external influences (e.g. legislation) on this relationship (www.sajems.org). The scope of the study was limited to 6 state-owned entities under the jurisdiction of the Gauteng Provincial Government.

The study used empirical and quantitative research, and the research approach adopted in this study is deductive, using self-administered structured questionnaires to a selected sample of respondents. Correlational and regression analyses were employed to test the hypotheses.

The research found that entrepreneurial intensity and capabilities do influence organisational performance in various degrees in the state-owned entities in the Gauteng provincial government jurisdiction. The findings provide valuable insights into topic of entrepreneurship as they relate to the South African public sector context. There is a need for mindset shift to embrace technological distinctiveness to achieve competitive advantage as means of differentiating products and services in relation to competitors. On a conceptual and theoretical level, the study will contribute towards more clarity on the role of entrepreneurial intensity and capability within established state-owned entities. The empirical (or practical) application of new insights may inherently influence the policy directives of SOEs and entities within the Gauteng province and beyond.

Key words: Entrepreneurial Orientation; innovation; risk-taking; proactiveness; legislative compliance.

DECLARATION

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



John July Mgwenya

Signed at Johannesburg. On the 24th day of February 2022.

DEDICATION

To my children, Zama, Ntando, Ntuthuko and Wandile. Another special dedication to my grandchildren: Nolwandle, Londiwe, Molemo and Boikanyo for filling my life with laughter and joy. Above, all, I give glory to the Almighty God for saving my life after a severe heart attack during my studies!

ACKNOWLEDGEMENTS

My sincere gratitude is extended to all my lecturers at WBS, particularly my supervisor Professor Boris Urban, for the unwavering support and guidance he provided during my studies.

I would love to extend my warmest gratitude to my family and friends who offered emotional and material support during period in hospital. I am truly thankful to my study syndicate who selflessly offered their time and dedication to study programme. Thanks to Qhawekazi, Ngqiqo and Luyanda!

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CHAPTER 1: INTRODUCTION

1.1 Introduction

The raging debate on the extent of entrepreneurship within the public sector environment is not abating, amidst a school of thought which contends that a version of public sector entrepreneurship (PSE) is possible within the confines of government regulatory regime (Urban, 2021). However, Thøgersen (2022) posits that the focus of mainstream studies on innovation management is on top-level managers, yet innovation activities occur on the frontlines. More so, micro-level studies of innovation tend to leave a knowledge gap related to the role of frontline managers in enhancing and scaling public innovation which are essential ingredients in implementing public reform. Hartley, Jean; Sørensen, Eva and Torfing, Jacob (2013), acknowledge the increasing pressures for innovative activities within the public sector, even though there is no consensus on how to achieve this goal.

Christopher, Link, Scott (2018) agree that PSE alludes to the institutionalising innovative public policy initiatives to generate public value and economic benefits to mitigate the uncertain socio-political climate. Another perspective of PSE is presented by Swann (2016), and supported by Urban and Nkhumishe (2019), which emphasises the significance of Entrepreneurial Orientation (EO) also known as or Entrepreneurial Intensity (innovativeness, risk taking and proactiveness) in understanding the role of PSE. However, recent studies have confirmed that corporate entrepreneurship in state-owned entities (SOEs) have the potential to embrace entrepreneurial intensity and enhance organisational performance. PricewaterhouseCoopers or PWC (2015) posits that state-owned entities (these are commercial entities family funded and owned or partially owned by government) are likely to continue creating public value if the right context is sustained. In addition, organisations are encouraged to examine internal determinants of corporate to promote entrepreneurial mindset Burger & Blažková, 2020).

SOEs are ingrained in government structures across the world, such as in in China, the US, New Zealand, and South Africa. Legally, SOEs are business entities underpinned by government regulations. They are autonomous institutions in their own right but are wholly or partially governed and owned by government (OECD, 2015). However, from a sustainability perspective, the *Report of the Presidential Review Committee* of state-owned entities (2014), confirmed that SOEs require state funding to fulfil their social and economic development mandates.

There is growing pressure from scholars to ensure that innovative thinking must perceived as an important pillar in organisational sustainability. Organisations require propensity for risk-taking, innovative prowess, creativity, and entrepreneurial leadership to remain competitive in the global business environment (Kuratko, Hornsby, & Hayton, 2015). It is inevitable that firms or organisations will continuously search for innovative approaches to invigorate their entrepreneurial prowess, risk taking and creativity to remain globally competitive (Blažková & Dvouletý, 2018; Corbett, Covin, O'Connor & Tucci, 2013).

It is in this context that the present research study purports to make a vital contribution to successful implementation of corporate entrepreneurship in established state-owned entities in the Gauteng Provincial government in South Africa. The study investigates corporate entrepreneurship by examining how the influence of entrepreneurial intensity (EI or EO) and capability at the organisational level influence performance (www.sajems.org), while at the background provides high level historical context of the study. The study commences by a review of previous research studies on EO and its dimensions as it pertains to the public sector (problem statement, research purpose, research questions and aims, conceptual definition of terms, and contribution of the study). The research design covers research methods, sampling, and instruments (Urban,2021). The results are analysed in terms of theory, hypotheses, and prior studies. The study concludes with practical recommendations, study limitations and future research options.

1.2 Theoretical background to the study

The theoretical origins of corporate entrepreneurship as a concept, stem from the studies of many scholars who were interested in the link between modern working environment, networking capability and innovation performance (Bai, Lind and Johanson, 2016). Vanacker, Zahra, and Holmes (2017) define corporate entrepreneurship as formal or informal innovative product and market development activities within the organisation to improve the organisation's competitive advantage and financial performance.

Morris, Kuratko and Covin (2010) identified two distinct domains of corporate entrepreneurship, namely, corporate venturing involved with investments in new businesses, and strategic entrepreneurship which relates to the integration of entrepreneurial and strategy to create wealth. Möller and McCaffrey (2021) share similar views on the integration of entrepreneurial and strategic perspectives in taking decisive actions to create wealth (www.emerald.com). Further, corporate entrepreneurial behaviour in organisational learning processes seems to be an enabler to identify and analyse and exploit market opportunities through internal innovation performance, leading to shareholder value creation (Zadek, 2004, Han and Park, 2017). This means that the importance of an entrepreneurial mindset and an environment which supports internal capacity development efforts innovation, and proactiveness cannot be overemphasised as breeding ground for competitive organisation irrespective of whether they are private or public.

1.2.1 Entrepreneurial environment

Landstrom, Gartner and Bergland (2016), propose a four-dimensional framework to define entrepreneurial environment, namely;

i. Easy access to suppliers,
ii. Reasonable distances from universities,
iii. Easy access to customers and technically skilled as well as experienced entrepreneurs, and
iv. Ease of accessing venture capital.

A nurturing and information-sharing environment is ideal for fostering heightened employee entrepreneurial behaviour and innovative-mindedness (Bird and Schjoedt, 2017). An entrepreneurial mindset promotes business success in times of uncertainty (Cho and Lee, 2018). Miller (1983) formulated the concept of Entrepreneurial Orientation (EO) to mean the organisation's predisposition to embrace entrepreneurial mindset strategic decision making and market exploitation. Other complementary studies on EO followed and enhanced the understanding of this construct (Lumpkin & Dess, 1996; 2001; Wiklund & Shepperd, 2005). EO (sometimes referred to as Entrepreneurial Intensity), is generally characterised by risk-taking tendencies, innovative activities and overall pro-active attitude.

1.2.2 Innovation

Scholars over the last few decades have been focusing on innovative perspectives within organisational structures and strategy formulation and execution, market penetration and competitive behaviour leading to customer value creation (Huang and Li, 2017; Donkor, Donkor, Kankam-Kwarteng and Aidoo, 2018). Rogers (1998) contends that innovation can be a radical or incremental and that there are five types of innovation, namely;

i. introduction of a new product or a qualitative change in an existing product,
ii. process innovations that are new to an industry,
iii. opening of a new market,
iv. development of new sources of supply for raw materials or other inputs, and
v. changes in industrial organization.

In addition, Kuratko (2009) argues that structure, financing and formal systems may assist in the implementation of incremental innovation

1.2.3 Innovation teams (I-Teams)

Kuratko (2009), contends that, in the twenty-first century, organisations are beginning to establish autonomous I-Teams as integral part of the corporate teams, whose focus is to utilise their own appropriated budgets and management

to promote innovation activities which can later be incorporated in the broader organisational objectives. Therefore I-Teams allow organisations to leverage of the resident talents, while building teamwork (Rowson,2014).

1.3 Context of the study

The notion of corporate entrepreneurship, while not foreign to business in general, is not widely applied in the public sector environment. The reasons for this assertion are varied, ranging from a restrictive regulatory environment to the culture and overall mandate of government. The state's constitutional mandate is limited to the provision of quality basic government services to its citizens, rather than profit making (Batho Pele White Paper,1997).

The area where corporate entrepreneurship is discernible in the public sector environment is in state-owned entities (SOEs), whose goal is to generate profit to augment the fiscus and gross domestic product of the state, as mandate in the in South African situation. An SOE is a statutory institution established to initiate commercial activities on behalf of government (OECD, 2015). SOEs assist the government in meeting its public goals. PWC (2015) maintains that SOEs must be seen as an important mechanism for government to attain community and public value creation under appropriate enabling context. In addition, Madumi (2018) aptly articulates those state-owned enterprises foster economic growth, globally.

Statistics South Africa (2021), in its Quarterly Labour Force Survey (QLFS) of the 1st quarter of 2021, states that the official unemployment figure rate is 32,6%. This state of affairs threatens the ambitious objective of creating eleven million job opportunities by the year 2030 (NDP, 2013). There is therefore a need SOE's to play a much more active role in generating additional entrepreneurial opportunities by promoting corporate entrepreneurship during these turbulent times in South Africa. Further, the World Bank (2021) asserts that the youth offer hope for the labour market in South Africa. In the light of the prevailing Covid 19 pandemic, World Bank (2021) report suggests promoting emerging start-up sector, accompanied by business-friendly policies that enhance macroeconomic stability

resulting in job creation and an improved investment climate, and that a more inclusive economy is possible after the pandemic.

Leading scholars, in light of the New Public sector movement, have paid attention to entrepreneurship (Hayter, Link and. Scot, 2018)), with specific focus on corporate entrepreneurship and organisational strategy, while others considered public value (e.g., Crosby, 2014 and Meynhardt, 2015). However, the role of the external environmental influence on organisational performance is still inadequately researched (Kearney, Hisrich, and Roche 2010). Therefore, since corporate entrepreneurship (CE) is not a new concept, the public sector environment is lagging behind in contextualisation and effectively implementing corporate entrepreneurship (Kearney& Meynhardt, 2016). Public sector entrepreneurship may be conceived as comprising three dimensions, namely;

a) economic facilitation of an organisation and regulation which involves compliance with statutory regime,
b) the civil–political service agent which leans towards service delivery for public good, and
c) commercial market participation which alludes to embracing private commercial principles of market participation.

Although there is some degree of consensus that public and private sector entrepreneurship can be entrepreneurial, this definition is far from conclusive as more research is required to validate these assertions (Kearney& Meynhardt, 2016). In addition, PWC (2015) maintains that SOEs present a lasting feature of the financial trajectory in the public sector corporate entrepreneurship and that they will influence local and global markets for a long time. The state's investments in SOEs have the propensity to deliver the societal outcomes desired.

In South Africa, since 1994, many initiatives and reforms to public sector entrepreneurship have been aimed at small business small enterprises, leading to the development of the Small Enterprise Development Agency or SEDA to facilitate micro-enterprises financing (National Development Plan, 2012). Faced with unabating challenges in local legislative environment, sustainable

entrepreneurship is becoming an unavoidable venture requiring attention by all stakeholders. Similarly, the Gauteng Provincial government, established entities and agencies in the Gauteng Province. These agencies were expected to enhance and promote entrepreneurship in the form of capacity development programmes aimed at SMME sector development, and sometimes offering venture capital where necessary.

The aim of this study is to gather pertinent entrepreneurial principles from active state-owned-entities in the Gauteng province, with a view to enhance an entrepreneurial-oriented climate in the public sector. This research study purports to further the impact of these government initiatives and the extent of EO manifestations in influencing corporate performance, while complying to legislation. However, Kearney, Hisrich, and Roche (2010) note that there is limited knowledge of how external and internal environmental characteristics influence the contribution of CE to performance. Therefore, the study will contribute to the knowledge deficit in PSE regarding EO's influence on performance within the corporate entrepreneurship philosophy. The study is premised on the Resource-based Theory (RBT) to be discussed further in Chapter 2.

1.4 Problem statement

Public sector entrepreneurship (PSE) is still a very topical concept within government circles, however, despite the novelty of corporate entrepreneurship, there is an inadequate amount of research undertaken on public sector entrepreneurship (Hayter, Link and Scott (2018), particularly in the emerging market environment. PSE is envisaged to potentially create customer value to citizens if well institutionalised by integrating public and private sector resources exploitation approaches (Kearney and Meynhardt, 2016). Meynhardt and Diefenbach (2012) highlight the need to develop a deeper understanding of an entrepreneurial orientation (EO/EI) and how it can be leveraged in the public sector to create much need customer value. There are increasing pressures to adopt market orientation principles within the public sector in developing economies (Gromark Melin, 2013).

The public sector in South Africa, is perceived in a less favourable light because of its unsatisfactory service delivery record and the poor quality of its services in general (Koe, 2013). In addition, Kearney & Meynhardt (2016) note that South Africa is characterised by sporadic episodes of service delivery protests. This situation led to the calls for a better governance model at local government sphere, to promote innovation and proactive thinking by policy makers and administrators to improve service delivery modes to communities (Labuschagne and van Vuuren, 2012). It is incumbent upon policy makers, researchers, and non-governmental bodies to amalgamate efforts and adopt entrepreneurial mindset practices to transform entities into adaptable and agile institutions which innovatively provide better services and products to beneficiaries (Urban, 2021; Kearney et al., 2009; Sadler, 2000).

Further, Koe (2013) contends that there are few studies on the role of EO in organisational performance in the public sector. Malatjie (2018) concurs that Entrepreneurial Orientation (EO) has not been unequivocally linked to organisational performance in public sector organisations and that in view of the limited research, there is a need for more focused studies in this field.

The researcher assumes that EO could contribute towards improved organisational performance in the public sector in south Africa. Against this backdrop, this study seeks to find further clarity on the extent of influence of entrepreneurial intensity or entrepreneurial orientation, capability, and external environmental variables on organisational performance in the local context. Deeper understanding of this phenomenon will enrich efforts to improve the local SMME sector. Moreover, the perceived differences between the private and the public sectors tends to blur institutionalisation of EO concepts in the latter (Diefenbach, 2011). Therefore, this study intends to close this gap.

1.5 Research purpose, research question and aims of the study

The purpose of the study (as stated in paragraph 1.1) is to investigate corporate entrepreneurship by examining how the influence of entrepreneurial intensity and capability at the organisational level influence performance, while at the same time considering external influences (e.g., legislation) on this relationship. In this context, it is hypothesised that Entrepreneurial Intensity (EI) positively influences organisational performance (H1); High levels of entrepreneurial capabilities tend to positively influence organisational performance (H2); and External influences (compliance to legislation) will moderate the relationship between EI, EC and organisational performance(H3). Details of hypotheses will be discussed in detail in chapter 2.

Gauteng has a total of 23 state-owned entities, and 6 of these are within the scope of this study because of their unique role in promoting entrepreneurship and SMME development, namely; Gauteng Growth and Development Agency, Gauteng Enterprise Propeller, Gauteng Tourism Authority, Automotive Industry Development Centre, Gauteng Industrial Development Zone, and The Innovation Hub (Gauteng Provincial Government, 2015 and Republic of South Africa, 2015). There is a need to compliment previous studies on the value of EO (EI) in the public sector space (Urban, 2021).

The primary research question (RQ) is **'***what is the extent of influence of entrepreneurial Intensity, entrepreneurial capability, and external environmental factors (moderating effect) on organisational performance in state-owned Agencies, Entities and Components*?

The secondary(sub) questions are:

RQ 1: How do levels of entrepreneurial intensity influence organisational (Entity/ Agency) performance?

RQ 2: How do levels of entrepreneurial capability influence organisational (Entity/ Agency) performance?

RQ 3: What is the extent of external environmental influences (moderating effect) on the relationship between entrepreneurial intensity, capability, and organisational performance?

The main objective (Aim) is to investigate *entrepreneurial intensity, entrepreneurial capability, and external environmental influence on organisational performance in state-owned Agencies, Entities and Components*

Sub objectives (SO): “de-composing” the above:

SO 1: To investigate the influence of entrepreneurial intensity on organisational performance.

SO 2: To investigate the influence of entrepreneurial capability and organisational performance.

SO 3: To establish the extent of external environmental influences on entrepreneurial intensity, capability, and organisational performance.

1.6 Conceptual/theoretical definition of terms

Corporate entrepreneurship (CE), entrepreneurial intensity (EI); entrepreneurial capabilities (EC) and external environmental influences.

1.6.1 Corporate entrepreneurship

Corporate entrepreneurship, or intrapreneurship is conceived as support given to employees to inculcate entrepreneurial thinking within the work environment. This may enable identification of entrepreneurial opportunities, develop innovative products, services, or new business ventures (Kennedy,2018).

According to Alvarez and Busenitz (2001), the major theoretical perspective in corporate entrepreneurship is the entrepreneurship of resource-

based theory, which acknowledges individual entrepreneur's cognitive abilities to create and reconfigure new heterogenous resources. Entrepreneurial cognition therefore enables proactive opportunity recognition and exploitation to produce heterogenous outputs (Alvarez and Busenitz, 2001).

Corporate entrepreneurship includes entrepreneurial orientation as a theoretical basis and assumes that all firms possess some level of entrepreneurial orientation (Lumpkin & Dess, 2000). In this context, high levels of entrepreneurial orientation tend to lead innovation, creativity, and new product development (Van Vuuren & Wörgötter, 2013).

Further extrapolating from Kennedy's (2018) stance is that innovative thinking in a state-owned entity may inject new lifeblood by exploring new ways of maximising the opportunity to develop more entrepreneurs and establishing joint ventures. In this way the entity may promote a systematic way of managing their innovation capabilities, within the parameters of organisational structures, legislation, and corporate culture. The sequel could be sustained future revenues and growth for the entity, and less dependence on state funding.

In line with the resource-based perspective, Wolcott and Lippitz (2007), add that corporate entrepreneurship may be construed as new business that is a sub-unit of the parent company but unique in its innovative activities while leveraging the parent's assets, capabilities, or other resources. The notion of state-owned entities under the control of the Department of Economic Development are unique in their operational mandates and therefore are better positioned to promote an entrepreneurial culture.

Entrepreneurial intensity: Akin to entrepreneurial orientation (EO) which is used interchangeably with EI, is the entrepreneurial intensity construct which alludes to both the frequency of entrepreneurship and the degree of entrepreneurial orientation in a particular firm. In both the degree and frequency, EI in practice, refers to three dimensions of innovative, risk-taking, and proactiveness (Morris & Kuratko, 2002).

1.6.2 Innovativeness

Dess and Lumpkin (2005) posit that this dimension connotes the propensity of a firm to embrace new creative thinking and new technology to improve current levels of functionality or operation. Arguably, innovation may usher in new opportunities to create products or develop novel technological solutions. An example of innovativeness is a mobile solar energy battery charger to be used in rural areas. Urbaniec and Żur (2020) embrace the notion that entrepreneurial intensity includes innovation element, and that corporate accelerator can be a source of innovation that can be used to foster entrepreneurial-market logic and entrepreneurial learning. De Waal, Gerrit and Maritz (2019) contend that researchers argue for the continued entrepreneurial prowess and innovativeness to stay ahead of competition, as the existing status remains a significant challenge.

1.6.3 Risk-taking

Risk taking in entrepreneurship implies proactively identifying opportunities in the entrepreneurial environment and taking calculated risks to invest resources in anticipation for return on investment (Laporte, 2017). Lumpkin and Dess (1996) contend that all firms take risk within a continuum of low base to high in committing resources.

1.6.4 Proactiveness

Venter and Urban (2018) refer to pioneering and initiative taking, usually by management, to describe proactiveness. The concept of first-mover advantage in exploiting new markets is seen by Lumpkin and Dess (1996) as a proactive step.

Therefore, proactiveness is futuristic and forward looking in innovating or introducing new products and services, which hitherto had not existed. It was proactive for the USA to send a man to lad on the moon or for Dr Chris Bernard to perform the first heart transplant surgery in the World, in Cape town.

Rae (2000) surmised that the entrepreneurial spirit is the spirit of adventure and enterprise, and is closely linked to innovation, risk-taking and pro-activeness.

Therefore, entrepreneurial spirit is a mindset of pursuing continuous improvement and innovation.

1.6.5 Entrepreneurial capabilities

Entrepreneurial capabilities, according to Obrecht (2004), comprise a spectrum of abilities used to initiate action, reflect, and sustain the entrepreneurial acumen in an organisation. The Entrepreneurship of Resource-based Theory (Barney, 2018) maintains that competitive advantage can be leveraged from tangible and intangible resources assets used to create enabling environment in the creation of superior heterogeneous outputs in the distinctive domain of entrepreneurship.

Entrepreneurial capabilities, according to Obrecht (2004), are categorised in three distinct competencies, namely;

1) *human capabilities*; which include skills, knowledge, and experience,
2) *social capabilities*; in the domain of networks and social interaction, and
3) *technology capabilities*; which encompasses new technology acquisition and the use of other technological platforms to conduct business.

Correct knowledge acquisition may potentially reduce risk and enhance competitive advantage, while social capital and networks may create social platforms for sharing of resources and penetrating new markets. Shree and Urban (2012) note that the correct entrepreneurial knowledge can assist organisations reduce business risk and remain competitive. In addition, technology capability can fuel innovation and performance. In concurrence with this inference, Sahiti (2021), investigated institutional quality and its impact on entrepreneurship activities in a less-developed economy. The study confirms that institutional human qualities have a direct impact on entrepreneurship activities, more so, in a less-developed economy. Another significant study by Malajie (2018), confirmed the existence of significant relationship between EO and performance in the public sector. While studying each dimension separately, risk taking, and management support were found to be highest predictors of organisational performance.

1.6.6 The environmental influences

The environmental influences theory is premised on the opportunity created by industry changes and demand for new products. Environments may be friendly or hostile requiring different responses (Zahra & George, 2002). Industrial legislation in South Africa may vary between friendly and restrictive, depending on the nature of business or product produced. This moderating effect may influence both dependent variable (performance) and independent variable (intrapreneurial intensity and Ahonen (2019), observes that the politics-administrative interface seems to blur the of entrepreneurial growth and entrepreneurial capability in the present study.

Accordingly, the moderating variable (legislation in this case) may strengthen, diminish, negate, or otherwise alter the relationship between independent and dependent variables. Therefore, it may be inferred that in quantitative studies, it is important to keep constant the influence of moderating variable in relation to dependent and independent variable.

However, innovative policy development can be useful. Henderson (2019) argues that that growth and improvement are expedited by novel policy solutions. The current study endorses this perspective in exploring innovative policy exploration to improve service delivery in the public sector (Urban, 2021).

1.6.7 Relationship between the key terms/ concepts

It must be noted, according to Urban (2021), that for the present study EO (EI) is considered an applicable indicator of the “behaviour-related element of corporate entrepreneurship in the public sector”. Further, Morris (2015) contends that entrepreneurial capabilities (EC) comprise a myriad of competencies required for unique organisational challenges.

Note also, that the meaning of innovativeness, risk taking, and pro-activeness may require contextualisation in multifaceted public sector environments in terms of their categorisation and varying regulatory mandates. Urban (2021) advocate for a modification in the definition of EO to reflect the unique aspects of PSE context

by adopting Covin and Slevin's (1989), definition, as supported by Urban (2021) that 'EO in a public sector organisation is demonstrated by the extent to which the top managers are inclined to favour change and innovation for the organisation (the innovation dimension), to take business-related risks (the risk taking dimension), and to take pro-active strategic action (the pro-activeness dimension) in order to achieve goals and objectives for the greater good of society at large' (Urban, 2021).

1.6.8 State-owned entities or enterprises

State-owned entities or enterprises are defined as independent bodies owned wholly or partially by a respect government (OECD, 2005, 2015; AGSA, 2017). In the absence of a competing definition of provincial state-owned entities, the *PFMA* lists SOEs in schedule 3 as entities or enterprises. Provincial government business enterprises, public entities operate within the same legal framework as their national counterparts and are required to embrace a wide variety of organisational forms and objectives. Provincial SOEs are financed fully or substantially from the provincial fiscus. National, provincial, or local government entities have respective shareholders within their spheres of government (AGSA, 2017).

Within the broader definition SOEs, under Schedule 2 of the PFMA, they are also referred to as 'government business enterprises' and 'major public entities.' The term 'state-owned company' (SOCs) refers to SOEs that are also governed by the Companies Act.

1.6.9 Agencies

Agencies refer to private (or semi-private) organisations which perform specific functions, or may be established or contracted to perform functions, on behalf of a mother organisation. Mostert (2002) contends that outsourcing in SOEs is based on the contractual transfer of some of the state's responsibilities for quality service delivery to a private company or entity. According to the agency theory, the principals hire or delegate the agents or directors and managers to perform work in the best interests of the principals (Abdullah, 2013). In this study, state-owned

entities allude to firms contracted to perform or produce public goods and services on behalf of state-owned entities.

1.6.10 Components

A component of a state-owned entity refers to a subsidiary or sub-unit of that entity or department, for example, the Gauteng Growth and Development Agency (GGDA) is an entity owned by Gauteng Provincial Government's Department of Economic Development. In the implementation of it's service delivery mandate, the entity has established decentralised offices, or regions, to perform specific functions on behalf of the entity (The National Association of Automotive Component & Allied Manufacturers/ NAACAM, 2022).

Based on the above studies, the operational definition adopted in this study is that Entrepreneurial Intensity (EI/ EO) alludes to the frequency that the organisation engages in innovative activities, risky business undertakings, and proactive strategic behaviour to achieve defined goals and objectives for the communities (Kearney and Meynhardt, 2016:20). These three EO dimensions (Urban, 2021; Kearney and Meynhardt, 2016:20), are briefly discussed in chapter 2 and used in subsequent chapters in the context of PSE to highlight their integral role in the formulation of the study hypotheses (Urban, 2021; Kearney and Meynhardt, 2016:20). The contribution of the study, in addition to other similar or related studies in the present South African public sector cannot be over emphasised.

1.7 Contribution of the study

The present study contributes to existing knowledge on organisational performance and EO in the context of PSE, in several ways. First, on a conceptual and theoretical level, the more clarity will be added regarding the EO's role in SOEs. Policy amendments in SOEs may be considered to promote financial sustainability. Second, a significant contribution to the general body of knowledge on corporate entrepreneurship within public sector environments will be made. The study is ground-breaking in nature. The findings of this study may be used to shape future CE strategies and practices to improve organisational performance and

service delivery to the public. The study supplements prior broad but related studies on PSE and EO dimensions. A related deep analysis will add value to the EO in the public sector in general (Urban, 2021; Kearney and Meynhardt, 2016).

Third, the assumptions underpinning this study are that the respondents are permanent employees of the six state-owned agencies in the Gauteng provincial government; the respondents possess sufficient knowledge of their organisations based on their respective period of service and, the legislative framework governing the SOEs forms the bedrock of their SOE's daily operations. Most studies on EI have been based on a Eurocentric perspective, however, the current study captures the richness of a South African workplace context (Urban, 2021; Kearney and Meynhardt, 2016).

The sequence of the chapters is as follows: Chapter 2 focusses on relevant literature review including research questions and the adopted conceptual framework. Chapter 3 discusses details of research design of the study, including concepts of validity and reliability. Chapter 4 captures the presentation of the research results, while Chapter 5 further presents an analysis of the results. The final Chapter 6 concludes the research by alluding to implications, conclusion, and recommendations for future research.

In conclusion, Chapter 1 presented an overview of theoretical background, context of the study, followed by a summary of the research problem with accompanying research questions and research objectives as well as definition of key terms before concluding with the significance of the study. The next Chapter 2 is focussed on the literature review details.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The importance of literature review is that it affords the researcher the opportunity to conduct an in-depth analysis of seminal work accomplished in the research topic (Houser, 2018:109). Boote and Beile (2005:3) add that it is a precondition for conducting a thorough and substantive academic research study, while Webster and Watson (2002: xiii) emphasise the need to identify knowledge gaps and therefore facilitating theory to mitigate the theory deficit. It also assists in integrating the research findings into the current body of knowledge (Boote and Beile (2005:3). Further, Creswell (2008), adds that deductive reasoning in quantitative studies may form a basis for de-composing and moulding the research questions and hypotheses, because the review will help the researcher to comprehend the subject area better.

This chapter 2 presents the literature on entrepreneurial intensity, capability, and external environmental influences in SOEs in the Gauteng Province, South Africa. This overview will assist in responding to the research questions and problem statement contained in the study. Reference was made to articles, scholarly views, theories, and relevant books on corporate entrepreneurship.

The chapter begins by identifying key theories, models and frameworks used in the study, and then defining key important terms in the study, before discussing entrepreneurial intensity, capability, and external environmental influences. This is followed by a discussion of the research question/ hypothesis and finally providing a conclusion to the chapter.

2.2 Literature background

Entrepreneurship is a complex discipline and many researchers on entrepreneurship have borrowed theories from other disciplines, such as sociology, psychology, and economics (Zahra, 2007). Entrepreneurship involves a value creation process and appropriation guided by entrepreneurs in an

unpredictable business or market environment (Littunen, 2000). *The theory of entrepreneurship*, further elucidates the entire entrepreneurial experience including entrepreneurial intention (a desire for entrepreneurial reward) and identification of entrepreneurial opportunities, discovery, and development of requisite competences (Mishra & Zachary, 2014; Schumpeter, 1934).

The theory of entrepreneurship (also known as theory of the entrepreneurial firm) is best represented by Figure 1 below.

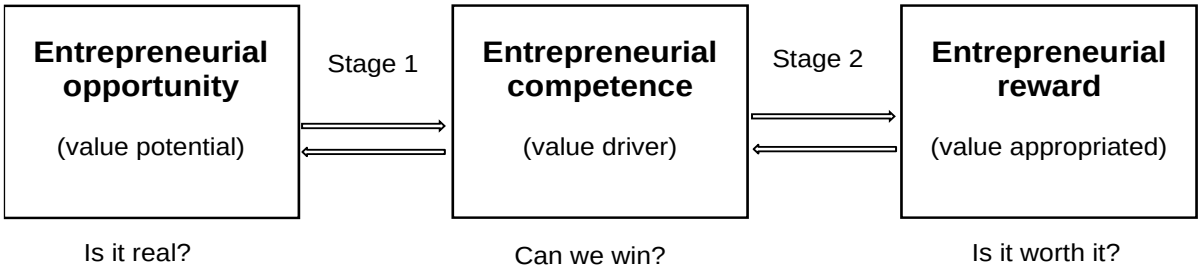

Figure 1: The theory of entrepreneurship

Source: Entrepreneurial value creation (Mishra & Zachary, 2014)

Figure 1 above reflects a movement from entrepreneurial opportunity and intention to entrepreneurial competence leading to entrepreneurial reward. Schumpeter (1934) argues that economic development is premised on entrepreneurial activities led by the entrepreneur. Therefore, dynamic capabilities within the organisation may accelerate market penetration and achieve positive cash flow. Akin to the theory of entrepreneurship is resource-based theory, developed by Wernerfelt, (1984).

2.2.1 Resource-Based

Resource-Based Theory (RBT) is commonly used as a managerial framework in strategic management processes and focusses on resources required to achieve organisational objectives and competitive advantage. Most organisations have adopted RBT as best practice standard for organisational sustainability

(Barney, 1991; Penrose, 2009, Kozlenkova, Samaha and Palmatier, 2014). Further, RBT acknowledges the role of heterogeneity of resources and differing internal capacity of organisations, coupled with complexities of trading resources to attain competitive advantage. Capacity may include equipment, specialised expertise and skills, and innovative disposition to exploit big data investment (Helfat & Peteraf, 2003). However, one of the shortcomings of RBT is the inability to identify the sustained effects of internal organisational activities on resource effectiveness (Kozlenkova, Samaha & Palmatier, 2014). The theory tends to emphasise endogenous factors and ignores exogenous resources as essential drivers of competitive advantage (Lewis, Brandon-Jones, Slack & Howard, 2010).

Inferring from the above, RBT is a 'dominant paradigm in strategic management'. Planning must consider inherent non-substitutable tangible and intangible heterogeneous to enhance sustainable competitive advantage (Wernerfelt, 1984, 2016; Foss and Stieglitz, 2010). Russo and Forts (1997) further describe organisational resources as a) tangible assets, technological; b) human capital resources and organisational capabilities and; c) reputation and external political astuteness.

From the above discussion, it follows that strategic resources can be used to develop internal capabilities which will form a base for superior or higher organisational performance if properly exploited. Organisational capabilities help create value for customers and an essential competitive advantage in an uncertain market environment (Mahoney, 2001). It further implies that the uniqueness of the organisational resources may be a pre-condition for attaining competitive advantage. In summary, Figure 2 is an example of a resource-based model of pharmacy innovation (Holdford, 2015).

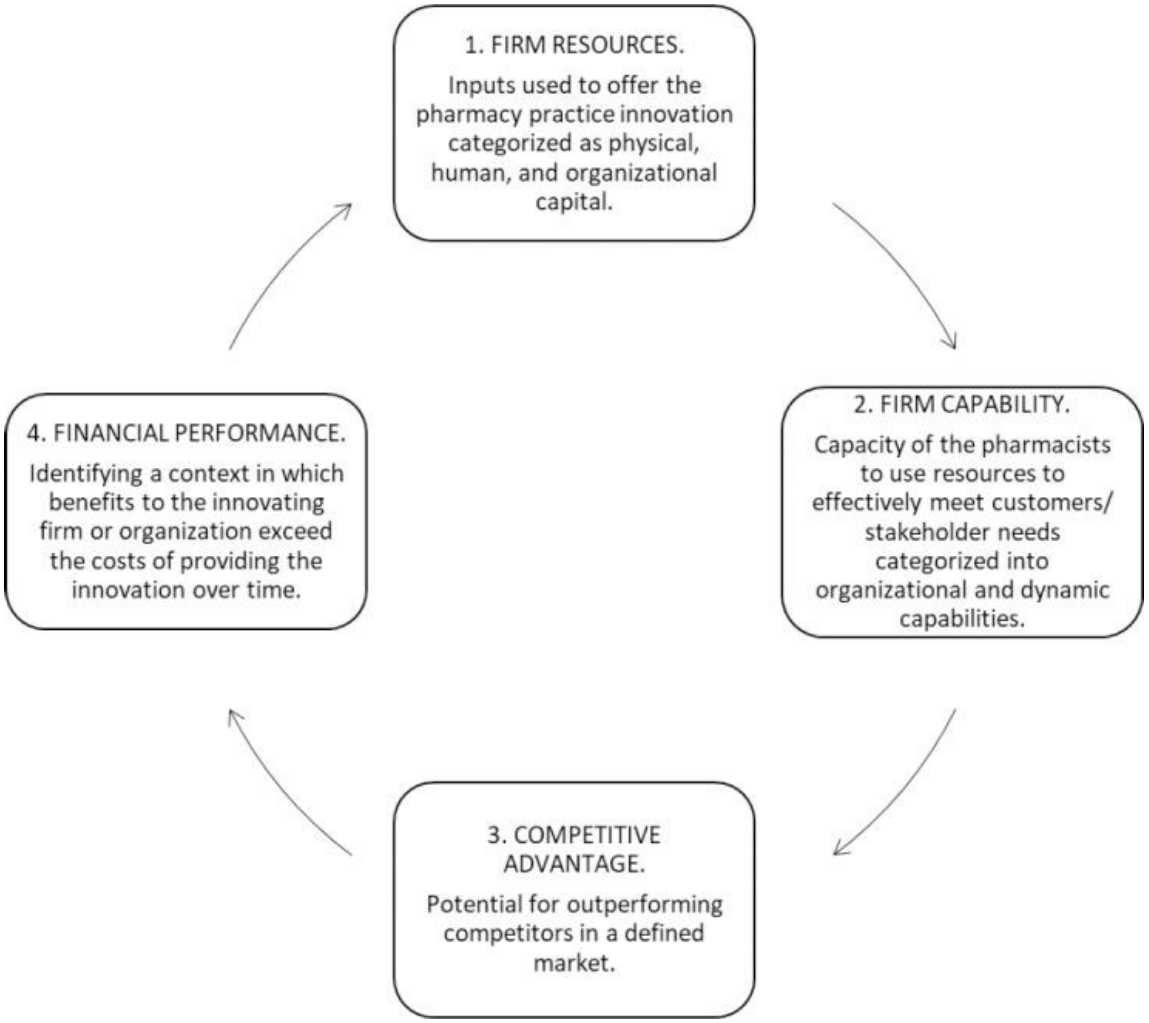

Figure 2: A resource-based model of pharmacy practice innovation

Source: Resource-based theory of competitive advantage-a framework for pharmacy practice innovation research (Holdford, 2015).

Several authors contributed to the framework above (Figure 2). The sustainability of the organisation (e.g., pharmacy services) is dependent on internal capability and potential to attain superior financial performance and competitive advantage.

The researcher adopted the Resource-based Theory (RBT) for this study because, as mentioned above, it is suitable as a managerial framework in strategic management processes and focusses on resources required to achieve organisational objectives and competitive advantage (Barney, 1991; Penrose, 2009, Kozlenkova, Samaha and Palmatier, 2014).

The current study focuses, in the main, on strategic management decisions in the adoption and implementation of entrepreneurial intensity, internal capability (resources) and external environmental influences. Further, the researcher argues that the RBT provides a practical framework for organisational sustainability because with the requisite resources, it is possible to recruit competent staff, engage in research and development initiatives, and generally improve the CE profile of the organisation. It follows that, it is also important to assume a balance of forces among the key components of capability, resources, and exogenous resources. In the South African state-owned entities environment, the balance of these elements (forces), is not clearly visible. It would be pertinent to discuss the state-owned entities within the context of legal environment, entrepreneurial intensity (innovative, risk-taking, and proactiveness), capability (equipment, specialised expertise, and skills), and innovative disposition to exploit technology (big data investment).

2.2.2 Regulatory framework for state-owned entities

The operations and functions of SOEs are regulated by specific act/s of parliament to promote service delivery initiatives and socio-economic goals such as SMME development and revenue enhancement initiatives. Internationally, SOEs are used to improve private-sector efficiencies and good practice standards, while adhering to public accountability. SOEs execute commercial and developmental mandates respectively (OECD, 2005, 2015). Globally, states establish SOEs to provide service delivery of public goods, curtail the foreign and private control of the domestic market, contribute towards the domestic (local) fiscus, meet service delivery targets, and stimulate entrepreneurship development (Thabane & Snyman-Van Deventer, 2018). In the context of socio-economic challenges after the dawn of democracy in 1994, South Africa needs strategic enterprise in the form of SOEs.

In addition, PWC (2015) contends that SOEs are an invaluable toolkit for any government in creating public value under the correct context coupled with an enabling legislative environment. OECD (2015) maintains that SOEs, guided by the *internationally agreed OECD Guidelines on Corporate Governance of State-Owned Enterprises,* may assist in the implementation of national reforms. These guidelines provide a framework for effective, efficient, more competitive and business transparent management of enterprises.

In terms of the legislative framework, SOEs, whether state owned entities in the national or provincial sphere, fall within two Acts: first, the scope of the *Companies Act (34)* regards them as legal entities, and therefore requires them to implement the recommendations *of King III (36).* Second, their respective state-owned service delivery mandates are based on the of the Public Finance Management Act (PFMA) (35), as well as the Protocol on Corporate Governance in the Public Sector (37). Companies Act requires SOEs to establish a board to exercise powers and perform functions not limited by PFMA the memorandum of incorporation (The companies Act, no. 71 of 2008).

The PFMA institutionalises public accountability of the SOE to the board where the latter must exercise a fiduciary duty of utmost care and loyalty including effective management of assets and records (PFMA,1999). The PFMA focuses on financial management and gives more clarity on expected outputs and responsibilities. *The Protocol on Corporate Governance in the Public Sector* provides guidance on the current socio-politico-economic goals of government (Department of Public Enterprises, 2002; PWC, 2012).

Against the above background, the key constructs which form the basis for the hypotheses in this dissertation, are entrepreneurial intensity, entrepreneurial capability and external environment.

2.3 First research question/ hypothesis discussion: How do levels of entrepreneurial intensity influence organisational (Entity/ Agency) performance?

2.3 1 Entrepreneurial intensity

Research by Morris and Sexton (1996) confirms that entrepreneurial intensity (EI) embraces innovative behaviour, risk taking attitude, and proactive thinking of firms including the frequency of the company's engagement in such events. Opportunities need to be exploited by leveraging of available resources to realise faster growth, coupled with increased profit margins, and superior return on investment. Further, corporate entrepreneurial intensity alludes to the changing nature of entrepreneurship in an organisation (Covin & Lumpkin, 2011). The following Figure 3, represents the relationship and variable nature of entrepreneurship intensity, integrating the frequency of entrepreneurship and the degree of entrepreneurship.

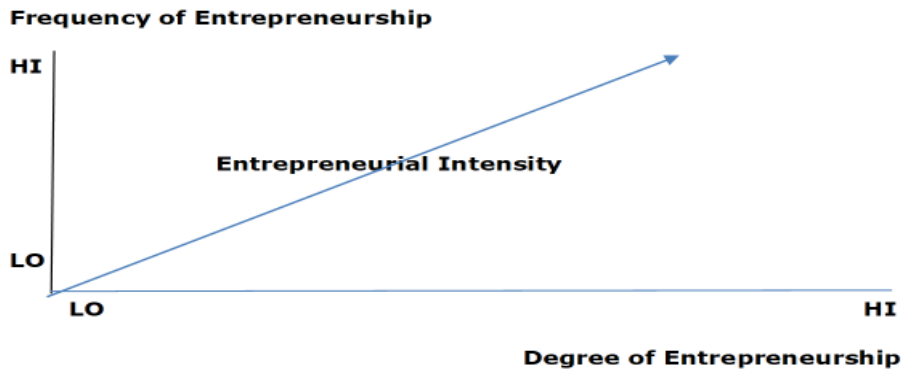

Figure 3: The dynamic nature of entrepreneurship

Source: Adapted from Morris and Sexton (1996:7).

The degree of entrepreneurship in Figure 3 is measured by risk-taking tendencies, innovative behaviour, and proactiveness. An example of innovation is creating a new product or service or technology range. Risk-taking implies huge investments on a new product against the basis of some calculated risk of potential loss. Proactiveness involves boldness to competitive aggressive behaviour in the face of fierce competition (Morris, 1998). Entrepreneurial intensity integrates the frequency and degree of entrepreneurship (Morris and Sexton, 1996: 7).

Figure 3 above demonstrates that the various positions of entrepreneurial intensity may be determined by the frequency and degree of entrepreneurship. Morris and Kuratko (2002) contend that there are different industry norms and varying external environmental influences interacting with internal organisational factors in an undefined manner. Nevertheless, the three most researched dimensions of innovativeness, risk taking, and proactiveness, form the backbone of the degree of the entrepreneurship process (Covin & Lumpkin, 2011; Morris, 1998; Lumpkin and Dess, 2001).

Soledad, Martinez, Angel, Martin,Teresa, Picazo and Marques (2020) concur that entrepreneurial intensity integrates the degree of entrepreneurial activity which is shaped by innovation activities, risk taking inclination, proactive tendences and frequency of entrepreneurial acts.

In making the current research study consistent with the previous research in this filed, this study adopts the stance that an entrepreneurial event comprises sum-total of innovativeness, proactiveness and risk–taking, as espoused by Morris and Sexton (1996).

On the basis of the above theoretical context and previous research findings, proposing a relationship between entrepreneurial intensity (innovation, risk-taking and proactiveness) and internal organisational capability as well as organisational performance within a legal framework, the first hypothesis is formulated anticipating that:

H 1: Entrepreneurial Intensity (EI) positively influences organisational performance.

2.4 Second research question/ hypothesis discussion: How do levels of entrepreneurial capability influence organisational (Entity/ Agency) performance?

2.4.1 Entrepreneurial capabilities

The last decade has witnessed the process of building entrepreneurial organisations. Hornsby, Kuratko, Holt and Wales (2013), contend that entrepreneurial capabilities tend to be visible when organisational boundaries are expanded, discretionary time is productively utilised, rewards or reinforcements are embedded in the organisational culture, work discretion, and management support underpin all organisational structures. The propensity of organisations to create new innovative products in a dynamic technological-business environment at the turn of the millennium, pre-empted the expansion of organisational capabilities.

Entrepreneurial Capability (EC) is conceived as the organisation's capacity to sense, identify, exploit business opportunities, and integrate its strategic objectives with available resources to create competitive customer value (Sondos, Zahra, Svejenova and Sapienza, 2013). Further, EC may serve as a catalyst to attain competitive advantage within the enabling leadership and innovative transformational business ecosystem. The integration of entrepreneurship, dynamic leadership, and effective competitive strategy is necessary to ensure maximum exploitation of internal capabilities and resources (Sondos, Zahra, Svejenova and Sapienza, 2013).

Castanias and Helfat (1991), in concurrence with Kogut and Zander (1992) posit that entrepreneurial capabilities are knowledge-based, tacit (but can be converted to explicit knowledge) and can provide sustained competitive market advantage. Entrepreneurial capabilities are embedded in the know-how, work experiences, depth of skills of employees, supervisors, and managers.

Obrecht (2004) adopts the view that entrepreneurial capabilities comprise a wide range of skills and abilities required for certain actions in an organisational setting,

and thereby proactively engage in innovative sustainable organisation-wide entrepreneurial dynamism. Following from the above perspectives, corporate entrepreneurship (CE) is conceived as a mindset to manipulate internal processes, attitudes, and new opportunities to reshape business strategy, establish new business units, and create new products for competitive market hegemony in the face of ever-changing technological environment (Dhilwayo, 2010; Morris, Kuratko and Covin, 2011). The link between CE and capability finds expression in organisational antecedents for corporate entrepreneurship.

Kuratko, Montagnon and Hornsby (1990) highlight the need for antecedents to be considered in enhancing entrepreneurial competitive advantage. These may include; initiating corporate culture change, extending organisational boundaries, use of company discretionary time, and reviewing reward recognition systems for good performance, coupled with visible management support.

The four generic models of corporate entrepreneurship as advocated by Wolcott and Lippitz (2007) as reflected in figure 4 below, provide more insight into the enabling environment for entrepreneurial capabilities, premised on the two dimensions of organisational ownership and resource authority under direct control of management.

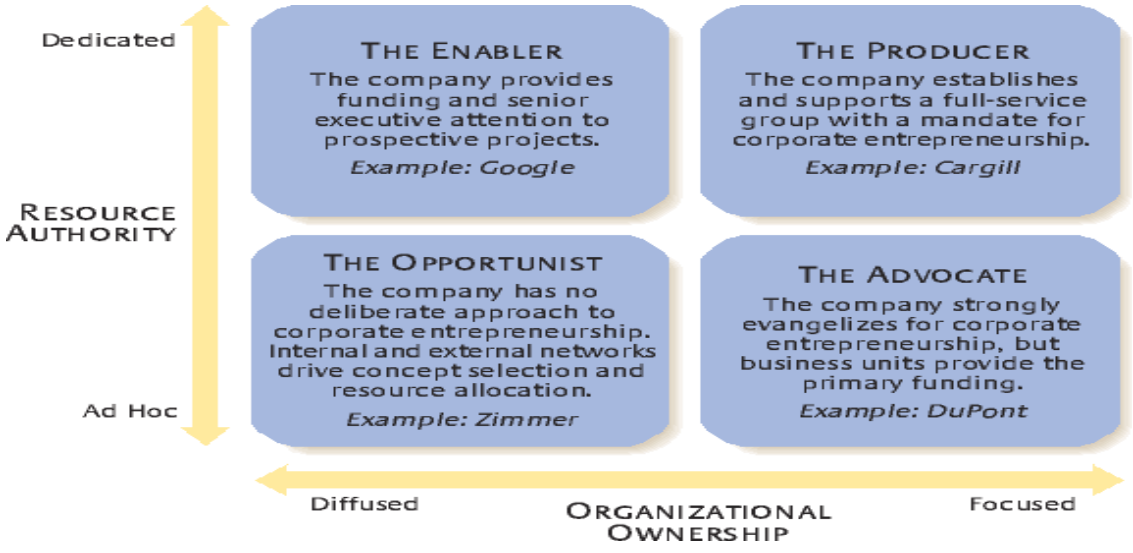

Figure 4: Four models of corporate entrepreneurship

Source: Wolcott and Lippitz (2010)

Wolcott and Lippitz (2010) elaborate on the four models, namely, Opportunist, Enabler, Advocate, and Producer. The *Opportunist Model* is linked to start-ups who may be encouraged to identify and exploit entrepreneurial opportunities without the added advantage of historical experience.

The *Enabler Model* is premised on an optimistic assumption of inherent entrepreneurial capabilities, and therefore management support is readily available in the development and innovative design of new product or service offerings.

The *Producer Model* invests in a dedicated corporate entrepreneurship division to develop and copyright new products to gain competitive edge over market competitors or protect emerging projects from rivalry. Managers with an entrepreneurial mindset can play a significant role in developing internal entrepreneurial capability by availing requisite resources.

The *Advocate Model* allows business units to autonomously provide core funding for innovation initiatives, while the organisation derives overall benefits from such proactive disposition. The selection of an appropriate model depends on the nature and content of the organisation or state-owned entity.

Importantly, the public sector corporate entrepreneurship under correct context, can add value to the growth of organisational capabilities leading to competitive advantage market position (Mahmood and Nayyar, 2012). The public sector bureaucracy endemic in state-owned entities is aimed at addressing key customer satisfaction index, shared governance framework, responsiveness to changing stakeholder needs and price efficient performances (Mahmood and Nayyar, 2012).

Another perspective to consider is the notion of diverse dynamic capabilities emerging from literature on management, innovation, and marketing, as enabler for developing innovative internal organisational and structural systems (Gottschalg and Zollo, 2007; Winter, 2003). Accordingly, there is a fundamental role played by managerial capabilities in the development and maintenance of CE. Prevailing literature seem to suggest that dynamic managerial capabilities tend to

enhance strategic reorientation, reconfiguration of resources mix, and redistribution of tacit and explicit knowledge forms (Kuratko and Morris, 2003).

Extrapolating from the resource-based view of an organisation, Winter (1987) further argues that organisation capabilities are high routine-based and enable the organisation to adapt to everchanging business environment. Further, Den Hond (1996), captures the capabilities perspective adopted by many organisations in Figure 5 below.

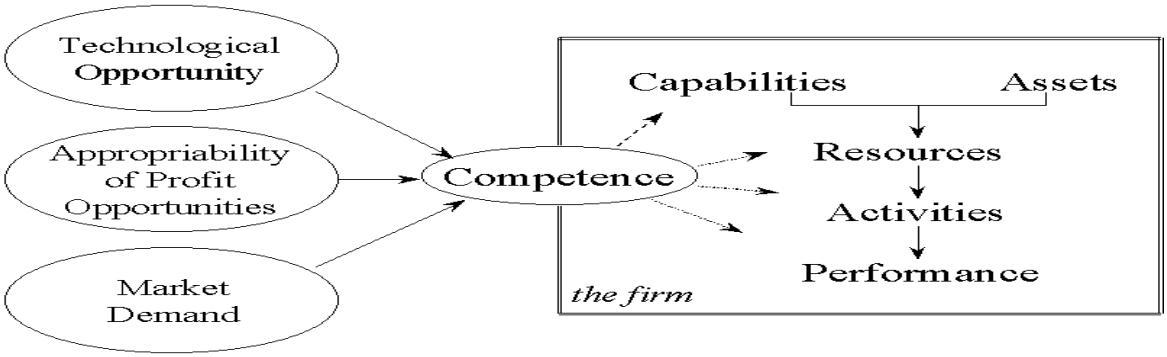

Figure 5: The capabilities perspective

Source: A capabilities perspective on the firm (Djelic and Etchanchu, 2017).

According to Figure 5 above, resources are required to execute tasks, and that the organisation must possess necessary competencies to develop and coordinate available resources. The above elements are integrated into competence, which embraces capabilities, asset management, performance management, and execution of activities. Other external factors which must be considered in an effort to outperform competitors, include:

a) *Market demand* which alludes to market research and development, new product design, internal process reengineering, etc.,

b) *Appropriability* which refers to the conditions which foster profitability attributable to the organisational resources, and

c) *Technological opportunity* implying the integration of routine, assets, and capabilities to produce technological innovation.

Scholars have historically embraced two views to explain the creation of entrepreneurial or corporate entrepreneurial capabilities, namely, Nelson and Winter's (1982) assertion that there is a natural tendency for organisational capabilities to emerge from interaction with the environment. Ambrosini and Bowman (2009) advance the contemporary notion that managers' intention in the execution of their managerial duties tend to produce organisational capabilities.

In general, scholars have identified three categories of entrepreneurial capabilities relevant for global organisations, namely,

a) *human capabilities* which include institutional knowledge, experience, resident skills and attitudes (Unger, Keith, Hilling, Gielnik & Frese, 2009; Shree & Urban, 2012),
b) *social capabilities* which allude to social networks, clients, strategic partners, and business relationships (Shree & Urban, 2012,2021), and
c) *technology capabilities* which involve keeping abreast of new technological developments (Zahra, Ireland & Hitt, 2000; Chavez, YU, Jacobs; Fynes; Weingarten ,2015).

Organisational capabilities are tacit, high routine, and closely associated with the resource-based view as well as the competence perspective. They assist organisations to maintain competitive advantage in a dynamic and everchanging technological entrepreneurial environment.

Shree and Urban (2012) maintain that state-owned entities, as commercial juristic persons, require tangible and competitive entrepreneurial capabilities to augment efforts to deliver public services to communities. The three key entrepreneurial capabilities are vital in enhancing organisational sustainability in an uncertain business. This philosophical stance pre-empts the formulation of the second hypothesis which proposes that entrepreneurial capabilities influence performance.

H 2: High levels of entrepreneurial capabilities tend to positively influence organisational performance.

2.5 Third research question/ hypothesis discussion: What is the extent of external environmental influences (moderating effect) on the relationship between entrepreneurial intensity, capability, and organisational performance?

2.5.1 External influences (compliance with legislation)

According to the *Presidential Review Committee on State-owned Entities (*2012), the service delivery legal mandate of state-owned entities in South Africa is unnecessarily complex and difficult to understand. The Public Finance Management Act and The Companies Act provide overarching governance framework for SOEs. According to the PFMA schedule 2 and 3b entities must report their financial and non-financial performance to National Treasury for national entities or Provincial Treasury for SOEs funded by provincial local fiscus, respectively. Parliament or legislature assumes overall authority and oversight role (National Treasury, 2005, 2014,2018). The oversight duty of parliament is normally executed by the Standing Committee on Public Accounts (SCOPA) and the Portfolio Committee on State-owned Enterprises.

As discussed earlier, post 1994 state-owned enterprises governed by the PFMA and the Companies Act were meant to be profitable entities to aid government in meeting the daunting service delivery challenges in previously disadvantaged communities. This led to a dual role of commercial and non-commercial mandates (National Treasury, 2014: 26). In South Africa, funding of SOEs is still skewed in favour of non-commercial mandates to achieve other societal imperatives (Presidential Review Committee on State-owned Entities, 2012:8). The skewed financing and regulation of non-commercial mandates flows from the SOE ownership objectives, which may potentially compromise regulatory oversight (Steyn, 2011:33). There is therefore a need to separate commercial and non-commercial mandates to enable effective monitoring and evaluation. In the current economic climate, retarded economic growth and inadequate revenue collection by government, make it imperative to establish economical and sustainable SOEs in the South African environment.

The dynamic nature of the South African milieu pre-empts a constant review of the economic role of SOEs to keep abreast of new developments locally and globally. A challenge in the South African context is that South Africa interacts with BRICS countries, International Monetary Fund, etc. BRICS was coined by Goldman Sachs in 2001 and comprises five major emerging countries - Brazil, Russia, India, China and South Africa. Formal dialogue commenced in 2009, and South Africa joined in 2011.The aggregate trade is approximately 18% of the global trade. The BRICS block was envisaged as emerging powers comparable to the United States, 'the five largest economies of the world in the 21st century' (BRICS Information Centre, 2021). For this and other reasons, the PRC suggested that government should, "periodically review and balance the social, political and economic priorities of SOEs".

Further, Uzkurt Kumar, Kimzan and Sert (2012) are leading scholars on the theory on the effects, positive or negative, of environmental factors on an organisation. Consequently, innovative thinking and proactive action in challenging environments, may result in organisation's enviable competitive behaviour. Therefore, there may be a discernible relationship between the organisation's EI, the extent of external environmental influence, and levels of organisational performance (Kuratko, Morris & Covin,2011).

Rezaei and Ortt (2018) maintain that the dynamic nature of external environment tends to moderate the relationship between entrepreneurial behaviour and organisational performance. In the same logic, the third hypothesis in this research posits that environmental influences will moderate levels of firm's EI, EC and organisational performance, where it is envisaged that:

H 3: External influences (compliance with legislation) will moderate the relationship between EI, EC and organisational performance.

2.6 Conceptual framework of hypotheses

Hypotheses

Following from above discussion, the proposed research displays the following conceptual model as depicted in Figure 6: Theoretical conceptual model of the study.

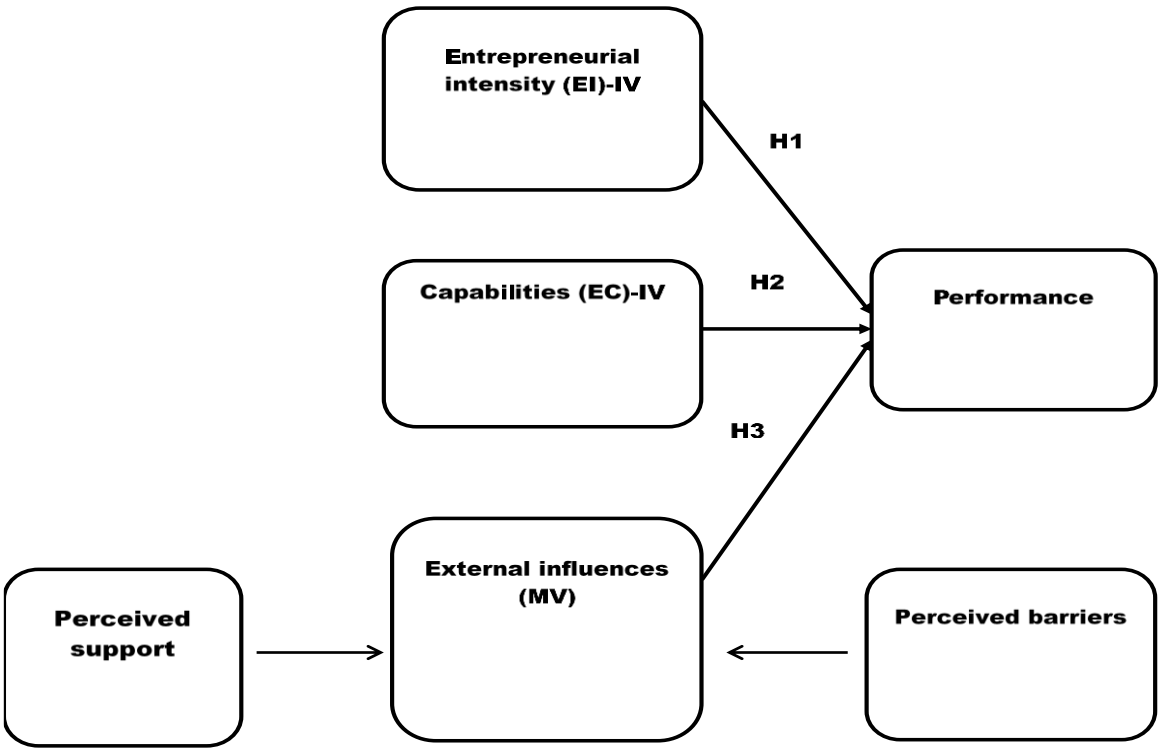

Figure 6: Theoretical conceptual model of the study

Source: Author's own construction

Hypothesis 1

Entrepreneurial Intensity positively influences organisational performance.

The operational definition in this study is that Entrepreneurial Intensity (EI) alludes to the frequency that the organisation engages in innovative activities, risky business undertakings, and proactive strategic behaviour to achieve defined goals and objectives for the communities (Kearney & Meynhardt, 2016:20).

This implies the level of success and risk-taking in creating new entrepreneurs, which will subsequently contribute to the growth of the local economy. Urban (2021) further notes that innovation can contribute to the enhancement of the quality of public services, and subsequently aiding problem-solving capacity of the public sector in the face of service delivery challenges (Urban,2021). Further, the risk aspect in the public sector is unique because the public sector receives funding allocation from the fiscus and therefore must be held accountable to oversight bodies and political authorities who are themselves risk-averse (Sadler, 2000). Proactiveness in the public sector is cumbersome, because of varied and conflicting stakeholder demands. Public managers must be agile and assertive enough to maintain a balance between proactiveness and managing stakeholder demands (Kearney and Meynhardt, 2016).

Hypothesis 2

High levels of entrepreneurial capabilities tend to positively influence organisational performance.

Entrepreneurial Capabilities (EC) refers to a spectrum of capabilities in an organisation (Venter and Urban, 2015). These may include leadership skills, technical skills, innovative capacity, etc.

Hypothesis 3

External influences (compliance to legislation) will moderate the relationship between EI, EC, and organisational performance.

External influences refer to legislation, which is a term used to describe preparing and enacting of laws. This function is usually performed by parliament, legislature, or local government. Legislation forms an external moderating influence which moderates the activities of a state-owned entity in a particular geographic zone. Schindler (2019) explains that an independent or predictor variable (IV) may not be manipulated or altered but may affect the outcome or dependent.

Entrepreneurial Intensity and entrepreneurial capabilities are independent variables influencing organisational performance. Performance (organisational performance) is a dependent variable influenced by independent variables.

2.7 Conclusion of Literature Review

The literature review conceptualised in historical context the notion of entrepreneurial intensity which is understood to embrace the level and frequency of entrepreneurship within an organisation. Entrepreneurial intensity (EI) encapsulates innovative behaviour, risk taking attitude, and proactive thinking of organisations including the frequency of the engagement in such events (Morris et al., 2008). Several studies attempted to establish the relationship between EI and performance. The literature highlighted specific entrepreneurial capabilities visible when organisational boundaries are expanded, discretionary time is productively utilised, or rewards/ reinforcements (Hornsby, Kuratko, Holt and Wales (2013). Wolcott and Lippitz (2007) elaborated on the four models, namely, Opportunist, Enabler, Advocate, and Producer. The models provided more insight into the enabling environment for entrepreneurial capabilities, premised on the two dimensions of organisational ownership and resource authority under direct control of management.

The legal framework was discussed in relation to post 1994 state-owned enterprises. SOEs have been governed by the Public Finance Management Act and the Companies Act to enable entities to be compliant, and profitable contributing to government's efforts in meeting the daunting service delivery challenges in communities.

The following hypotheses were discussed and formulated as first order hypotheses allowing general explanations using the main constructs. These hypotheses are restated in chapter 4, namely:

Hypothesis 1:

Entrepreneurial intensity is positively related to international performance.

Hypothesis 2

High levels of entrepreneurial capabilities tend to positively influence organisational performance.

Hypothesis 3

External influences (compliance to legislation) will moderate the relationship between EI, EC and organisational performance

Figure 6 depicts the theoretical framework model of the study. The model comprises three sets of constructs, namely;

(1) The entrepreneurial intensity construct consisting of dimensions of degree and frequency of entrepreneurship,

(2) The entrepreneurial capabilities construct, underpinned by dimensions of social capital, human capital, and technology, and

(3) The external environmental variables(influences) which play a moderating role between entrepreneurial intensity-performance and entrepreneurial capabilities-performance The next chapter 3 focuses on research methodology adopted in this study.

CHAPTER 3: RESEARCH METHODOLOGY

Methodology alludes to the philosophical rationale for the choice of approach to research which, subsequently, informs the relevant sampling techniques, data collection and analysis. This chapter presents the philosophical framework, and the methodology followed to test the hypotheses and provide answers to sub-problems posed in previous chapters. The sequence of discussion in this chapter is, firstly, the description of philosophies and theories underpinning the research. Next, this chapter focuses on the research design adopted, followed by details of population and sampling, the design of the research instrument, data collection and analyses processes, and then the validity and reliability measures, as well as the limitations of the study.

3.1 The philosophical paradigm and research methodology

The primary research question is: **'***what is the extent of influence of entrepreneurial Intensity, entrepreneurial capability, and external environmental factors (moderating effect) on organisational performance in state-owned Agencies, Entities and Components*?

After considering the research question, the researcher adopted the quantitative research method based on philosophical considerations. Therefore, the philosophical perspective (stance) in this study is quantitative. Further, the research adopted a post-positivism stance because positivist knowledge claims involve large samples and the use of statistical measurements (Moon & Blackman, 2014). Quantitative methods include surveys in the data collection, among other methods. Creswell (2008) adds that quantitative research is used to test theories by 'examining relationship among variables.' The empirical approach invariably includes problem formulation, hypothesis development, testing, and arriving at some conclusion (Creswell, 2008).

Research methodology is the philosophical rationale expressed in the form of a specific procedures or techniques used to identify, sample, collect, and analyse

data about a topic. (Wilkinson : 2000). This section provides details of methodology followed to test hypotheses discussed in the previous chapters.

The research approach in this study is deductive. Gulati (2009) contends that deductive approach is rule-driven and premised on a hypothesis, derived from the propositions of the theory. Generally, the following steps are common in deductive approaches (Kok, 2007):

1. Deducing hypothesis from theory and literature;
2. Formulating hypothesis in the study, using operational terms stating proposed relationships between two specific variables;
3. Data is collected;
4. Testing hypothesis using relevant analytic quantitative research method(s) such as regression and correlation analysis, mean, mode and median, etc.;
5. The outcome of the test is examined to confirm or reject the theory/ hypothesis. Literature review becomes relevant in comparing research findings; and
6. The theory may be modified or confirmed.

As stated above, the common characteristics of quantitative or empirical research is establishing the relationship between variables (Creswell, 2008). Similarly, this research study is proposing that relationships exist between the following constructs or variables, namely, entrepreneurial intensity (EI), entrepreneurial capabilities (EC), and the external environment influences. As stated in Chapter 1(1.4), the main research problem in this study was to examine the relationship between (EI/EO), capability and external environmental influences, and their influence on organisational performance, in SOEs in the Gauteng Province.

The ensuing three hypotheses stated above (2.3; 2.4 and 2.5) were framed as research hypotheses instead of statistical null and alternative hypotheses, except in the regression analysis section (Boris, 2021). This research endeavoured to solicit support for them. The emergent hypotheses were summarised in Section 2.4 and are re-stated as follows:

Hypothesis 1: Entrepreneurial Intensity positively influences organisational performance

Hypothesis 2: High levels of entrepreneurial capabilities tend to positively influence organisational performance

Hypothesis 3: External influences (compliance to legislation) will moderate the relationship between EI, EC and organisational performance

In chapter 4, correlations and regression analysis were used to test the statistical null hypotheses, and the rejection of these, would lend support to the research hypotheses.

The constructs embedded in the hypothesis statements contain three levels which vary in their levels of abstraction, according to first, second and third orders respectively, as reflected in the research instrument. Table 1 reflects the order structure of the constructs. Summative measures are used across the subscales; EI is level 1 construct, and is measured by considering jointly subscales for EO and frequency of entrepreneurship (both on level 2). EO is also measured by considering all items measuring level 3, namely, dimensions of innovativeness, proactiveness, and risk-taking. The same logic is true for Entrepreneurial capability, performance, environment, organisational size and age, as well as industry, as reflected in Table 1 below.

Table 1: Levels of constructs

Variable type	Level 1 construct	Level 2 construct	Level 3 construct
Independent Variable (IV)	Entrepreneurial Intensity	Frequency of entrepreneurship	Innovativeness
		Degree of entrepreneurship	Proactiveness
			Risk-taking
Independent Variable (IV)	Entrepreneurial capabilities	Social capital	Social interaction
			Relationship quality
			Network ties
		Human capital	Institutional knowledge
			Business knowledge
		Technology	Technology distinctiveness
			Technology acquisition
Dependent Variable (DV)	Performance (organisational)	Economic performance	Overall profitability
			Employee growth
			Organisational goal attainment
Moderator	Environment	Environmental hostility	Compliance to legislation
		Environmental volatility	
Control	Company/organisational size		
	Company/organisational age		
	Industry	Industry type	
		Industry technological intensity	

The normal categorisation of empirical measurements is either dependent or independent variables. The independent variables would influence the outcome of other variables, while the dependent variable(s) would be the outcomes

(prediction) variable. The researcher, in the study, is concerned with the influence of the changes in the independent variable on the dependent variable.

Further, the quality of the relationship between the independent and dependent variables may be influenced by the presence of another variable (external influences in this case), the moderator. This relationship may further be influenced by the change in levels of another variable, the moderator as shown in Table 1 above. In chapter two, the researcher used the constructs of hostility or volatility to describe the environmental impact on the dependent and independent variables (level 1 constructs), while compliance to legislation is classified as level 3 construct. Organisational size and age are level 1 constructs only since there is no theoretical basis for any combination (except 'control'). Industry is construct level 1, while industry type, and industry technological intensity are level 2 constructs. In Chapter two, more details were offered in Figure 6, paragraph 2.6.

It is postulated that the poor performance of the Gauteng state-owned entities may be attributable to low levels of entrepreneurial intensity and capability at the organisational level. It is important to consider these elements when exploring entrepreneurial intensity and capability at the organisational level within the corporate entrepreneurship philosophy.

It is not clear, based on available literature on corporate entrepreneurship, the extent to which entrepreneurial intensity and capability at the organisational level influence performance, while at the same time considering external influences (e.g., legislation) on this relationship. The three hypotheses mentioned above have been framed as research hypotheses rather than as statistical null and alternative hypotheses.

3.2 Research Design

The philosophical stance (approach or paradigm) influences the research design, while the research design is a framework for planning the research study. The objective of a research design is to create a plan upfront incorporating the following; population, sampling, and the type of data to be collected. This makes it easy for the researcher to plan the resources and time required for the study.

The research strategy (or methodology) is perceived as a systematic process or step-by-step plan of action which assists the researcher to conduct the research according to schedule (Creswell, 2013). In this study the research strategy was to use an online web-based survey. The advantages of online surveys include the ease of collecting large data within a short space of time, and perceived anonymity. The disadvantage is that there is inadequate sampling frame and respondents may be suspicious of unsolicited emails (Sincero, 2012). Respondents were encouraged to participate by assuring them of confidentiality and anonymity. The self-administered questionnaire was easy to read in order to maximise participation, coupled with the ethical letter from WBS which was also attached. “Appendix A” contains details of the survey questionnaire. A summary of important elements of the research design is attached as “Appendix B” - Table 2: summary of the search design for the study), and Table 3 is attached as Appendix C (Table 3: Consistency matrix).

3.3 Population and Sample

3.3.1 Population

The size of the population is an aggregate of 420, according to their official staff establishments kept by respective Human Resources divisions, from 6 agencies. The sample size is 201 at a statistical confidence level of 95%. Using the Qualtrics Sample size calculator, the original sample was estimated as follows:

Confidence Level: 95%

Population Size: 420

Margin of Error: 5%

Ideal Sample Size: 201

(www.Qualtrics, 2022)

Note that this number was adjusted to 52 sampled and maintained the 95% confidence level. This adjustment was necessary due to the unprecedented COVID -19 pandemic which limited access to respondents in compliance with the Disaster Management legislation enforced by government.

The study focused on 6 state-owned entities in the Gauteng provincial government. These entities were selected based on their mandates to promote the upskilling and development of SMME sector in the province. A formal request was made in writing and submitted to the Central office to obtain necessary permission for employees to participate in the online survey (Urban, 2021; WITS, 2021). The final sample was 52 full questionnaires or a response rate of 100%. Previous related studies had reported response rates of 14% (Urban and Nikolov, 2013). This response rate was acceptable for online survey studies (Urban, 2021). Respondents were mostly males (68%) and the majority of the sample (55%) was in the 18–40 age group, as shall be discussed in detail in the next chapters 4 and 5.

3.3.2 Sample and sampling method

A list of potential respondents in a tables 4(a) and (b) below, summarises the sample categories envisaged in the research.

Table 4 (a): Profile of respondents (original planned numbers)

Description of respondent type	Role activity	Number to be sampled
Senior Management	Policy making/interpretation and evaluation	30
Middle Management	Policy analysis, implementation, and interface with the public	60
Junior staff	Policy implementation and interface with the public	111
Total		**201**

Data analysis

The following aspects was considered in the dataset analysis:

Analysis of the research objective, sub-research questions as well as analysis of collected data (Creswell,2008)

Table 4(b): Actual adjusted numbers during Covid19 lockdown

Description of respondent type, eg Manager,	Role activity	Number to be sampled
Senior Management	Policy making/policy interpretation and evaluation	15
Middle Management	Policy implementation and analysis and interface with the public	15
Junior staff	Policy implementation and interface with the public	22
Total		**52**

3.4 The research instrument

In alignment with the research design, the study was based on a structured online quantitative questionnaire. This instrument was previously used and published by other researchers. The instrument (in Appendix A) covers all the key constructs in this research, namely, Entrepreneurial Intensity, performance, and external environmental influences, including all subsets (See Table 5 below). However, during the pilot phase, it became clear that minor modifications needed to be made to accommodate local context relating to state-owned entities and the external moderating legal environment in South Africa. The preamble to the questionnaire indicated the purpose of the survey and assured confidentiality and observance of

participants' right to voluntarily participate or terminate participation as stipulated by research ethics protocols.

The study was quantitative in nature, and therefore a questionnaire survey was selected as appropriate. The instrument in this study was a self-administered questionnaire. This instrument had been used in previous related studies before and was adapted for this study to ensure content validity. The first section of the questionnaire covered demography matters such as age of organisation, age range of respondents and gender classification, while the rest of the questionnaire focused on the constructs. The questionnaire was emailed to all respondents as per verified address book.

a) *Data collection tool pre-test*:

The pre-test for online questionnaires was conducted to ensure that the tool contents are valid and easy to understand by the respondents. The instrument was pretested for content validity (establishing if questions and results seem valid based on their face value), internal validity (the extent to which the dependent variable is due to the independent variable/s), external validity (the extent to which the sample results can be generalised to the larger population) and construct validity(the degree to which the research measures the construct - that is, the degree to which inferences can be made from operationalisations). This was done from start to basic data collection. Subsequently, *innovation activity*, was added to the instrument to illustrate the practical application of innovation in an organisation. Ten (10) respondents were randomly selected from the target sectors for the pre-test sample.

b) Variable measurements

All items for EO(EI) were adapted from existing literature and they covered five dimensions using a 7-point Likert scale, ranging from- strongly disagree; disagree; somewhat disagree; neither agree nor disagree; somewhat agree; agree; strongly agree.

A total of 43 items were developed and a further 4 were added after pre-testing, consultation, and refinement of the questionnaire, which led to a final total of 47 closed ended questions (adapted from previous instrument). Paragraph 3.7 alludes to issues of reliability and validity of instruments that previous studies had established. The following Table 5 captures key details of elements of the survey instrument in alignment with Table 1 above (Levels of constructs).

Table 5: Measurement instrument

Description of construct/variable/items	**Sources**	**Prior reliability and validity issues**
The study contains three main independent variables (proactiveness, risk taking, innovation, and innovation subscale. The frequency table contains sixteen items EI measured the degree and frequency of innovativeness, risk, and proactiveness. Frequency used summative measured of entrepreneurial events. EI was measured using a seven-point Likert scale as follows: '(1) strongly disagree = (2) Disagree (3) Somewhat disagree (4) Neither agree nor disagree (5) Somewhat agree (6) Agree (7) Strongly agree.	Covin and Lumpkin (2011)	The KMO value was found to be high at 0.81 and Bartlett's test of sphericity was significant ($p<0.001$). Therefore, the factor analysis was allowed to proceed

Description of construct/variable/items	Sources	Prior reliability and validity issues
The variables of Entrepreneurial capability and social capability have four items each, while technology has five. EC measured abilities for specific actions in organisational settings and is indicative of the capacity be start and sustain an entrepreneurial dynamism. Three EC competencies were measured	Camisón and Villar-López (2010)	The scale reliability of 0.93
Dependent variables: Organisational performance: organisational performance and growth used (4 items); Performance measured over the past three years on an ordinal categorical scale	Covin and Lumpkin (2011)	
Moderator variables: Environmental influences include hostility (4 items) such as restrictive legislation	Scheepers, Hough and Bloom (2007)	The hypothesised environment construct used two separate distinct dimensions

Source: Wits library repository (wiredspace.wits.ac.za)

3.5 Procedure for data collection

The study adopted a quantitative approach which involved definitions of hypothesis(es), independent variables, and dependent variables. Data collection method involved self-administered online survey questionnaires. The time horizon was cross-sectional because the study required primary data collected from a population at one specific point in time.

The Advantages of cross-sectional studies are that it is possible to collect data on more than one case at a single point of time, and at a cost-effective manner (Bryman, 2007). The real challenge of cross-sectional data is that it cannot determine a causal relationship (cause and effect) because other variables at play may influence the relationship between the dependent and independent variable (Bryman, 2007).

The hypotheses in this study pre-empt gathering of data through the selected methods (Kock, 2007). The procedure for collecting data using the online survey approach involved the following steps:

1) Selecting a population of study,
2) Applying appropriate sampling methods,
3) Designing and executing a data analysis plan,
4) Pre-test the survey (This survey),
5) Writing good and unambiguous questions,
6) Choosing effective questionnaire distribution options (web -based/ online survey),
7) Analyse collected data, and
8) Generate report of the results.

3.5.1 Primary data collection methods

In line with Creswell (2008) and Kock (2007), this study used an online survey to collect data from respondents captured based on the sample frame. In addition, this survey was pretested to eliminate ambiguity in wording and instruction before actual distribution. The data collection period was conducted over a period of 10 weeks. The questionnaire was distributed using a web link contained in an email to the targeted respondents. The responses were collated through a collector which had been setup on the following link: https://wits.eu.qualtrics.com/jfe/form/SV_eEStEZXw96PDrxA.

3.5.2 Secondary data collection methods

Secondary data refers to ‘data that have already been collected for some other purpose’. This data can be effectively used in research studies Alen Mike (2017). The researcher, in the present study, conducted extensive literature search which involved document review, journal articles analysis, and organisational reports in both online and offline modes (content and descriptive analysis) to achieve the objectives of the study.

3.6 Data analysis and interpretation

Data analysis method is aligned to the main research question and problem statement. In this study the quantitative data are analysed to the extent that they provide answers to the problem statement regarding the extent of EO/EI and capability’s influence on organisational performance within a regulated public sector environment.

3.6.1 Quantitative data analysis

The quantitative primary and secondary data analyses were, as discussed above in this chapter, performed based on their data type, using Excel, SPSS 22.0, Office Word format, and other tools. This data analysis was mainly based on numerical/ quantitative data analysis techniques. Using the SPSS software package, it easy to analyse, and compare the results and variables used in the research questionnaires. Excel capability was also used for descriptive statistics in the form of graphs and pictures and to calculate some analytical solutions (Oreilly, 2022).

The research problem in this study is based on the influence of entrepreneurial intensity, capability, and external environmental influences on organisational performance, in state-owned Agencies, Entities and Components. To test the hypothesised relationship, multiple linear regression statistical models were built.

3.6.2 Regression analysis

*A multiple linear regression analysi*s is useful in explaining the relationship between variables. Usually, one continuous dependent variable is juxtaposed

against two or more independent variables (Hair, Black, Babin and Anderson, 2014). The research problem required a confirmatory study to statistically test the hypotheses. The regression analyses involved measures of the constructs at the highest level (first order), followed by the second level performance measures on the second level predictor measures, and then the third level measures (e.g., entrepreneurial capabilities: human capital, social capital, and technology and their respective subscales).

3.6.3 Moderator effects

A moderator analysis was used to determine if the relationship between two variables (entrepreneurial intensity and capabilities) depends on (is moderated by) the value of a third variable (external environment). Tabular formats and graphic representations of analysed data were produced, coupled with hypotheses testing using Pearson correlations tests and Chi-Squared tests contained in the Statistical Package for Social Sciences (SPSS) Version 22.

3.6.4 Regression assumptions

Regression assumptions using SPSS statistics, included statistical assumptions to be satisfied before the estimation of the multivariate model (Aguinis: 2004, Jaccard & Turrisi: 2003, Jose: 2013), namely;

a) *normality*: Ensure that data are normally distributed.

b) *linearity:* There is a need for a linear relationship 'between the dependent variable and the independent variable for each group of the dichotomous moderator variable'.

c) *multicollinearity*: This occurs when there exists highly correlated two or more independent variables.

d) *independence of error terms*: Ensure normal distribution of the residuals (errors)**.**

e) *equality of variances (homoscedasticity):* This refers to 'when the error variances are the same for all combinations of independent and moderator variables.

f) Ensure that there are no *significant outliers***,** high leverage points or highly influential points.

The above-mentioned statistical assumptions were addressed and remediated in this study to enhance the accuracy of the analysis. Chapter 4 provides further details of these assumptions.

3.6.5 Descriptive statistics

Another aspect of data analysis and interpretation employed in the study was descriptive statistics of the composite variables. Further, an analysis of the continuous variables, means, standard deviations and variance in the variables would be presented. Skewness and Kurtosis indices were used to compute the frequency distributions to describe the categorical demographic characteristics of the respondents.

3.7 Validity and reliability of research (previous instrument used)

The measures selected were based on *previous studies* where, invariably, instrument **validity and reliability** aspects had already been established and which confirmed that:

(1) the entrepreneurial intensity factor structure is aligned to the three theoretical dimensions (Covin & Lumpkin, 2011).

(2) entrepreneurial capabilities measure comprise human factors, social factors, and technological factors (Camisón & Villar-López, 2010).

(3) the environmental scale consisting of two main factors which reflect the distinct sub-scales of environmental hostility and dynamism aligned to discriminant and convergent validity (previously established) (Scheepers, Hough & Bloom, 2007).

Consistent with prior research findings, control variable were included, namely, theoretical importance of organisation's age, size, technological status, and industry performance, and were reported to be significant (Urban, 2010). The organisations were all established after 1991, albeit different sizes and varying degrees of technological positions. In addition, reliability and validity of the various scales were further tested.

Further, validity, according to Saunders, Lewis and Thornhill (2009), is a reasonable indicator and a subjective judgment that the instrument measures what it purports to measure in terms of relevance. The researcher ensured that uncertainties in words of the data collection instrument were substituted with appropriate phrases. In addition, the instruments were submitted to the research ethics committee through the supervisor of the research to determine whether the instruments met the face validity measurement.

The need to comply with occupational health and safety conditions, and the added benefit of the pre-test study ensured that the data collection instrument was appropriate.

3.7.1 External validity

External validity implies the extent to which the research findings may be generalised to other situations (broader context), amidst other variables, other time, settings and measures (Wilke & Humphreys**,** 2020; Cooper and Schindler, 2008). To enhance external validity, the researcher sampled respondents (n>50) from six state-owned entities. However, the limited convenient sampling methodology does not guarantee generalisations across the larger population.

3.7.2 Internal validity

Internal validity refers to establishing a direct causal relationship between independent and dependent variables. Confirming this relationship makes the findings more credible and trustworthy (Swanson & Holton: 2005, Polit & Hungler: 2013). Internal validity enabled the researcher to be conscious of

and keep under control, confounding variables which may potentially contaminate the results (Damm, 2007). Table 5 (Measurement instrument) provided additional details contained in the measurement instrument.

3.7.3 Reliability

Reliability generally refers to the consistency a method measures a phenomenon (Shuttleworth:2015). The theory of reliability proposes that there is no absolute reliability but estimates reliability in four different forms (Cooper and Schindler, 2008):

1. Inter-rater or inter-observer reliability**:** which refers to the degree of consistency of estimates on the same phenomenon by different observers.
2. Test-retest reliability alludes to consistency of a measure of the same test over time.
3. Parallel forms reliability is the use of different versions (assumed equivalent) of the same test and establishing consistency of results.
4. Internal consistency reliability is consistency of results of individual items within the same test

Internal consistency reliability in the current study was used to establish the consistency of responses to items on the 7-point Likert scale. The items in the instrument were 42. However, reliability of an instrument is important and necessary, but it is not a 'sufficient condition for validity' (Cooper and Schindler, 2008).

Cronbach's alpha (*Cronbach's alpha (α)*, *item-to-total* correlation, and *inter-item* correlation) was used to determine internal-consistency coefficient in this study. Internal consistency is invariably used to assess the extent of the survey or test items' reliability (Hair, Black, Babin and Anderson: 2013). Accordingly, a high degree of internal consistency denotes those items in the survey instrument used to assess the given construct, by and large, yield similar scores. Cronbach's alpha is commonly used to measure internal consistency of items in a single measurement instrument which is administered to respondents or

participants on one occasion to avoid confounding variables. Reliability coefficient is from 0 to 1. As a rule of thumb if Cronbach's $\alpha > 0.7$ then internal consistency reliability is good. However, if Cronbach's $\alpha < 0.6$ then internal consistency reliability is regarded as poor. The inter-item correlation must exceed 0.30 (Hair et al, 2013)

3.8 Limitations of the study

The study is cross-sectional and not longitudinal. A cross-sectional study gathers data from various respondents at one time. In longitudinal studies, data are collected from the sample at points over time (Gravetter & Forzano: 2012). Future longitudinal studies using the same sample at several points in time, may potentially yield different results on the influence of entrepreneurial intensity and capability on organisational performance. Longitudinal study was not feasible in view of the limited timelines for this study. The limited sample size to mitigate the limitations of the country-wide *state of disaster* in the face of the covid-19 pandemic, somewhat compromised the generalisation of the research results.

The study was conducted using self-administered online questionnaire survey, with inherent common method bias. However, the undertaking to observe anonymity and confidentiality was emphasised to encourage participation. Further, sensitive data was not requested. Future studies might use alternative data collecting tools to enhance the research design.

The respondents were generally heterogeneous and did not consider work positions as a measurable variable which may elicit specific responses. Future research may conduct a comparative study on the differentiated views of key respondents. The next chapter (Chapter 4) presents the statistical results of the study.

CHAPTER 4: PRESENTATION OF RESULTS

4.1 Introduction

This chapter is dedicated to presenting the results of the study. The sequence of the discussion will be as follows: First, the demographic profile of the respondents, followed by the descriptive results for each construct alluding to the organisation that the responses represent. The subsequent discussion involves the details of the reliability and validity properties of the measurement aspects of the model to ensure suitability for hypothesis testing. In the final section, each hypothesis is modelled and evaluated to determine the extent to which entrepreneurial intensity, capability and external environmental influences positively impact organisational performance in state-owned agencies.

4.2 Demographic profile of respondents

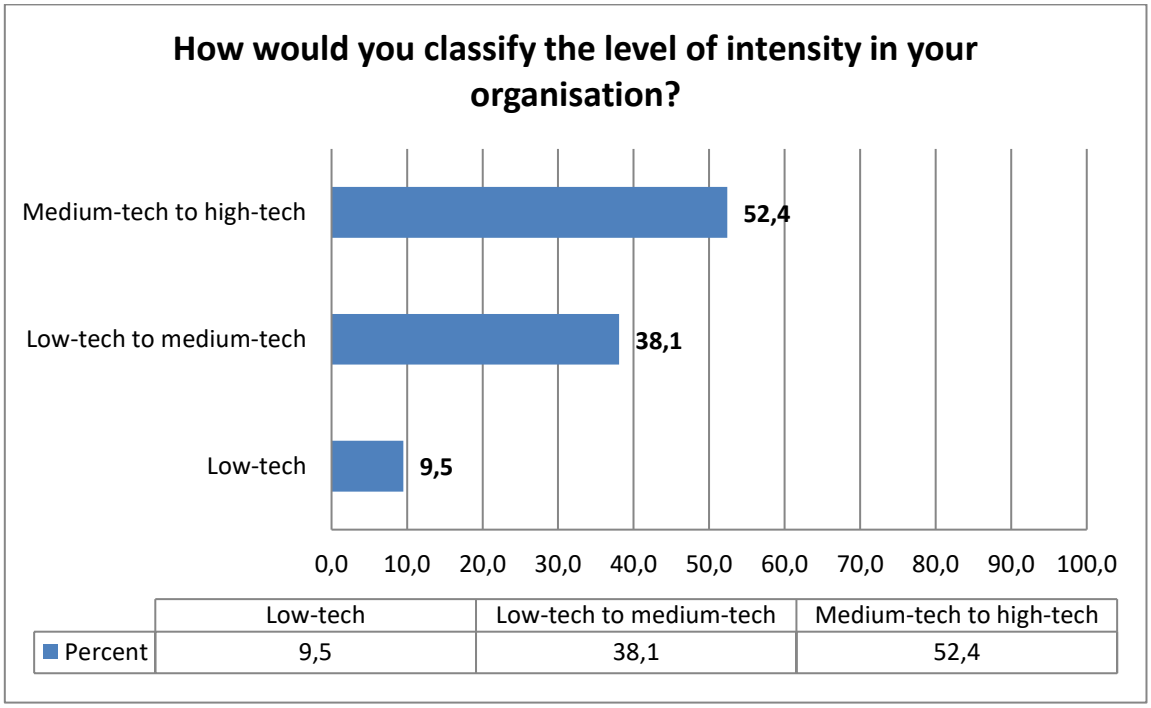

Figure 7: Level of Intensity

Figure 7 shows that 9.5% of respondents belonged to organisations(agencies) classified as low tech, while 38.1% were from low-tech to medium-tech organisations, and 52.4% belong to medium-tech to high-tech organisations. Overall, the majority of respondents emanated from medium technology to high-technology organisations.

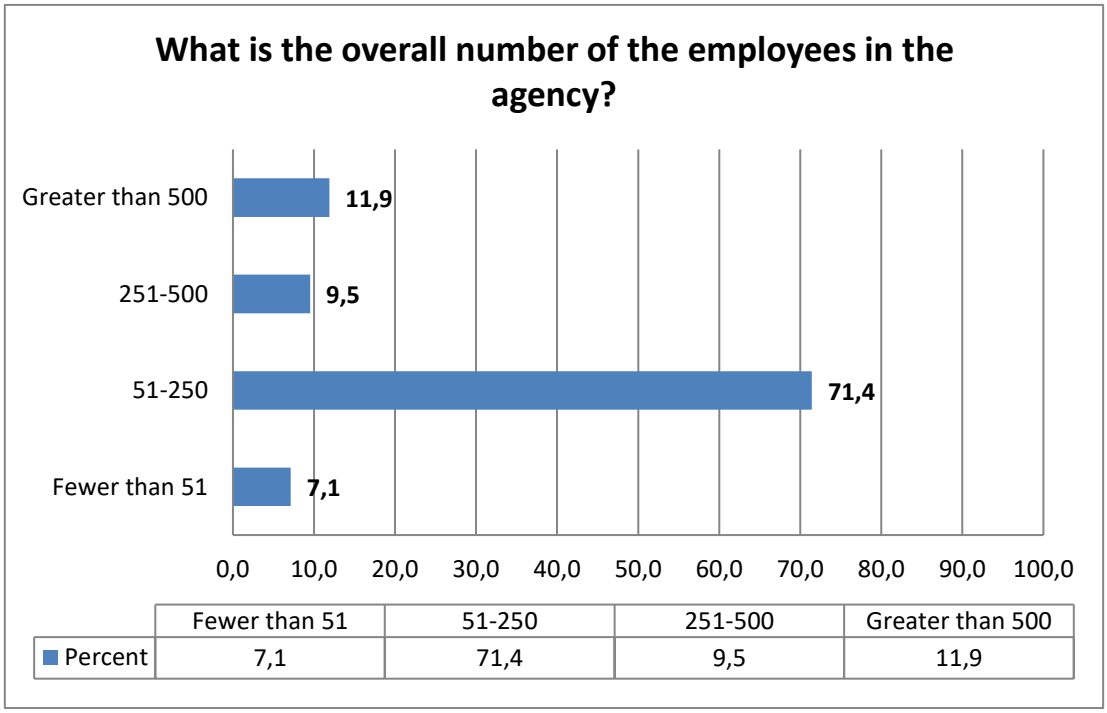

Figure 8: Number of Employees

Figure 8 above, highlights that 7.1% of respondents were from organisations with fewer than 51 employees, 71.4% of organisations employed between 51-250 employees, while 9.5% employed between 251-500 employees. 11.9% of the organisations sampled employed greater than 500 employees. Overall, most respondents belonged to agencies which employed between 51 to 250 employees.

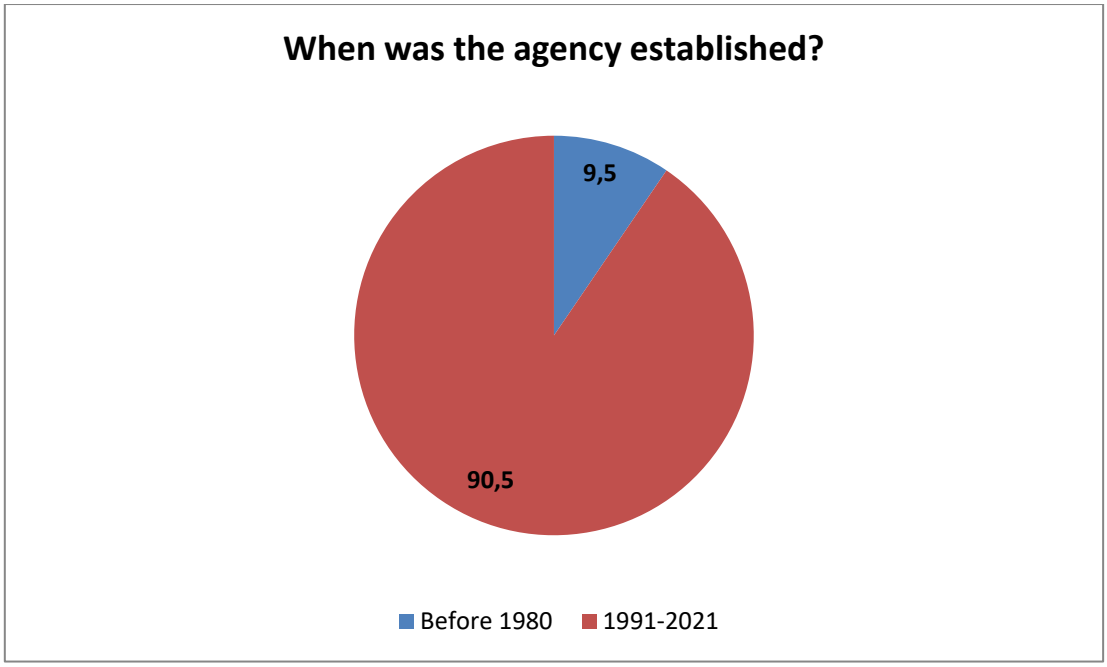

Figure 9: Age of Organisation

Figure 9 indicates that 90.5% of the organisations were founded after 1991, while only 9.5% were established before 1991. Therefore, the majority of the organisations are less than 30 years old.

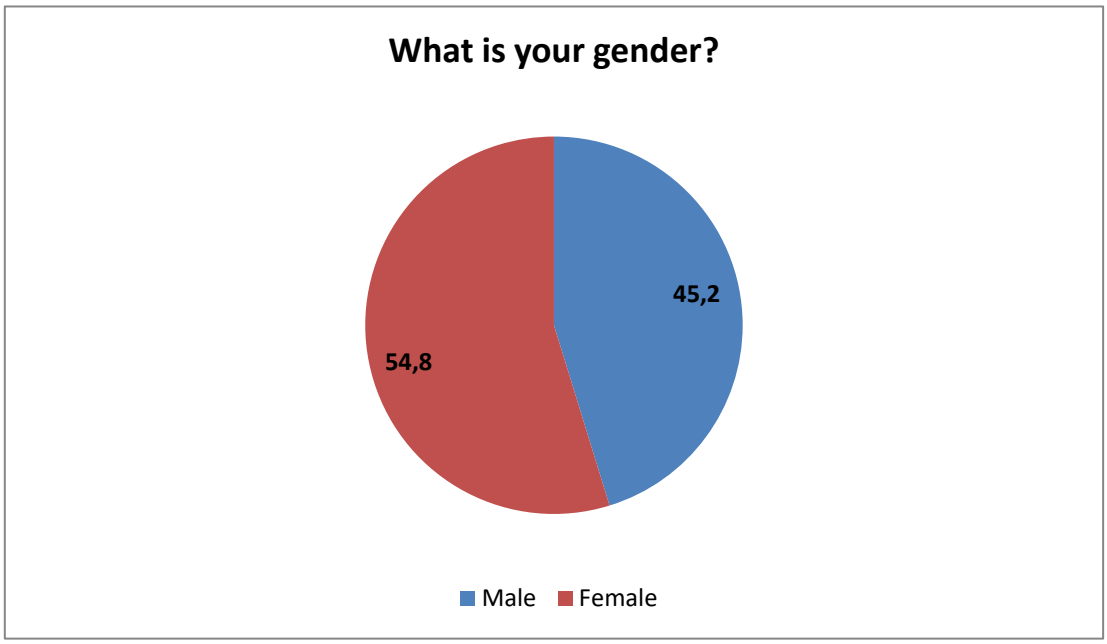

Figure 10: Gender distribution

Over half (54,8%) of the respondents, as reflected in Figure 10, were female, while 45.2% were male. Overall, there distribution of male and female respondents seem to hover around the median (50%), notwithstanding the slight female majority.

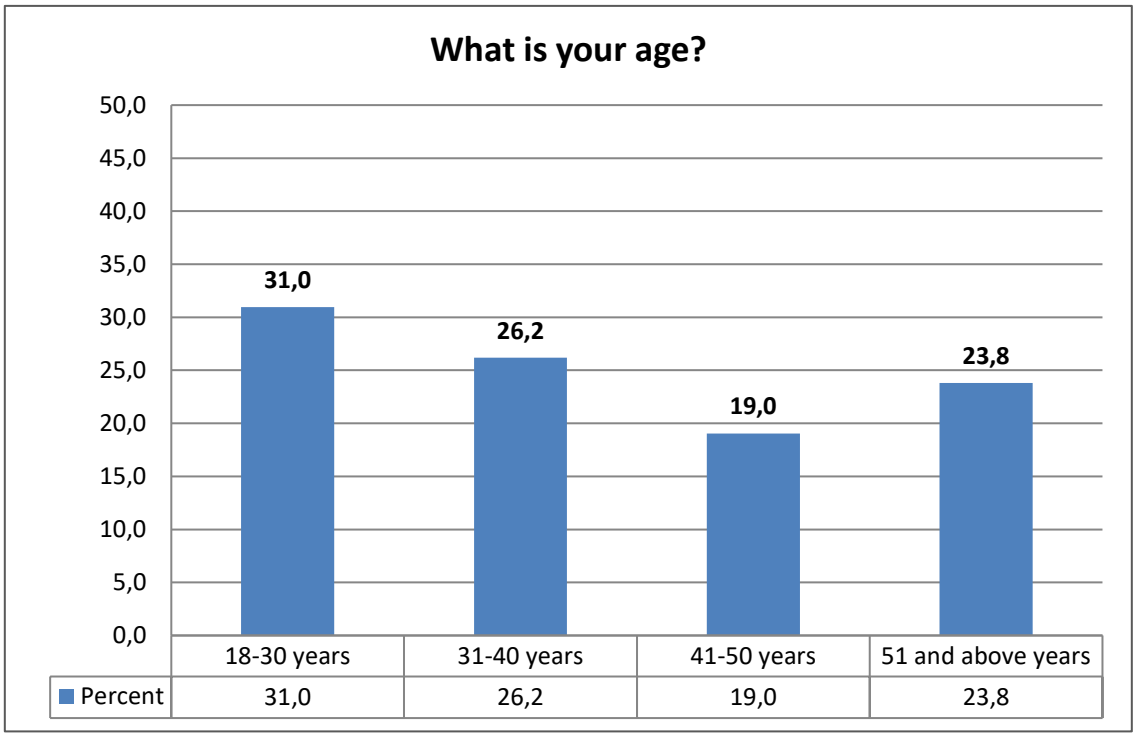

Figure 11: Age of Respondents

Figure 11, depicts 31% of respondents whose age range is 18-30 years, followed by 26% of the age range 31-40 years, while 23,8% are 51 years and above. The least number of respondents is 19% between the ages 41 -50 years. The overall picture is skewed towards young employees between 18 and 40 years.

4.3 Descriptive Statistics of Constructs

3.4.1 Entrepreneurial Intensity

3.4.1.1 Proactiveness

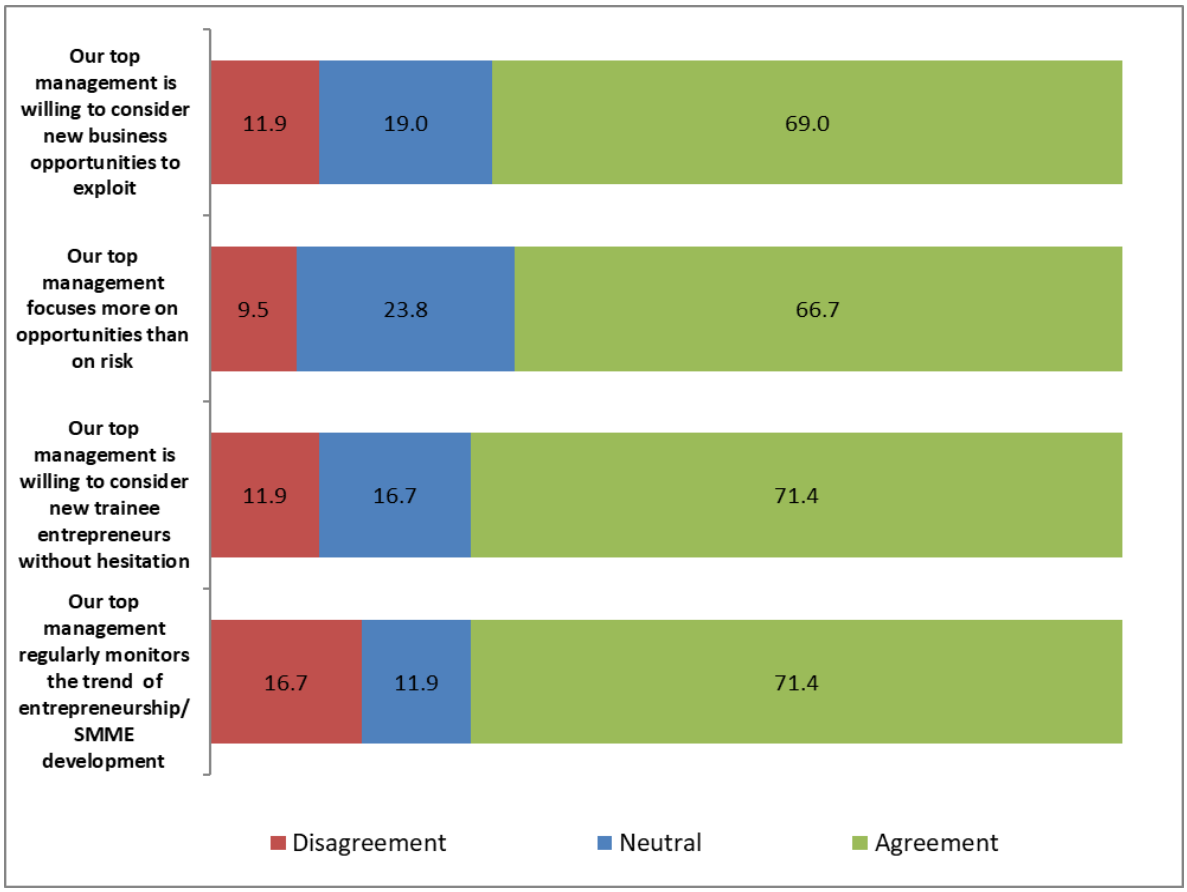

Figure 12: Proactiveness

Figure 12 illustrates that 69.0% of respondents were in agreement that top management is willing to consider new business opportunities to exploit, while 66.7% of respondents concur that top management focuses more on opportunities than on risk. Further, 71.4% of respondents perceived top management as willing to consider new trainer entrepreneurs without hesitation, and an equal figure of 71.4% of respondents concurred that top management does regularly monitor the trend of entrepreneurship/ SMME development. Overall, most respondents felt that

there were high levels of proactiveness amongst top management in the organisation.

3.4.1.2 Risk-taking

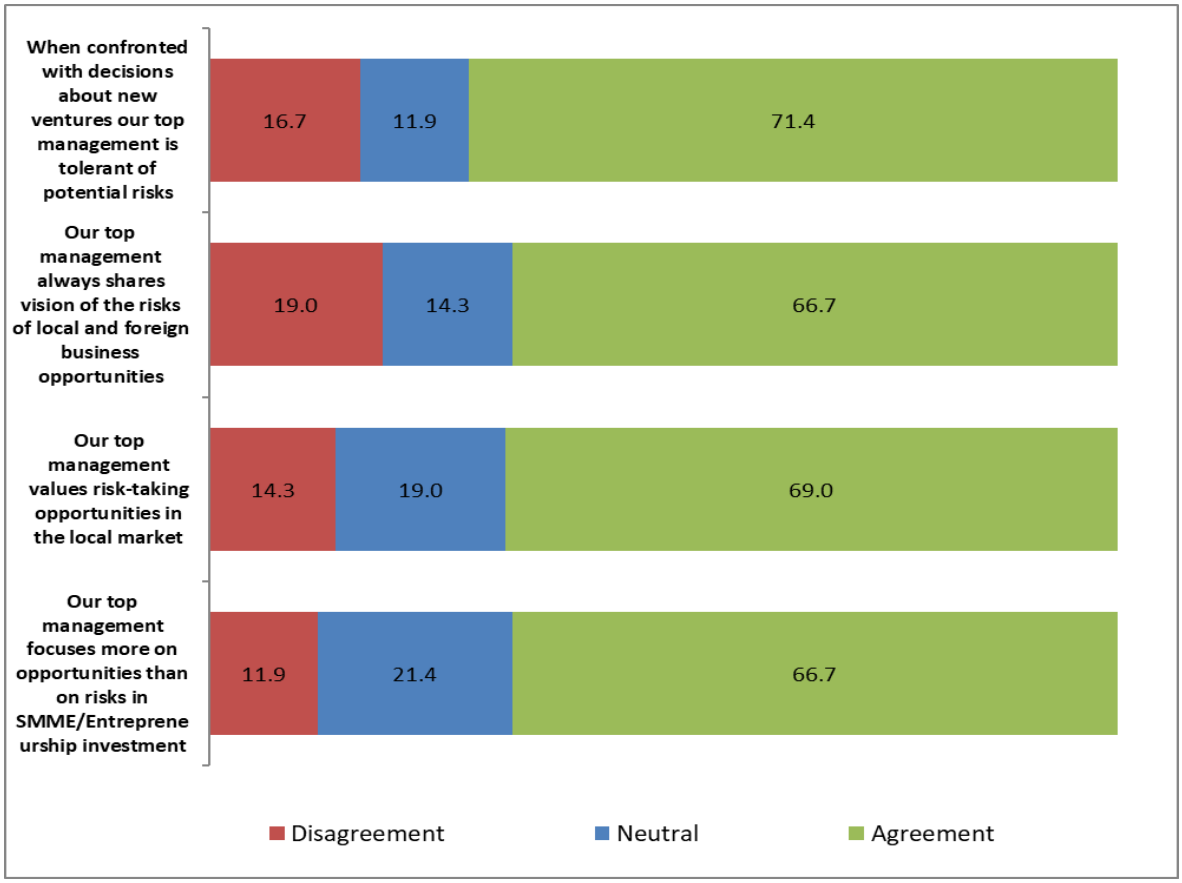

Figure 13: Risk-taking

Figure 13 reflects that 71,4% of the respondents think that agree that top management is tolerant of potential risks associated with new ventures. 66,7% believe that top management shares the vision of risks akin to local and foreign business opportunities. However, 66,7% of respondents agree that top management seem to focus more on opportunities rather than risks in SMME/entrepreneurship investment. In general, the respondents intimate that top management leans towards risk taking in new business opportunities.

3.4.1.3 Innovativeness

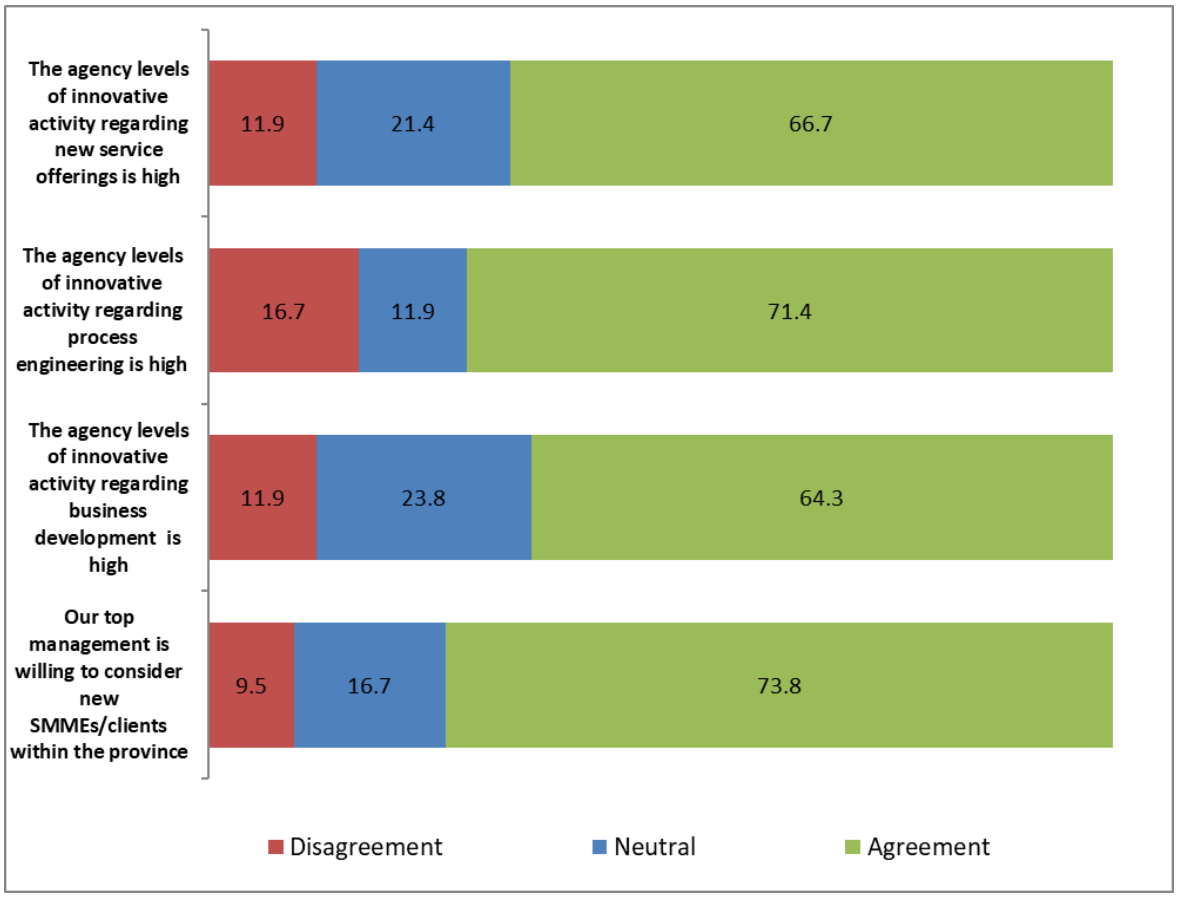

Figure 14: Innovativeness

Figure 14 suggests that 66.7% of respondents agree that the agency levels of innovation activity regarding new service offerings are high. Similarly, 71,1% agree that the agency levels of innovative activity for process engineering are high. There are also, high levels (64,3%) of innovative activity regarding business development. 73,8% of respondents agree that “top management is willing to consider new SMME/ clients” within the province. Overall, innovativeness is reflected in a positive light by the respondents.

3.4.1.4 Innovation Activity

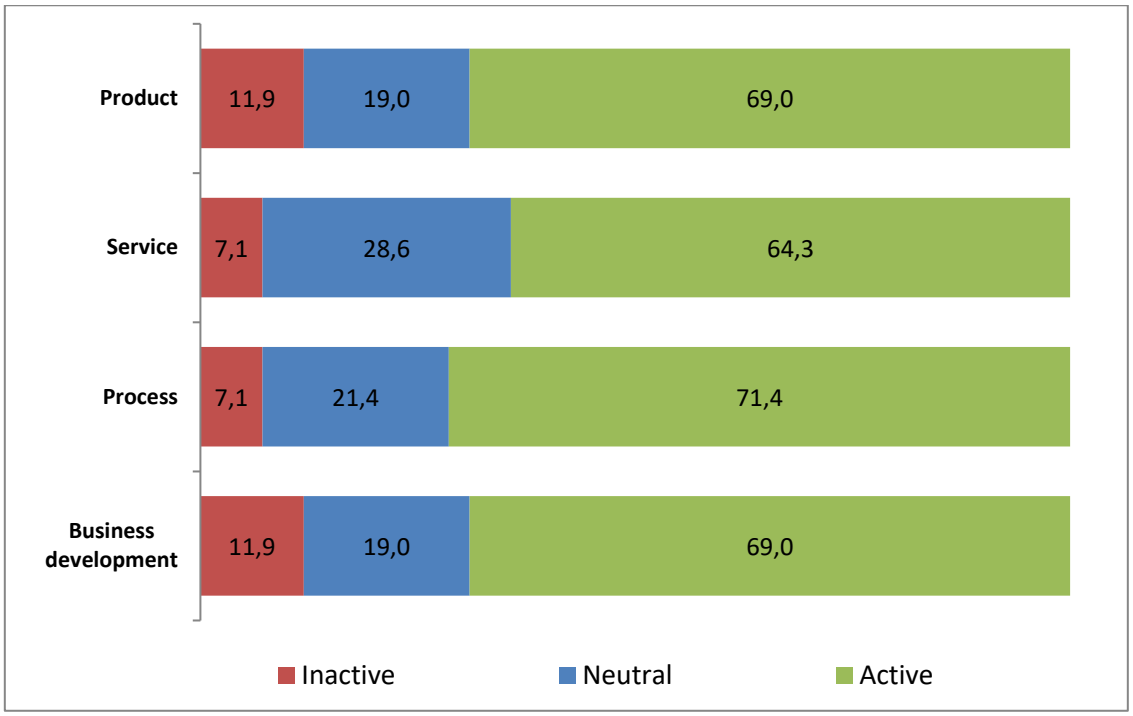

Figure 15: Innovation Activity

Figure 15 reflects that 69% agree that innovation activity is embraced in the organisation, while 71.4% think that the organisation invests in process development innovation activity, 69% in business development, 69% in product development, and at the same time 64.3% accounts for service innovation activity. 71,4% of respondents agree that innovation activity investments are important to top management, while 69.0% add that business development is seen as important as well. Overall, innovation activity is favourable seen by respondents.

3.4.2 Capability

3.4.2.1 Human Capital

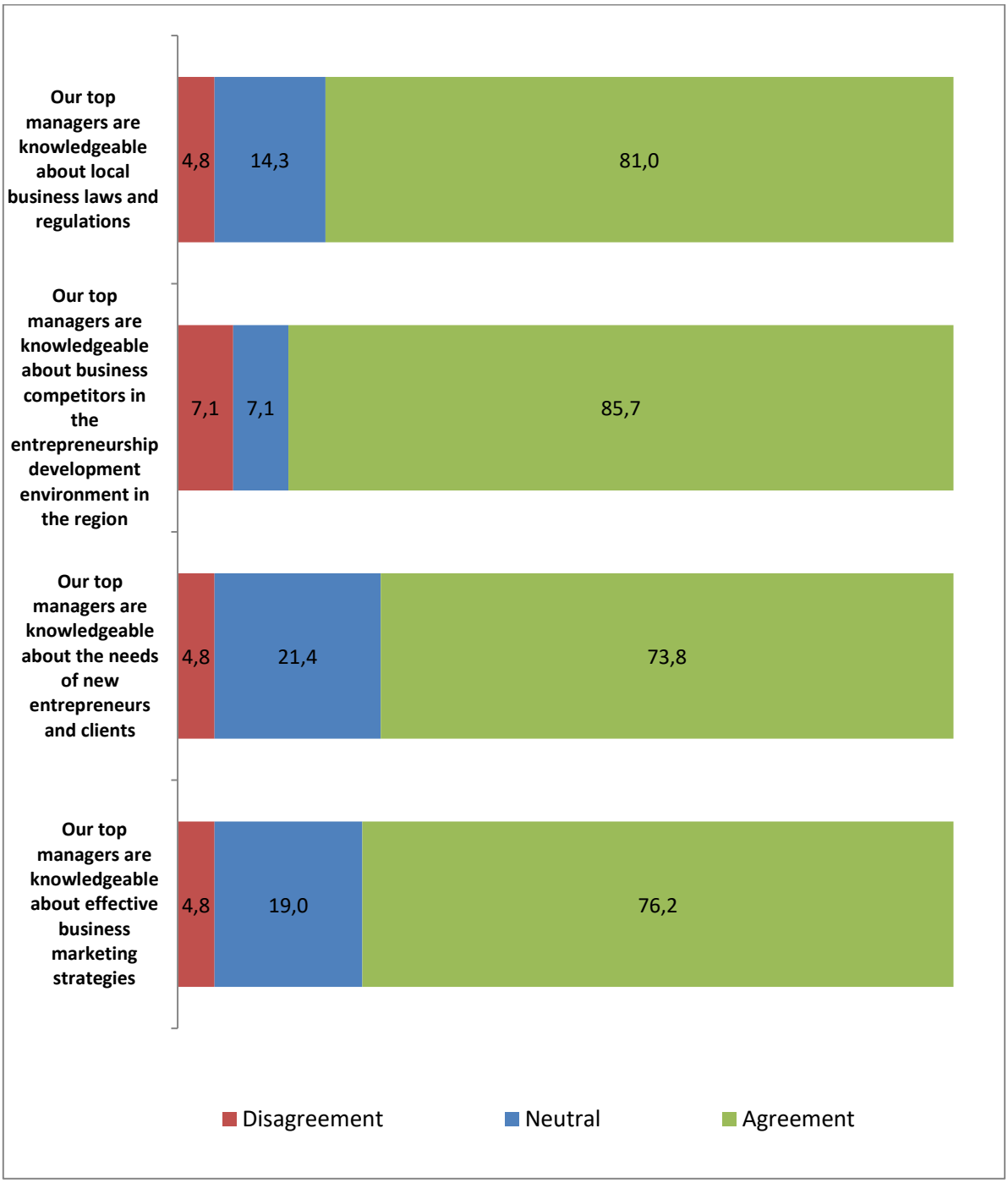

Figure 16: Human Capital

Figure 16 indicates that 81.0% agree that top management are knowledgeable about local business laws and regulations, over 85% (85.7%) believe that there is sufficient knowledge of business competitors in the entrepreneurial space.73.8% of respondents are in agreement that top management are knowledgeable about new entrepreneurs and clients, while 76.2% of respondents believe that top managers are knowledgeable about effective business marketing strategies. Overall, human capital dimension in management, is perceived in a positive light by respondents.

3.4.2.2 Social Capital

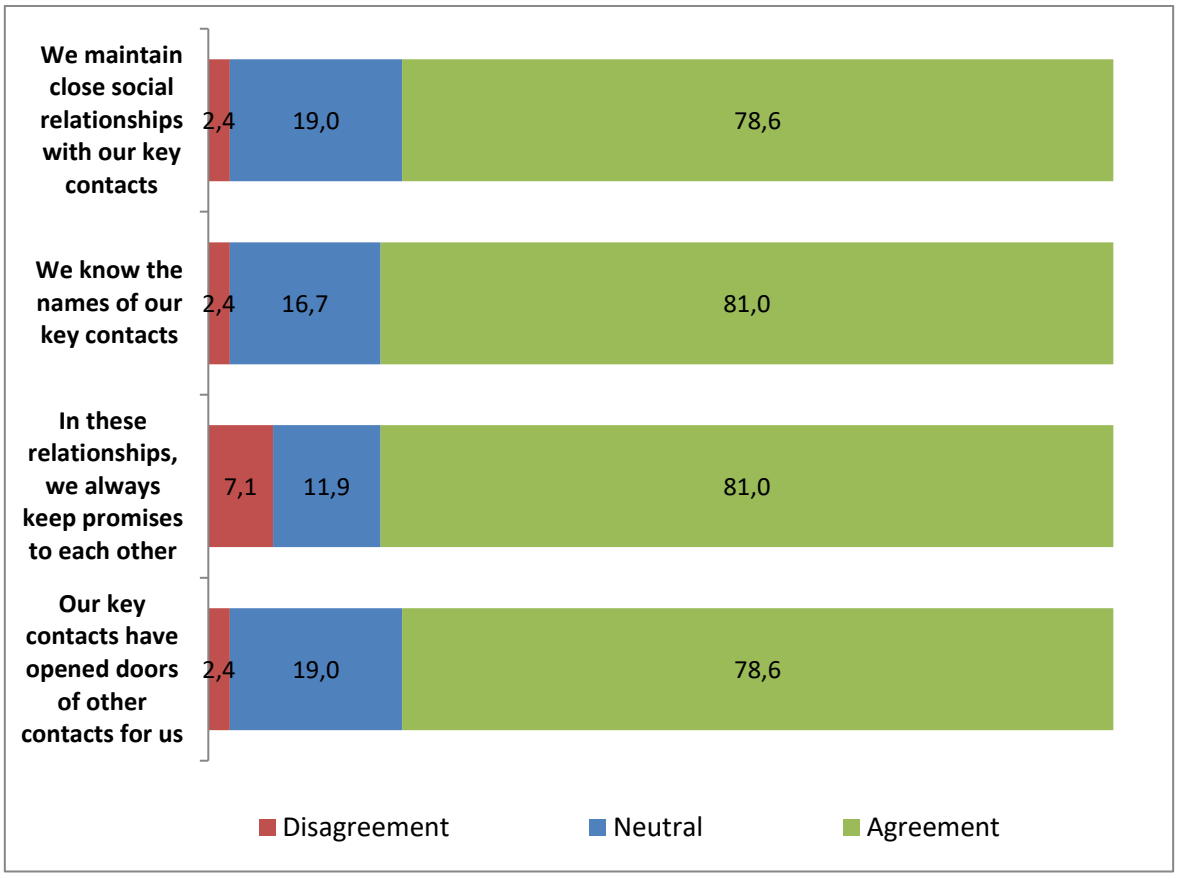

Figure 17: Social Capital

The social aspect of capability as reflected in Figure17 above, reflects those 78,6% of respondents maintain close social relationships with key contacts, while 81% even know the names of their key contacts. Similarly, 81% of respondence agree that they always keep promises made in these relationships. Finally, 78,6% of

respondents agree that key “contacts have opened doors of other business contacts for them”.

3.4.2.3 Technological Distinctiveness

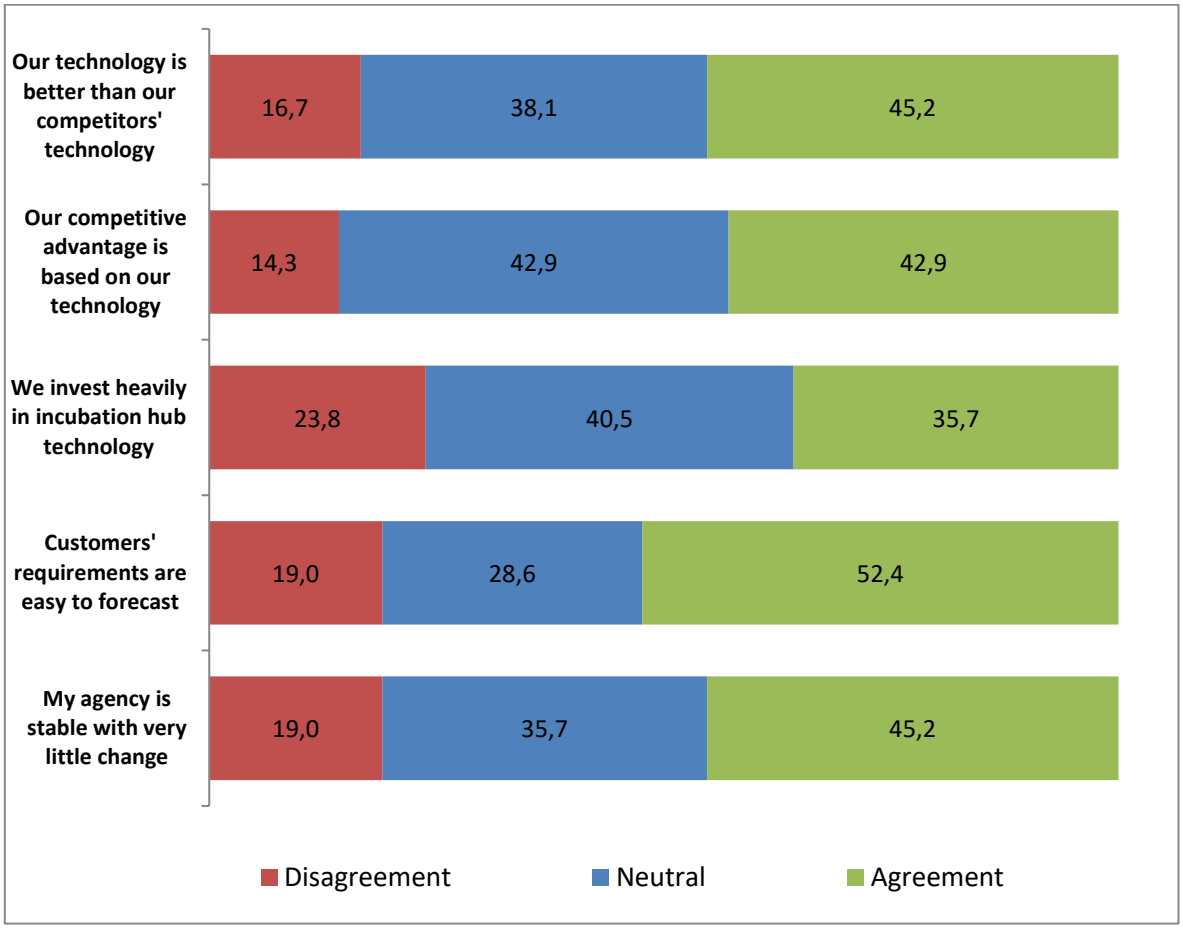

Figure 18: Technological distinctiveness

The technological distinctiveness aspect of organisational capital is reflected in Figure 18 above as follows: 45.2% of respondence agree that their technology is better than their competitors’, while 42,9% believe that their competitive advantage is based on their technological position. A lower percentage of 35% believe that their organisations invest heavily in incubation hub technology, while 52,4%agrre that customers’ requirements are easy to forecast. Overall, the is low agreement of technological distinctiveness in the state-owned entities under study.

3.4.3 External Influences

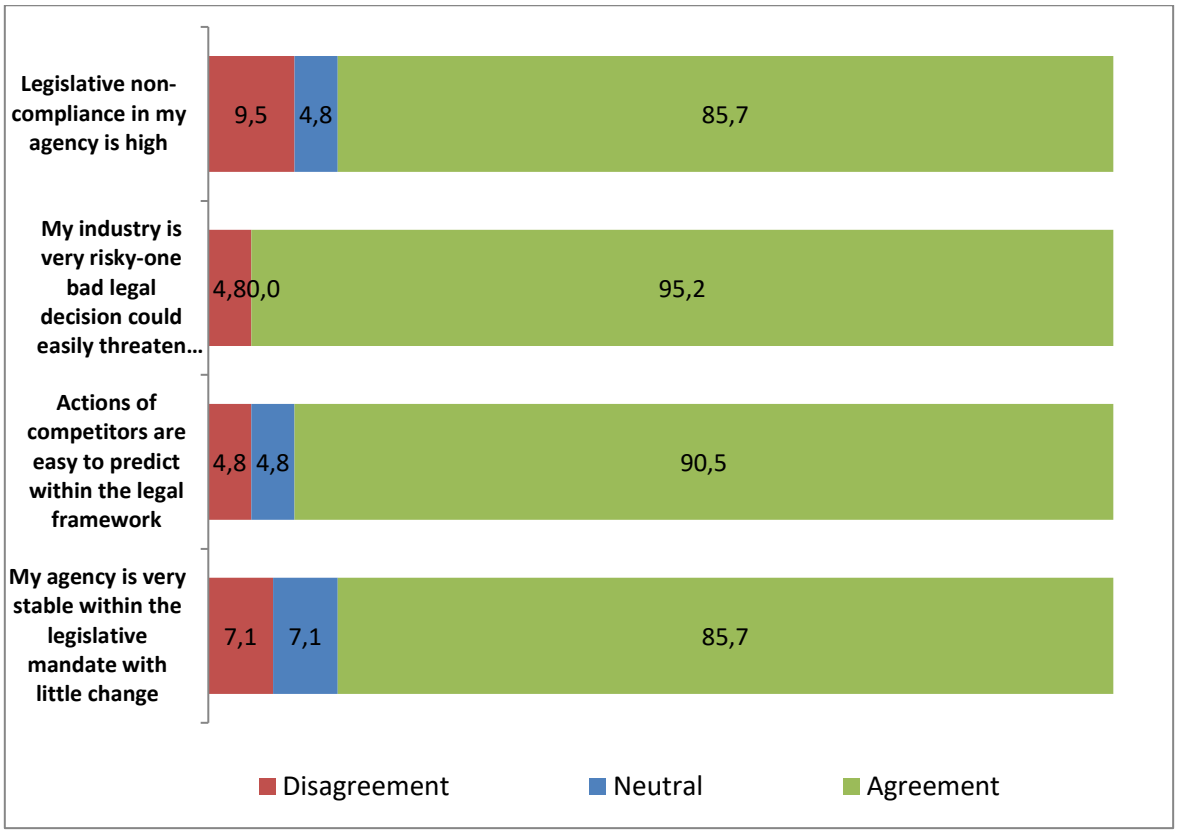

Figure 19: External influences

Figure19 suggests that 85.7% of respondents agree that legislative compliance in their agencies is high. A further high agreement percentage (95.2%) is recorded that the organisation is a risky one, because a single incorrect decision might compromise its long-term sustainability. Further, over ninety percent (90.5%), of respondents agree that “actions of competitors are easy to predict within the legal framework” (Urban,2021). In addition, 85.7% of respondents agree that their respective agencies are very stable within the legislative mandates with little change. The overall agreement on the external influences (legal framework) is above 85%.

3.4.4 Organisational Performance

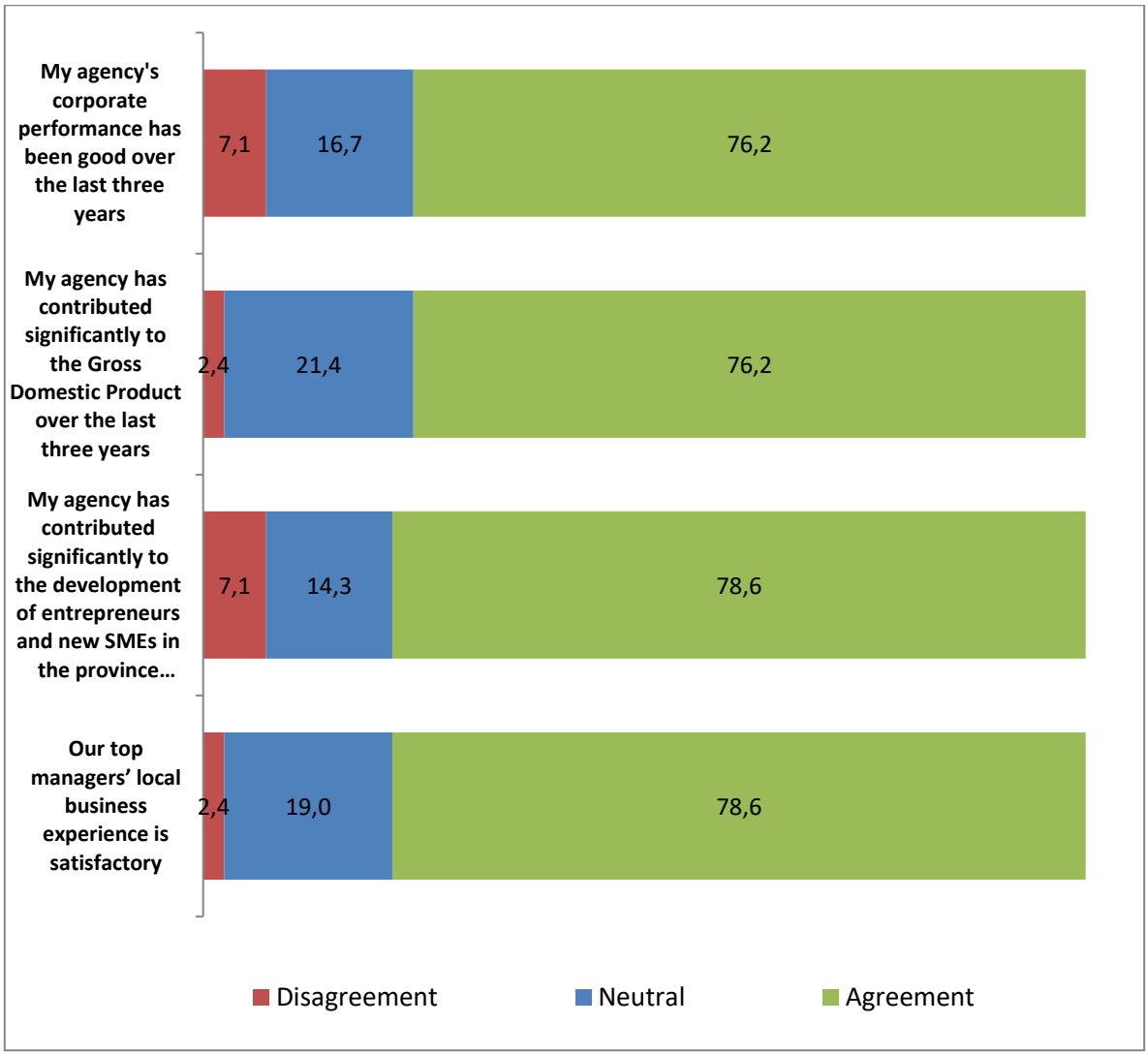

Figure 20: Organisational performance

Figure 20 illustrates a 76.2% agreement that the agency's corporate performance has been good over the last three years.AN equal percentage (76,3%) of respondents agree that the agency has contributed significantly to the GDP over the over the last three years. A further 78,6% agree that the agency has contributed significantly tot the development of entrepreneurs and new SMEs in the province over the last three years. An equal percentage of agreement (78.6%) is noted that top managers' local business experience is satisfactory. Overall, the general consensus is above 76% on organisational performance dimension.

4.4 Reliability and Validity of Constructs

4.4.1 Validity

4.4.1.1 Entrepreneurial Intensity

The four constructs of entrepreneurial intensity were tested for validity using exploratory factor analysis.

Proactiveness

Table 6 highlights that the four items designed to measure proactiveness provide sufficient correlations. This justifies proceeding to factor analysis using the sampling adequacy measure of The Kaiser-Meyer-Olkin. The ultimate measure of Sampling Adequacy was acceptable at 0.733. The Bartlett's test of sphericity was also found to be significant ($p<0.001$).

Table 6: Proactiveness KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.733
Bartlett's Test of Sphericity	Approx. Chi-Square	110.736
	df	6
	Sig.	0.000

Table 7: Proactiveness Total Variance Explained

The total variance explained within the proactiveness factor is highlighted in Table 7, which indicates that all four items were suitable for predicting the factor structure of the proactiveness scale.

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.034	75.848	75.848	3.034	75.848	75.848
2	0.619	15.469	91.317			
3	0.214	5.349	96.666			
4	0.133	3.334	100.000			
Extraction Method: Principal Component Analysis						

Table 8 shows that all four statements measuring proactiveness sufficiently loaded on the factor with factor loadings within the range of 0.805 to 0.904. This factor has an eigenvalues greater than 1.0; and that explains 75.8% of the variance which demonstrates acceptable validity.

Table 8: Proactiveness Factor Loadings

Component Matrix[a]	
	Component
	1
"Our top management is willing to consider new" business opportunities to exploit.	0.876
Our top management focuses more on opportunities than on risk.	0.904
"Our top management is willing to consider new" trainee entrepreneurs without hesitation.	0.895
"Our top management regularly monitors" the trend of entrepreneurship/SMME development.	0.805
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

Risk-taking

Table 9 highlights that the four items designed to measure risk-taking indicated sufficient correlations. This justified further application of factor analysis because based on the sampling adequacy measure of The Kaiser-Meyer-Olkin.

The ultimate measure of Sampling Adequacy was acceptable at 0.813. The "Bartlett's test of sphericity" was also found to be significant ($p<0.001$).

Table 9: Risk-taking "KMO and Bartlett's Test"

KMO and Bartlett's Test		
"Kaiser-Meyer-Olkin Measure of Sampling Adequacy"		0.813
"Bartlett's Test of Sphericity"	"Approx. Chi-Square"	116.617
	"df"	6
	Significance	0.000

The total variance explained within the risk-taking factor is highlighted in Table 10, which indicates that all four items were suitable to indicate the factor structure of the risk-taking scale.

Table 10: Risk-taking "Total Variance Explained"

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	"Total"	"% of Variance"	"Cumulative" %	"Total"	"% of Variance"	"Cumulative %"
1	3.158	78.950	78.950	3.158	78.950	78.950
2	0.432	10.797	89.747			
3	0.297	7.422	97.169			
4	0.113	2.831	100.000			
Extraction Method: Principal Component Analysis						

Table 11 shows that all four statements measuring risk-taking sufficiently loaded on the factor with factor loadings ranging from 0.837 to 0.939. This factor has an eigenvalues greater than 1.0; and that explain 78.9% of the variance which is demonstrates acceptable validity.

Table 11: Risk-taking Factor Loadings

Component Matrix[a]	
	Component
	1
When confronted with decisions about new ventures our top management is tolerant of potential risks.	0.837
Our top management always shares vision of the risks of local and foreign business opportunities.	0.939
Our top management values risk-taking opportunities in the local market.	0.931
"Our top management focuses more on opportunities than on risks" in SMME/ Entrepreneurship investment.	0.841
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

Innovativeness

Table 12 highlights that the four items measuring innovativeness indicated sufficient correlations. This justified proceeding to the application of factor analysis as the sampling adequacy measure of The Kaiser-Meyer-Olkin. The resultant measure of Sampling Adequacy was acceptable at 0.828. "The Bartlett's test of sphericity" was also found to be significant ($p<0.001$).

Table 12: Innovativeness KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.828
Bartlett's Test of Sphericity	Approx. Chi-Square	175.087
	df	6
	Sig.	0.000

The total variance explained within the innovativeness factor is highlighted in Table 13, which indicates that all four items were sufficient in determining the factor structure of the innovativeness scale.

Table 13: Innovativeness Total Variance Explained

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.535	88.373	88.373	3.535	88.373	88.373
2	0.250	6.246	94.619			
3	0.130	3.257	97.876			
4	0.085	2.124	100.000			
"Extraction Method: Principal Component Analysis"						

Table 14 shows that all four statements measuring innovativeness "sufficiently loaded on the factor with factor loadings" within the range of 0.934 to 0.955. This factor has an eigenvalues greater than 1.0; and that explains 88.4% of the variance which demonstrates acceptable validity.

Table 14: Innovativeness Factor Loadings

Component Matrix[a]	
	Component
	1
The agency levels of innovative activity regarding new service offerings is high.	0.935
The agency levels of innovative activity regarding process engineering is high.	0.934
The agency levels of innovative activity regarding business development is high.	0.955
"Our top management is willing to consider new SMMEs/ clients" within the province.	0.937
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

Innovation Activity

Table 15 highlights that the four items measuring innovation activity displayed sufficient correlations. This provided rationale to proceed with the application of

factor analysis as the sampling adequacy measure of The Kaiser-Meyer-Olkin. The result of Sampling Adequacy was acceptable at 0.843(core.ac.uk). The Bartlett's test of sphericity was "also found to be significant (p<0.001)".

Table 15: Innovation Activity KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.843
Bartlett's Test of Sphericity	Approx. Chi-Square	173.936
	df	6
	Sig.	0.000

The total variance explained within the innovation activity factor is highlighted in Table 16, which indicates that all four items were adequately determined the factor structure of the innovation activity scale.

Table 16: Innovation Activity "Total Variance Explained"

Total Variance Explained						
"Component"	"Initial Eigenvalues"			"Extraction Sums of Squared Loadings"		
	"Total"	"% of Variance"	"Cumulative %"	"Total"	"% of Variance	Cumulative %"
1	3.490	87.259	87.259	3.490	87.259	87.259
2	0.298	7.460	94.718			
3	0.144	3.603	98.322			
4	0.067	1.678	100.000			
Extraction Method: Principal Component Analysis.						

Table 17 shows that all four statements measuring innovation activity "sufficiently loaded on the factor with factor loadings ranging from 0.876 to 0.965". This factor has an eigenvalues greater than 1.0. This value explains the 87.3% "of the variance which is demonstrates acceptable validity".

Table 17: Innovation Activity Factor Loadings

Component Matrix[a]	
	Component
	1
Product	0.876
Service	0.945
Process	0.965
Business development	0.948
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

Confirmation of Convergence and Divergence of Entrepreneurial Intensity

Table 18: Pattern Matrix Entrepreneurial Intensity

Pattern Matrix[a]				
	Factor			
	Innovativeness	Innovation Activity	Risk Taking	Proactiveness
Entrepreneurial intensity 8. Innovativeness The agency levels of innovative activity regarding business development is high.	.887			
Entrepreneurial intensity 8. Innovativeness The agency levels of innovative activity regarding new service offerings is high.	.864			
Entrepreneurial intensity 8. Innovativeness Please put a tick in the box that best The agency levels of innovative activity regarding process engineering is high.	.843			
Entrepreneurial intensity 8. Innovativeness Our top management is willing to consider new SMMEs/clients within the province.	.806			
Entrepreneurial intensity 9. Innovation Activity Service		1.009		
Entrepreneurial intensity 9. Innovation Activity Process		.955		
Entrepreneurial intensity 9. Innovation Activity Business development		.879		

	Factor			
	Innovativeness	Innovation Activity	Risk Taking	Proactiveness
Entrepreneurial intensity 9. Innovation Activity Product		.660		
Entrepreneurial intensity 7. Risk taking Our top management values risk-taking opportunities in the local market.			1.056	
Entrepreneurial intensity 7. Risk taking Our top management always shares vision of the risks of local and foreign business opportunities.			.854	
Entrepreneurial intensity 7. Risk taking Our top management focuses more on opportunities than on risks in SMME/Entrepreneurship investment.			.558	
Entrepreneurial intensity 7. Risk taking When confronted with decisions about new ventures our top management is tolerant of potential risks.			.478	
Entrepreneurial intensity 6. Proactiveness Our top management focuses more on opportunities than on risk.				.858
Entrepreneurial intensity 6. Proactiveness Our top management is willing to consider new trainee entrepreneurs without hesitation.				.815
Entrepreneurial intensity 6. Proactiveness Our top management regularly monitors the trend of entrepreneurship/SMME development.				.735
Entrepreneurial intensity 6. Proactiveness Our top management is willing to consider new business opportunities to exploit.				.723
Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.				
a. Rotation converged in 6 iterations.				

The pattern matrix clearly shows that the statements for each construct loads against the corresponding factor demonstrating convergent and divergent validity. Therefore, no items had to be removed when creating the variables representing each construct for the multiple regression analysis.

4.4.1.2 Capability

The three constructs of entrepreneurial capability were tested for validity using exploratory factor analysis.

Human Capital

Table 19 highlights that the four items to measure human capital indicated sufficient correlations. This then formed the basis for the next step of the application of factor analysis as the sampling adequacy measure of The Kaiser-Meyer-Olkin. The end result of the Measure of Sampling Adequacy was acceptable at 0.724. "The Bartlett's test of sphericity was also found to be significant (p<0.001)".

Table 19: Human Capital "KMO and Bartlett's Test"

KMO and Bartlett's Test		
"Kaiser-Meyer-Olkin Measure of Sampling Adequacy".		0.724
"Bartlett's Test of Sphericity"	"Approx. Chi-Square"	113.901
	"df"	6
	"Sig."	0.000

The total variance explained within the human capital factor is highlighted in Table 20, which indicates that all four items were appropriate in determining the factor structure of the human capital scale.

Table 20: Human Capital "Total Variance Explained"

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.126	78.157	78.157	3.126	78.157	78.157
2	0.500	12.509	90.665			
3	0.245	6.117	96.782			
4	0.129	3.218	100.000			
Extraction Method: Principal Component Analysis						

Table 21 shows that all four statements measuring “human capital sufficiently loaded on the factor with factor loadings ranging from 0.861 to 0.917”. This factor has an eigenvalues greater than 1.0. This value explains 78.1% of the variance which demonstrates acceptable validity.

Table 21: Human Capital Factor Loadings

Component Matrix[a]	
	Component
	1
Our top managers are knowledgeable about local business laws and regulations.	0.884
Our top managers are knowledgeable about business competitors in the entrepreneurship development environment in the region.	0.873
Our top managers are knowledgeable about the needs of new entrepreneurs and clients.	0.917
Our top managers are knowledgeable about effective business marketing strategies.	0.861
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

Social Capital

Table 22 highlights that the four items measuring social capital display sufficient correlations. This justified proceeding to the application of factor analysis as the sampling adequacy measure of The Kaiser-Meyer-Olkin. The result of the Measure of Sampling Adequacy was acceptable at 0.760. “The Bartlett’s test of sphericity was also found to be significant ($p<0.001$)”.

Table 22: Social Capital “KMO and Bartlett’s Test”

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.760
Bartlett's Test of Sphericity	Approx. Chi-Square	80.721
	df	6
	Sig.	0.000

The total variance explained within the social capital factor is highlighted in Table 23, which indicates that all four items were appropriate in determining the factor structure of the social capital scale.

Table 23: Social Capital Total Variance Explained

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.771	69.284	69.284	2.771	69.284	69.284
2	0.696	17.408	86.692			
3	0.364	9.088	95.780			
4	0.169	4.220	100.000			
"Extraction Method: Principal Component Analysis".						

Table 24 indicates that all four statements measuring social capital sufficiently "loaded on the factor with factor loadings" within a range of 0.637 to 0.922. This factor has an eigenvalues greater than 1.0. This value accounts for 69.3% of the variance which demonstrates acceptable validity.

Table 24: Social Capital Factor Loadings

Component Matrix[a]	
	Component
	1
"We maintain close social relationships with our key contacts" (core.ac.uk).	0.857
"We know the names of our key contacts" (core.ac.uk).	0.922
In these relationships, we always keep promises to each other.	0.883
"Our key contacts have opened doors of other contacts for us" (core.ac.uk).	0.637
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

Technological Distinctiveness

Table 25 highlights that the four items measuring technological distinctiveness displayed adequate correlations. This justified proceeding to the application of factor analysis as the sampling adequacy measure of The Kaiser-Meyer-Olkin. The resultant Measure of Sampling Adequacy was acceptable at 0.831. “The Bartlett’s test of sphericity was also found to be significant (p<0.001)”.

Table 25: Technological distinctiveness KMO and Bartlett’s Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.831
Bartlett's Test of Sphericity	Approx. Chi-Square	165.324
	df	10
	Sig.	0.000

The total variance explained within the technological distinctiveness factor is highlighted in Table 26, which indicates that all four items were appropriate for influencing the factor structure of the technological distinctiveness scale.

Table 26: Technological distinctiveness Total Variance Explained

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.894	77.873	77.873	3.894	77.873	77.873
2	0.556	11.122	88.994			
3	0.233	4.652	93.646			
4	0.191	3.829	97.475			
5	0.126	2.525	100.000			
Extraction Method: Principal Component Analysis.						

Table 27 shows that all four statements measuring technological distinctiveness “sufficiently loaded on the factor with factor loadings ranging from 0.835 to 0.918”.

This factor has an eigenvalues greater than 1.0. This value accounts for 77.9% of the variance which demonstrates acceptable validity.

Table 27: Technological distinctiveness Factor Loadings

Component Matrix[a]	
	Component
	1
"Our technology is better than our competitors' technology" (core.ac.uk).	0.895
"Our competitive advantage is based on our technology" (core.ac.uk).	0.880
We invest heavily in incubation hub technology.	0.918
Customers' requirements "are easy to forecast" (Urban,2011).	0.835
My agency is stable with very little change.	0.882
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

Confirmation of Convergence and Divergence of Entrepreneurial Capability

Table 28: Pattern Matrix: Entrepreneurial Capability

Pattern Matrix[a]		
	Factor	
	Technology distinctiveness	Human and Social Capital
12. Technology distinctiveness Our competitive advantage is based on our technology.	.946	
12. Technology distinctiveness Our technology is better than our competitors' technology.	.942	
12. Technology distinctiveness We invest heavily in incubation hub technology.	.924	
12. Technology distinctiveness My agency is stable with very little change.	.845	
12. Technology distinctiveness Customers' requirements are easy to forecast.	.685	
11. Social capital We know the names of our key contacts.		.925

	Factor	
	Technology distinctiveness	Human and Social Capital
11. Social capital We maintain close social relationships with our key contacts.		.843
11. Social capital In these relationships, we always keep promises to each other.		.814
SECTION C: CAPABILITY 10. Human capital Our top managers are knowledgeable about business competitors in the entrepreneurship development environment in		.722
10. Human capital Our top managers are knowledgeable about local business laws and regulations.		.656
11. Social capital Our key contacts have opened doors of other contacts for us.		.631
10. Human capital Our top managers are knowledgeable about the needs of new entrepreneurs and clients.		.579
10. Human capital Our top managers are knowledgeable about effective business marketing strategies.		.506
Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.		
a. Rotation converged in 3 iterations.		

The pattern matrix clearly only shows that the statements for each construct loads against the corresponding factor for two out of the three underlying constructs. This does demonstrate convergent and divergent validity. Therefore, no items had to be removed when creating the variables representing each construct for the multiple regression analysis; however, the constructs of social capital and human capital need to be combined to create a new variable to include in the multiple regression analysis.

4.4.1.3 External Influences

Table 29 highlights that the four items measuring external influences indicated "sufficient correlations". This correlation justified proceeding to the application of factor analysis as the sampling adequacy measure of The Kaiser-Meyer-Olkin. The result of the Measure of Sampling Adequacy was acceptable at 0.500. The Bartlett's test of sphericity was "also found to be significant (p<0.001)".

Table 29: External influences "KMO and Bartlett's Test"

KMO and Bartlett's Test		
"Kaiser-Meyer-Olkin Measure of Sampling Adequacy."		0.500
"Bartlett's Test of Sphericity"	"Approx. Chi-Square"	18.025
	"df"	1
	"Sig."	0.000

The total variance explained within the external influences factor is highlighted in Table 30, which indicates that all four items were appropriate in "determining the factor structure of the external influences scale".

Table 30: External influences Total Variance Explained

"Total Variance Explained"						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.567	78.343	78.343	1.567	78.343	78.343
2	.433	21.657	100.000			
"Extraction Method: Principal Component Analysis" (ro.uow.edu.au).						

Table 31 shows that all four statements measuring external influences "sufficiently loaded on the factor with factor loadings of 0.885". This factor has an eigenvalues greater than 1.0. This value explains 78.3% of the variance and therefore demonstrates acceptable validity.

Table 31: External influences Factor Loadings

Component Matrix[a]	
	Component
	1
"Actions of competitors are easy to predict within the legal framework".	0.885
My agency is very stable within the legislative mandate with little change.	0.885
"Extraction Method: Principal Component Analysis".	
a. 1 components extracted.	

4.4.1.4 Organisational Performance

Table 32 highlights that the four items measuring organisational performance displayed sufficient correlations. This factor formed the basis for proceeding to the application of factor analysis as the sampling adequacy measure of The Kaiser-Meyer-Olkin. The result of the Measure of Sampling Adequacy was acceptable at 0.755. The "Bartlett's test of sphericity was also found to be significant (p<0.001)"

Table 32: Organisational performance "KMO and Bartlett's Test"

KMO and Bartlett's Test		
"Kaiser-Meyer-Olkin Measure of Sampling Adequacy."		0.755
"Bartlett's Test of Sphericity"	"Approx. Chi-Square"	50.643
	"df"	6
	"Sig."	0.000

The total variance explained within the organisational performance factor is highlighted in Table 33, which indicates that all four items were appropriate in determining the factor structure of the organisational performance scale.

Table 33: Organisational performance "Total Variance Explained"

"Total Variance Explained"						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	"Total"	"% of Variance"	"Cumulative" %	"Total"	"% of Variance"	"Cumulative %"
1	2.514	62.848	62.848	2.514	62.848	62.848
2	0.710	17.741	80.588			
3	0.449	11.234	91.822			
4	0.327	8.178	100.000			
"Extraction Method: Principal Component Analysis."						

Table 34 indicates that all four statements measuring organisational performance "sufficiently loaded on the factor with factor loadings" with arrange of 0.676 to 0.875 This factor has an eigenvalues greater than 1.0. This factor explains 62.8% of the variance which demonstrates acceptable validity.

Table 34: Organisational Performance Factor Loadings

Component Matrix[a]	
	Component
	1
My agency's corporate performance has been good over the last three years.	0.875
My agency has contributed significantly to the Gross Domestic Product over the last three years.	0.809
My agency has contributed significantly to the development of entrepreneurs and new SMEs in the province over the last three years.	0.676
Our top managers' local business experience is satisfactory.	0.798
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

4.4.2 Reliability

The reliability results are presented in the sections that follow.

4.4.2.1 Entrepreneurial Intensity

EI consists of four sub-constructs, which are proactiveness, risk-taking, innovativeness and innovation activity. This section presents the reliability for each of these constructs.

Proactiveness

Table 35: Proactiveness reliability

Reliability Statistics		
"Cronbach's Alpha"	"Cronbach's Alpha Based on Standardized Items"	"No of Items"
0.892	0.893	4

Taber (2018:1273)

Table 35 highlights that the proactiveness scale shows good internal consistency. The Cronbach alpha score of 0.892 is excellent and above the 0.7 threshold.

Risk-taking

Table 36: Risk-taking reliability

Reliability Statistics		
"Cronbach's Alpha"	"Cronbach's Alpha Based on Standardized Items"	"No of Items"
0.911	0.910	4

(Taber, 2018:1273)

Table 36 highlights that the risk-taking scale shows good internal consistency. The Cronbach alpha score of 0.911 is excellent and above the 0.7 threshold.

Innovativeness

Table 37: Innovativeness reliability

Reliability Statistics		
"Cronbach's Alpha"	"Cronbach's Alpha Based on Standardized Items"	"No of Items"
0.955	0.956	4

(Taber, 2018:1273)

Table 37 highlights that the innovativeness scale shows good internal consistency. The Cronbach alpha score of 0.955 is excellent and above the 0.7 threshold.

Innovation Activity

Table 38: Innovation activity reliability

Reliability Statistics		
"Cronbach's Alpha"	"Cronbach's Alpha Based on Standardized Items"	"No of Items"
0.950	0.951	4

(Taber, 2018:1273)

Table 38 highlights that the innovation activity scale shows good internal consistency. The Cronbach alpha score of 0.950 is excellent and above the 0.7 threshold.

4.4.2.2 Capability

EC consists of two sub-constructs, which are the combination of human capital and social capital and technological distinctiveness. This section presents the reliability for each of these constructs.

Human Capital and Social Capital

Table 39: Human and social capital reliability

Reliability Statistics		
"Cronbach's Alpha"	"Cronbach's Alpha Based on Standardized Items"	"No of Items"
0.909	0.908	8

(Taber, 2018:1273)

Table 39 highlights that the combined human and social capital scale shows good internal consistency. The Cronbach alpha score of 0.909 is excellent and above the 0.7 threshold.

Technology Distinctiveness

Table 40: Technological distinctiveness reliability

Reliability Statistics		
"Cronbach's Alpha"	"Cronbach's Alpha Based on Standardized Items"	"No of Items"
0.929	0.929	5

(Taber, 2018:1273)

Table 40 highlights that technological distinctiveness scale shows good internal consistency. The Cronbach alpha score of 0.929 is excellent and above the 0.7 threshold.

4.4.2.3 External Influences

Table 41: External influences reliability

Reliability Statistics		
"Cronbach's Alpha"	"Cronbach's Alpha Based on Standardized Items"	"No of Items"
0.838	0.840	2

(Taber, 2018:1273)

Table 41 highlights that the external influences scale shows good internal consistency. The Cronbach alpha score of 0.838 is excellent and above the 0.7 threshold.

4.4.2.4 Organisational Performance

Table 42: Organisational performance reliability

Reliability Statistics		
"Cronbach's Alpha"	"Cronbach's Alpha Based on Standardized Items"	No of Items
0.797	0.799	4

(Taber, 2018:1273)

Table 42 highlights that organisational performance scale shows good internal consistency. The Cronbach alpha score of 0.797 is excellent and above the 0.7 threshold.

4.5 Results pertaining to Hypothesis 1

Table 43: Hypothesis 1 Correlation Matrix

Correlations						
		Organisational Performance	Proactiveness	Risk-taking	Innovativeness	Innovation Activity
Pearson Correlation	Organisational Performance	1.000	0.361	0.403	0.536	0.589
	Proactiveness	0.361	1.000	0.694	0.568	0.490
	Risk-taking	0.403	0.694	1.000	0.598	0.537
	Innovativeness	0.536	0.568	0.598	1.000	0.636
	Innovation Activity	0.589	0.490	0.537	0.636	1.000
Sig. (1-tailed)	Organisational Performance		0.010	0.004	0.000	0.000
	Proactiveness	0.010		0.000	0.000	0.001
	Risk-taking	0.004	0.000		0.000	0.000

	Innovativeness	0.000	0.000	0.000		0.000
	Innovation_Activity	0.000	0.001	0.000	0.000	
N	Organisational Performance	41	41	41	41	41
	Proactiveness	41	41	41	41	41
	Risk taking	41	41	41	41	41
	Innovativeness	41	41	41	41	41
	Innovation_Activity	41	41	41	41	41

Table 43 presents the Pearson correlation coefficient results for the first hypothesis as part of assessing the levels of multicollinearity amongst the constructs. As there are no correlations exceeding 0.8 or higher, there are no concerns relating to multicollinearity and that the regression assumption has not been violated.

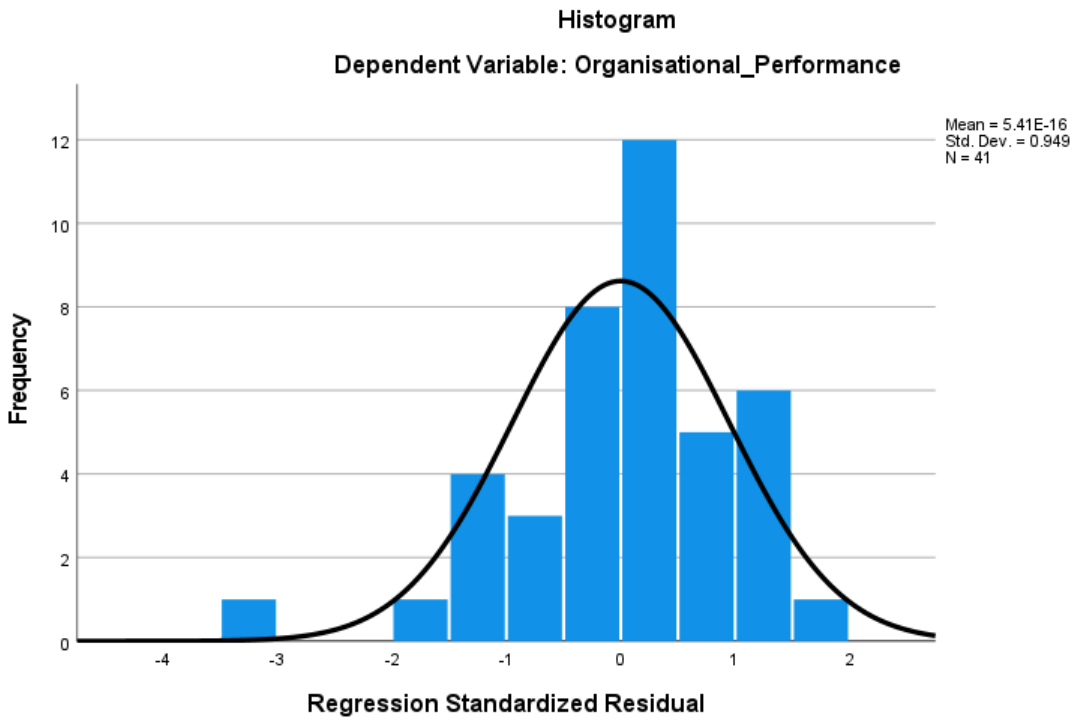

Figure 21: Hypothesis 1 Normality of Residuals Assumption

The second assumption for regression analysis relating to the regression residuals being normally distributed is illustrated in Figure 21. As the distribution of the

residuals follows a bell-shaped curve, it can be concluded that this assumption has not been violated.

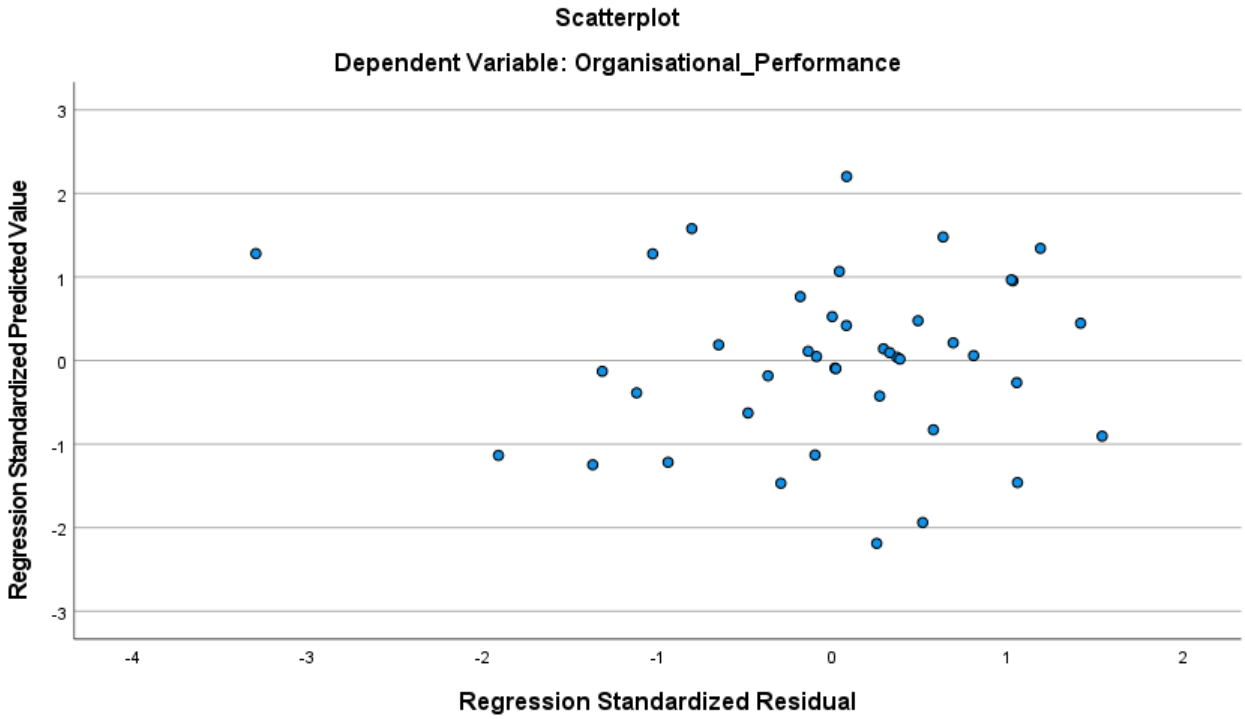

Figure 22: Hypothesis 1 Heteroskedasticity Assumption

The third regression analysis assumption evaluated was the impact of heteroskedasticity on the dependent variable. Figure 22 highlights that a random scatter pattern exists; therefore, it can be concluded that this assumption has not been violated because there is no variance of the dependent variable across the data.

Table 44: Hypothesis 1 Model Summary

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.626[a]	0.392	0.324	0.55188	1.849
a. Predictors: (Constant), Innovation_Activity, Proactiveness, Innovativeness, Risktaking					
b. Dependent Variable: Organisational Performance					

Table 45: Hypothesis 1 ANOVA Model Fit

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.060	4	1.765	5.795	.001[b]
	Residual	10.964	36	0.305		
	Total	18.024	40			
a. Dependent Variable: Organisational_Performance						
b. Predictors: (Constant), Innovation_Activity, Proactiveness, Innovativeness, Risktaking						

Table 46: Hypothesis 1 Regression Coefficients

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	2.632	0.537		4.905	0.000	1.543	3.720
	Proactiveness	-0.009	0.117	-0.015	-0.079	0.938	-0.247	0.229
	Risktaking	0.025	0.134	0.036	0.187	0.853	-0.248	0.298
	Innovativeness	0.169	0.120	0.263	1.404	0.169	-0.075	0.413
	Innovation_Activity	0.304	0.130	0.410	2.347	**0.025***	0.041	0.567
a. Dependent Variable: Organisational Performance								

A significant regression equation was found ($F = 5.795$, $p < 0.001$) with an R^2 of 0.392. Furthermore, the adjusted R-square in the results indicates that the independent variables explains 32.5% of the variability of organisational

performance. Even though all constructs are significantly correlated with organisational performance ($p < 0.05$), only one of the regression coefficients is significant (Innovation Activity, $\beta = 0.410$), with a p-value of less than 0.05. The null hypothesis is, therefore, rejected at the 5% level of significance.

4.6 Results pertaining to Hypothesis 2

Table 47: Hypothesis 2 Correlation Analysis

Correlations			
		Organisational Performance	Human Social
Organisational Performance	Pearson Correlation	1	.338*
	Sig. (2-tailed)		.031
	N	41	41
human Social	Pearson Correlation	.338*	1
	Sig. (2-tailed)	.031	
	N	41	41
*. Correlation is significant at the 0.05 level (2-tailed).			

Table 47 presents the Pearson correlation coefficient results for the second hypothesis as part of assessing the levels of multicollinearity amongst the constructs. As there are no correlations exceeding 0.8 or higher, there are no concerns relating to multicollinearity and that the regression assumption has not been violated.

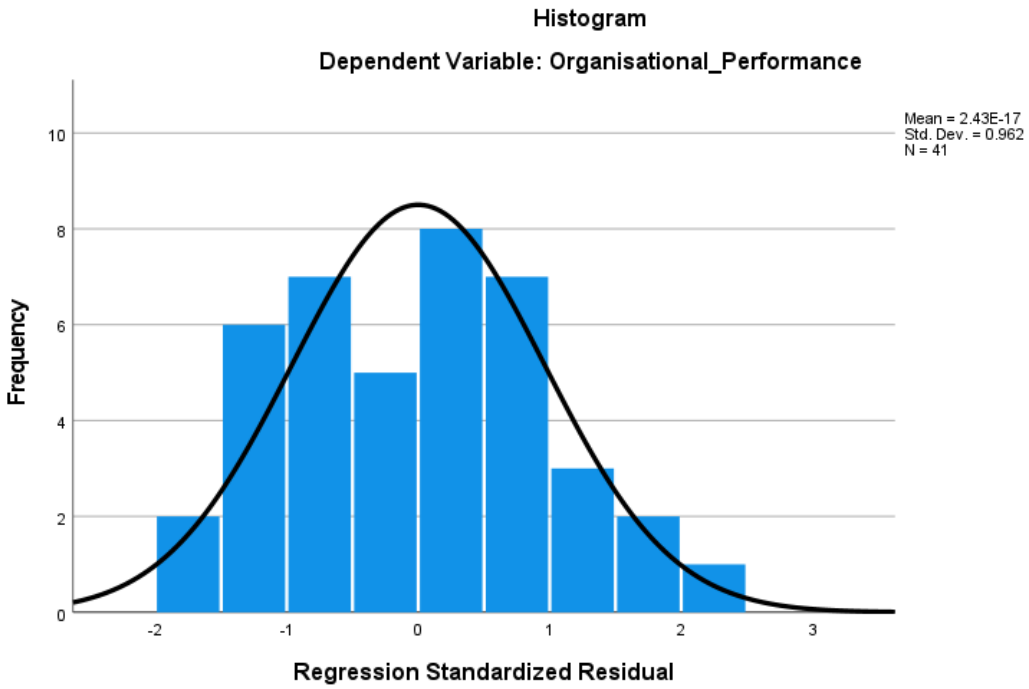

Figure 23: Hypothesis 2 Normality of Residuals Assumption

The second assumption for regression analysis relating to the regression residuals being normally distributed is illustrated in Figure 23. As the distribution of the residuals follows a bell-shaped curve, it can be concluded that this assumption has not been violated.

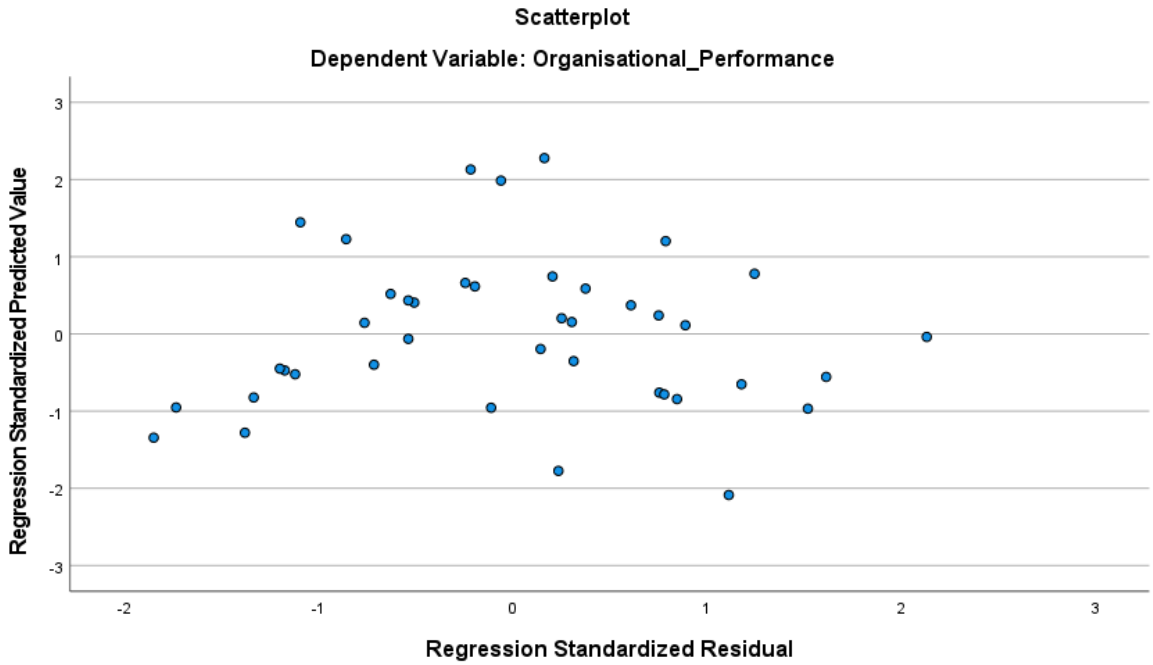

Figure 24: Hypothesis 2 Heteroskedasticity Assumption

The third regression analysis assumption evaluated was the impact of heteroskedasticity on the dependent variable. Figure 24 highlights that a random scatter pattern exists; therefore, it can be concluded that this assumption has not been violated because there is no variance of the dependent variable across the data.

Table 48: Hypothesis 2 Model Summary

Model Summary[b]									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.574[a]	.329	.294	.56403	.329	9.329	2	38	.001
a. Predictors: (Constant), Human and Social Capital, Distinctiveness									
b. Dependent Variable: Organisational_Performance									

Table 49: Hypothesis 2 ANOVA Model Fit

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.935	2	2.968	9.329	.001[b]
	Residual	12.089	38	.318		
	Total	18.024	40			
a. Dependent Variable: Organisational_Performance						
b. Predictors: (Constant), Human and Social Capital, Distinctiveness						

Table 50: Hypothesis 2 Regression Coefficients

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.657	.651		4.079	.000
	Distinctiveness	.339	.097	.485	3.491	.001
	Human and Social Capital	.169	.120	.196	1.409	.167
a. Dependent Variable: Organisational_Performance						

A significant regression equation was found ($F = 9.329$, $p < 0.001$) with an R^2 of 0.294. Furthermore, the adjusted R-square in the results indicates that the independent variables explains 29.4% of the variability of organisational performance. Even though all constructs are significantly correlated with organisational performance ($p < 0.05$), only one of the regression coefficients is significant (Distinctiveness, $\beta = 0.485$), with a p-value of less than 0.05. The null hypothesis is, therefore, rejected at the 5% level of significance.

4.7 Results pertaining to Hypothesis 3

Table 51: Hypothesis 3 Correlation Analysis

Correlations							
		MC_Organisational_Performance	MC_EI	MC_EC	MC_External_Influences	MOD_EI	MOD_EC
Pearson Correlation	MC_Organisational_Performance	1.000					
	MC_EI	.673	1.000				
	MC_EC	.774	.782	1.000			
	MC_External_Influences	.535	.420	.404	1.000		
	MOD_EI	-.460	-.422	-.378	.003	1.000	
	MOD_EC	-.643	-.337	-.506	-.066	.651	1.000

Table 51 presents the Pearson correlation coefficient results for the third hypothesis as part of assessing the levels of multicollinearity amongst the constructs. As there are no correlations exceeding 0.8 or higher, there are no concerns relating to multicollinearity and that the regression assumption has not been violated.

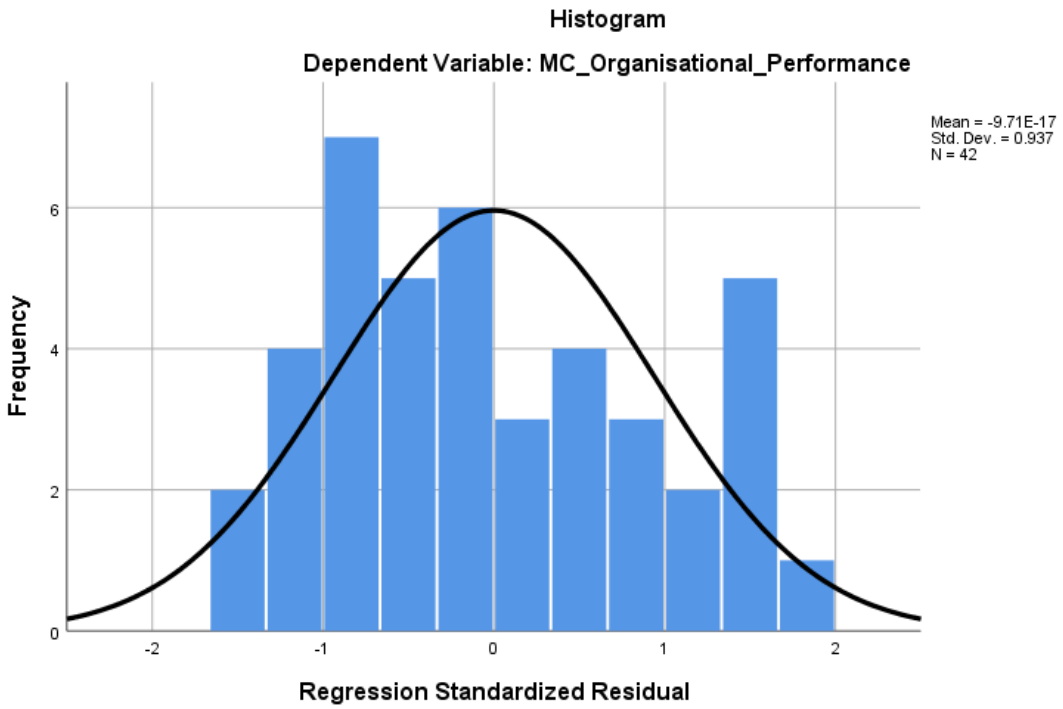

Figure 25: Hypothesis 3 Normality of Residuals Assumption

The second assumption for regression analysis relating to the regression residuals being normally distributed is illustrated in Figure 25. As the distribution of the residuals follows a bell-shaped curve, it can be concluded that this assumption has not been violated.

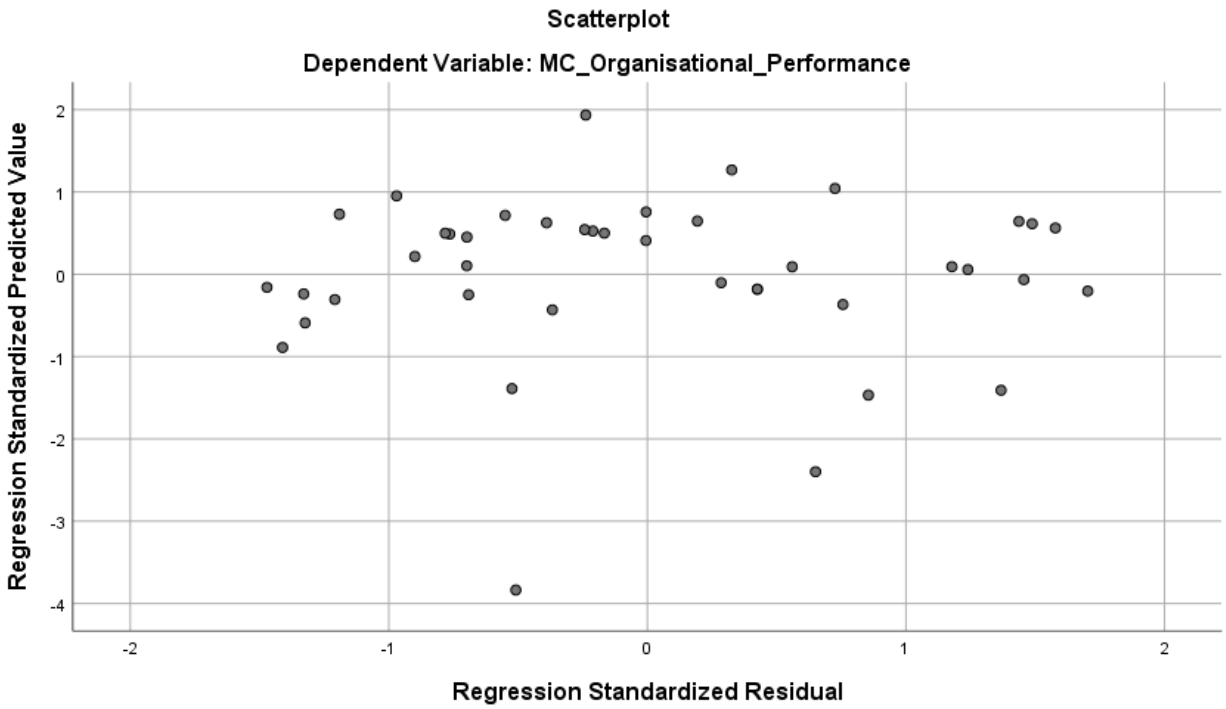

Figure 26: Hypothesis 3 Heteroskedasticity Assumption

The third regression analysis assumption evaluated was the impact of heteroskedasticity on the dependent variable. Figure 26 highlights that a random scatter pattern exists; therefore, it can be concluded that this assumption has not been violated because there is no variance of the dependent variable across the data.

Table 52: Hypothesis 3 Regression Coefficients

Constructs	Base Model				Including Moderator			
	B	SE	Beta	p	B	SE	Beta	p
Intercept	0.000	0.076			0.107	0.068		
EI	0.095	0.135	0.108		0.126	0.121	0.144	
EC	0.624	0.162	0.588	***	0.346	0.151	0.325	*
External Influences	0.352	0.146	0.253	*	0.442	0.124	0.317	**
EI*External Influences					-0.026	0.150	-0.020	

EC*External Influences					-0.575	0.168	-0.396	**
R2 Base	0.662							
ΔR2	0.120							
F (3,38) Base	24.846							
F (5,36) with moderator	25.849							
"* p < 0.05; ** p < 0.01; *** p < 0.001" (www.sajerms.org)								

A significant regression equation was found in the moderator model (F = 25.849, p <0.001) with an R^2 of 0.782. Furthermore, the adjusted R-square in the results indicates that the independent variables explains 75.2% of the variability of organisational performance. Table 52 highlights that only one of the moderated regression coefficients is significant (EC*External Influences, β = -0.396), with a p-value of less than 0.01. The null hypothesis is, therefore, rejected at the 5% level of significance. The evaluation of the moderated relationships is depicted in the figure below.

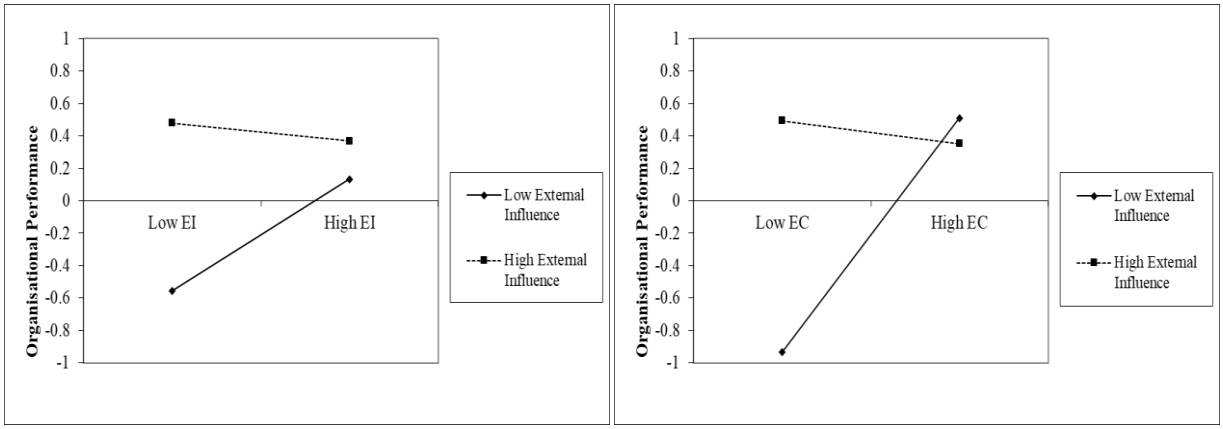

Figure 27: External Influences Moderator Effects

Figure 27 clearly highlights the significant moderator effect that external influences have on the relationship between entrepreneurial capability and organisational performance. On the contrary, the lack of significance in the moderated relationship between entrepreneurial intensity is illustrated by the lack of interaction between the moderator and independent variables.

4.8 Summary of the results

Table 53: Hypothesis Testing Results Summary

Research Question	**Hypotheses**	**Constructs**	**Reliable and Valid**	**Result**
How do levels of entrepreneurial intensity influence organisational (Entity/Agency) performance?	$H1_a$: Entrepreneurial Intensity (EI) positively influences organisational performance	Proactiveness Risk-taking Innovativeness Innovation Activity*	Yes	Partially Supported
	$H1_0$: Entrepreneurial Intensity (EI) does not positively influence organisational performance			
How do levels of entrepreneurial capability influence organisational (Entity/Agency) performance?	$H2_a$: High levels of entrepreneurial capabilities tend to positively influence organisational performance	Human Capital* Social Capital Technological Distinctiveness	Yes	Partially Supported
	$H2_0$: High levels of entrepreneurial capabilities do not positively influence organisational performance			
What is the extent of external environmental influences (moderating effect) on the relationship between entrepreneurial intensity, capability, and organisational performance?	$H3_a$: External influences (compliance with legislation) "will moderate the relationship between EI, EC and organisational performance" (www.sajems.org)	External Influences* Entrepreneurial Intensity Entrepreneurial Capabilities*	Yes	Partially Supported
	$H3_0$: External influences (compliance with legislation) will" not moderate the relationship between EI, EC and organisational performance"(core.ac.uk).			
*** Significant at the 5% significance level**				

Table 53 provides an overview of the main findings presented in this chapter. Partial support was found for the first two hypotheses as only one out of the constructs evaluated for each hypothesis was found to be significant at the 5% significance level. Furthermore, the third hypothesis was also partially supported as external influences was found to significantly moderate the relationship between entrepreneurial capabilities and organisational performance.

CHAPTER 5: DISCUSSION OF THE RESULTS

5.1 Introduction

In this chapter, the researcher endeavours to present the results in relation to the literature review. The first section (Section 5.1) elaborates on the sample characteristics, while the subsequent sections 5.1.5.3 and 5.4, focus on the empirical results of the three research hypotheses.

5.2 Demographic profile of respondents

The demographic results illustrated in figures 7 to 11 reveal that the typical respondent belonged to an organisation(entity) that could be classified as medium-tech to high-tech. Morris and Sexton (1996:7) argue that Entrepreneurial intensity integrates the frequency and degree of entrepreneurship (Morris and Sexton, 1996:7). This means that the bulk of the sample numbers emanate from an environment that can be characterised by a moderate degree of entrepreneurship. Consequently, this relevant exposure to entrepreneurship caters to a reliable and valid response to the questions posed around the constructs in the model.

In addition, most respondents belonged to agencies which contracted between 51 to 250 employees. Kennedy (2018) suggests that corporate entrepreneurship, or intrapreneurship is conceived as support given to employees to inculcate entrepreneurial thinking within the work environment. This may enable identification of entrepreneurial opportunities, develop innovative products, services, or new business ventures (Kennedy, 2018). The respondents are employed in an intimate environment that has a healthy number of contributors towards either entrepreneurship or intrapreneurship to foster and drive entrepreneurial intensity.

Furthermore, most organisations represented by the sample were less than 30 years old. Mishra and Zachary (2014:21), advise that entrepreneurship involves a “value creation process and appropriation guided by entrepreneurs in an

unpredictable business or market environment". Because most of the organisations are less than 30 years old, they are all still aspiring to firmly establish themselves within their respective competitive markets. These organisations are likely to employ millennials who harbour innovative entrepreneurial ideas to propel their organisation to keep abreast of technological developments and competitive advantage. OECD (2016) advocates for the employment of youth or millennials who generally display dynamic vitality, are technology savvy, and are teachable. Against the context of the recent COVID-19 pandemic, markets have become volatile, unpredictable, and unstable, requiring a mindset focused on further developing entrepreneurial intensity and capabilities among employees to ensure future organisational sustainability and competitiveness.

An important observation is that there was a slightly higher proportion of females in the sample than males. State-owned entities, as commercial juristic persons, require tangible and competitive entrepreneurial capabilities to augment efforts to deliver public services to communities (Shree and Urban, 2012). This female-male ratio is reflective of the high number of female employees, which in turn, mirrors the general population gender distribution as shown by population statistics regularly released by Statistics South Africa (Statistics South Africa, 2011). The public sector is a huge employer to deliver basic essential services (such as water, electricity, education, and health) to the citizens of South Africa, and hence the huge number of female employees.

In addition, more than half of the sample respondents were aged between 18 and 40 years of age. This finding is supported by the World Bank (2021), which asserts that South Africa's labour market can benefit from young entrepreneurs. Young people are constantly growing and developing their entrepreneurial capabilities in the work environment and can "create an enabling environment for the growth and development of future entrepreneurs and SMME sector. Transferring and naturing entrepreneurial skills is essential in promoting economic growth and job creation for the youth against the current unemployment rate of over 32% in South Africa (Statistics South Africa, 2021).

5.3 Discussion pertaining to Hypothesis 1

The first research hypothesis aimed to evaluate whether entrepreneurial intensity positively influences organisational performance. Based on the results highlighted in Table 46, the first key finding for this hypothesis was that no significant relationship was found between proactiveness and organisational performance. This finding is supported by Morris (1998) who asserts that proactiveness involves boldness to competitive aggressive behaviour in the face of fierce competition. However, the South African public sector environment is quite docile in the sense that SOEs typically operate in monopoly or oligopolistic environments that are not threatened by fierce competition. Furthermore, government as a main shareholder, tends to protect SOEs in these markets. Therefore, the need for proactiveness is very low, which explains the outcome of the results to be insignificant.

Secondly, in concurrence with previous studies, “there was no significant relationship found between risk-taking and organisational performance". This finding is supported by Covin and Lumpkin (2011) who argued that opportunities need to be *exploited* by leveraging of available resources to realise faster growth, coupled with increased profit margins and superior return on investment. Further, EI corporate entrepreneurial intensity alludes to the *changing nature* of entrepreneurship in an organisation (Covin & Lumpkin, 2011). The lack of significance could be attributed to very *limited* opportunities available in the market that would require risk-taking intensity. The public sector environment is extremely structured and governed by legislated legal regime (e.g. and Company Act) which make it a very difficult environment to take risks because of limited opportunities outside the legislation and oversight committees.

Thirdly, there was no significant relationship found between innovativeness and organisational performance. This finding is supported by Morris and Sexton (1996) who highlight that an example of innovation is creating a new product or service or technology range. Unfortunately, in the public sector the emphasis is placed on maintaining and delivering only existing products and services; which also face severe service delivery challenges. Hence, being unable to provide the basic products and services to communities (as evidenced in the many service

delivery protests in South Africa), consistently hampers the ability and desire for innovativeness by SOEs as they lack the competence, skills and executive will to execute effectively (OECD, 2014).

Lastly, it was found that a significant positive relationship was found between innovation activity and organisational performance. This finding is supported by den Hond (1996) who has identified market demand as a major contributor towards market research and development, new product design, and internal process reengineering. Hence, innovation activity is an absolute necessity to keep up with the demands of stakeholders and citizens in the public sector.

Therefore, it can be concluded that entrepreneurial Intensity (EI) can positively influence organisational performance, especially with regards to innovation activity.

5.4 Discussion pertaining to Hypothesis 2

The second research hypothesis aimed to evaluate whether entrepreneurial capability positively influences organisational performance. Based on the results highlighted in Table 50, the first key finding for this hypothesis was that there was no significant relationship between social capital capabilities and organisational performance. This finding is supported by the need for correct knowledge acquisition through effective use of social capital capabilities, which may potentially reduce risk and enhance competitive advantage. Furthermore, social capital and networks may create social platforms for sharing of resources and penetrating new markets. Shree and Urban (2012) add that the acquisition of knowledge allows firms to enhance their learning capabilities, thereby reducing uncertainty and risk, while improving their competitive entrepreneurial position.

SOEs operate independently in silos because their mandatory unique service delivery mandates that do not necessarily overlap. This follows that there are compulsory effective means in place to leverage social capital between SOEs to positively impact on organisational performance.

Secondly, there was a significant relationship between technological distinctiveness and organisational performance. Morris et al. (2011), suggest that corporate entrepreneurship is conceived as a mindset to manipulate internal processes, attitudes, and new opportunities to reshape business strategy, establish new business units, and create new products for competitive market hegemony in the face of ever-changing technological environment. This mindset highlights the critical need for technological distinctiveness to achieve competitive advantage as means of differentiating products and services in relation to competitors.

However, the unique circumstances of certain SOEs in South Africa, create the situation where in certain areas these organisations and entities are the only providers of essential goods and services (until recently, ESKOM, has enjoyed monopoly of power generation in South Africa). The resultant effect of monopolistic tendencies is absence of market competitive forces to stimulate the need for technological distinctiveness, and this partly explains its impact on organisational performance (based on the findings of this research).

Lastly, it was found that there is a significant positive relationship between human capital capabilities and organisational performance. This finding is supported by Sahiti (2021), who investigated institutional quality and its impact on entrepreneurship activities in a less-developed economy. The study confirms that institutional human qualities have a direct impact on entrepreneurship activities, more so, in a less-developed economy. As a result, the developing nature of the South African economy requires development of human capital capabilities institutionalised in the working population in both the public and private sectors.

Therefore, it can be concluded that high levels of entrepreneurial capabilities can positively influence organisational performance, especially in relation to technological distinctiveness.

5.5 Discussion pertaining to Hypothesis 3

The third research hypothesis aimed to evaluate whether external influences (compliance with legislation) moderates “the relationship between EI, EC and organisational performance. Based on the results highlighted in Table 52, the main finding for this hypothesis was that only the relationship between EC and organisational performance” is moderator by external influences (Urban and Sefalala, 2015). This finding is supported by the potential of legislation and regulatory environments to act as negative external influences that can erode an SOEs capabilities and ultimately lead to detrimental organisation performance. For example, the Public Finance Management Act and The Companies Act provide overarching governance framework for SOEs. According to the PFMA schedule 2 and 3b entities must report their financial and non-financial performance to National Treasury for national entities or Provincial Treasury for SOEs funded by provincial local fiscus, respectively Parliament or legislature assumes overall authority and oversight role (National Treasury, 2014) (National Treasury: 2014). The oversight duty of parliament is normally executed by the Standing Committee on Public Accounts (SCOPA) and the Portfolio Committee on State-owned Enterprises. These external influences are able to exert external influences on SOEs, which can hamper their entrepreneurial capabilities in terms of human and social capital as well as technological distinctiveness.

Consequently, innovative thinking and proactive action in challenging environments, may result in organisation’s enviable competitive behaviour. Therefore, there may be a discernible relationship between the organisation's EI, the extent of external environmental influence and levels of organisational performance (Kuratko, D., MORRIS, and COVIN, 2011). However, in this case, the lack of a significant moderated relationship between EI and organisational performance could be the result of external influences creating extremely challenging environments that do not promote innovative thinking and proactive action in SOEs.

This means that interventions brought about by either PFMA, Company Act or SCOPA can significantly contribute to negative organisational

performance. Therefore, it can be concluded that external influences (compliance with legislation) can moderate the relationship between EC and organisational performance.

5.5 Conclusion

This chapter elaborated on the study results for each hypothesis in light of extant literature. These hypotheses were formulated to evaluate the conceptual framework developed in Chapter 2, and to address the research problem and sub-problems identified in Chapter 1. The findings for the first hypothesis were supported by theory and the conclusions was reached that entrepreneurial Intensity (EI) can positively influence organisational performance, especially with regards to innovation activity. Likewise, support for the second hypothesis leads to the conclusion that high levels of entrepreneurial capabilities can positively influence organisational performance, especially in relation to human capital capabilities. Thereafter, the third hypothesis was discussed to explain the potential impact that external influences can have as a moderator between the relationship of EI and EC with organisational performance. However, only the relationship between EC and organisational performance was found to be negatively moderated by external influences. The next chapter will draw conclusions, implications and recommendation based on the discussion of the hypothesis results presented in this chapter.

CHAPTER 6: CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

6.1 Introduction

The results and interpretation of findings of the study have been presented in chapters 4 and 5 respectively. The researcher now draws conclusions on the main aspects of the study in relation to the goal and objectives of the study after discussing the main findings. The final section will note recommendations on entrepreneurial intensity for further research including reference to the limitations of the study.

6.2 Conclusions of the study

Firstly, an analysis of the demographic profile of the respondents reflected a female dominated work environment (54%). Most of the respondents were young between the ages of 18 and 40 years. This picture does not necessarily suggest that the state-owned entities in the Gauteng province are completely dominated by young employees. However, there is a significant number of employees of over the age of 40 years. This statistic is a reflection of the respondents who volunteered to participate in the study

Another conclusion can be drawn that the sector is less than 30 old and therefore still has to affirm its competitive advantage both locally and globally. Within the context of South Africa's membership to BRICKS countries, and the general prevailing globalisation and internalisation trends. A significant figure of 90,5% of the organisations (state-owned entities) in Gauteng under study, were founded between 1991 and 2021.

The aim of the research was to investigate "corporate entrepreneurship by examining how the influence of entrepreneurial intensity and capability at the organisational level influence performance, while at the same time considering external influences (e.g. legislation) on this relationship". The scope of the study

was limited to 6 state-owned entities under the jurisdiction of the Gauteng Provincial Government.

The research found that entrepreneurial intensity and capabilities do influence organisational performance in various degrees in the state-owned entities in the Gauteng provincial government jurisdiction. Most respondents in the study affirmed the importance of human capital and innovation activity in promoting entrepreneurial mindset leading to organisational long-term existence. For example, 71,1% agree that the agency levels of innovative activity for process engineering are high, 71,4% of respondents agree that innovation activity investments are important to top management, while 81.0% agree that top management are knowledgeable about local business laws and regulations, and over 85% (85.7%) believe that there is sufficient knowledge of business competitors in the entrepreneurial space. IT can be concluded that human capital dimension in management, innovation and innovation activity are perceived in a positive light by respondents.

Further, in concurrence with prior studies, over ninety percent (90.5%), of respondents agree that “actions of competitors are easy to predict within the legal framework” (Urban, 2011). In addition, 85% of respondents agree that their respective agencies are very stable within the legislative mandates with little change. It can be concluded that there is overall agreement on the external influences (legal framework) which is as high as above 85%.

Another finding of the study is that even though all constructs are significantly correlated with organisational performance ($p < 0.05$), only one of the regression coefficients is significant (Innovation Activity, $\beta = 0.410$), with a p-value of less than 0.05.

Finally, as noted in paragraph 4.8, partial support was found for the first two hypotheses as only one out of the constructs evaluated for each hypothesis was found to be significant at the 5% significance level. The third hypothesis was supported as external influences was found to have a significant negative moderator effect on the relationship between organisational capability and

organisational performance. This means therefore that individuals working in the public sector environment regard legislative compliance as significant to their work life as it could hinder their productivity and ultimately lead to undesirable performance outcomes.

6.3 Implications and Recommendations

- More attention could be given to increasing the frequency of innovative activities to promote entrepreneurship within the state-owned entities in the Gauteng province as this was found to be significant.
- Risk taking is to be encouraged by legislation to ignite thinking ‘outside the box’ concept.
- The public sector environment is extremely structured and governed by legislated legal regime (e.g. and Company Act) which makes it a very difficult environment to take risks because of limited opportunities outside the legislation and oversight committees. It is recommended that more flexible and innovation friendly regulations be enacted to stimulate start-ups to enter the entrepreneurial field much easier and with appropriate financial and technical support from government.
- Capacity of the state to deliver service must be enhanced by promoting innovative competencies, technical skills to plan and execute service delivery programmes (OECD, 2014). Therefore, it is recommended that all new entrants into the public sector must be exposed to an intensive induction programme which is anchored on the dimensions of EO. State-owned entities might meet or exceed their performance targets if entrepreneurial activities are embraced and implemented.
- SOEs operate independently and in silos because their mandatory unique service delivery mandates that do not necessarily overlap. It is recommended that clusters SOEs be formed to coordinated and collaborate where applicable. This will foster teamwork and common vision.
- There is a need for mindset shift to embrace technological distinctiveness to achieve competitive advantage as a means of differentiating products and services in relation to competitors.

- On a conceptual and theoretical level, the study will provide more clarity and close the knowledge gap on the role of EO and capability in a public organisation. The empirical (or practical) application of new insights may inherently influence the policy directives of SOEs and entities within the Gauteng province and beyond. Public policy requires re-orientation to incorporate the interventions that are entrepreneurial as a key pillar of government to address the everchanging needs of communities, as advocated by many scholars (Hameed & Ali, 2011).

6.4 Limitations of the study

- The choice of methodology in this study, does not allow for richness or depth of the results (limitation of quantitative). The study was cross-sectional and not longitudinal. A cross-sectional study gathers data from various respondents at one time. In longitudinal studies, data are collected from the sample at particular points over time (Gravetter & Forzano: 2012). Future longitudinal studies using the same sample at several points in time, may potentially yield different results on the influence of entrepreneurial intensity and capability on organisational performance. Longitudinal study was not feasible in view of the limited timelines for this study.
- The limited sample size to mitigate the limitations of the country-wide *state of disaster* in the face of the covid-19 pandemic, somewhat compromised the generalisation of the research results.
- The study was conducted using self-administered online questionnaire survey, with inherent common method bias. However, the undertaking to observe anonymity and confidentiality was emphasised to encourage participation. Further, sensitive data was not requested. Future studies might use alternative data collecting tools to enhance the research design.
- The respondents were generally heterogeneous and did not consider work positions as a measurable variable which may elicit specific responses. Future research may conduct a comparative study on the differentiated views of key respondents.

6.5 Suggestions for further research

The following recommendations on how entrepreneurial intensity and capability influence performance within a defined regulated environment could be enhanced are made, inferring from the findings of the study.

- There is a need to further establish the robustness of the El concept and the CE measures presented in this study, using a larger sample.
- Future longitudinal studies may be conducted to establish the influence of entrepreneurial intensity and capability on organisational performance.
- Future studies to focus on promoting proactiveness in state-owned entities. There is no competition in the markets that will force out proactiveness.

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APPENDIX A: SURVEY QUESTIONNAIRE



Investigating_Entrep
reneurial_Intensity_C

APPENDIX B:

Table 2: Summary of research design for the study

Philosophical stance:cacal stance	Methodology	Methods (Survey): data collection method	Source of data	Type of data	Analysis
Post-positivism: Ontological stance: Critical realism	Quantitative research design. Deductive approach	Data collection method: Self-administered online survey questionnaires Time horizon: Cross-sectional Sample 180/400 Probability sampling (Simple random sampling)	Questionnaire (Likert scale) Literature review Questionnaire on the demographics section	Ordinal Data (7 Likert Scale) Nominal data	Correlation (SPSS) Multiple Regression Descriptive

APPENDIX C:

Table 3: Consistency matrix

TITLE: Entrepreneurial Intensity, Capability and External environmental influences in state-owned Agencies, Entities and Components in the Gauteng Province, South Africa							
Problem: Lack of clarity of the relationship between entrepreneurial intensity (EI) and capability and their influence on organisational performance, in state-owned Agencies, Entities and Components in the Gauteng Province, South Africa.							
Main Objective To Investigate Entrepreneurial Intensity, Capability and External environmental influences in state-owned Agencies, Entities and Components.							
Sub-Objectives	**Literature Review**	**Research questions**	**Hypotheses /Propositions**	**Variables(Independent & Dependent)**	**Source of data**	**Type of data**	**Analysis**
To investigate the influence of entrepreneurial intensity on organisational performance.	Morris (2015)	How do levels of entrepreneurial intensity influence organisational performance?	High levels of entrepreneurial intensity tend to positively influence organisational performance	IV1= Entrepreneurial Intensity DV1= organisational performance	Questionnaire Q1 TO Q6	Ordinal Data (7 likert Scale)	1. Descriptives 2.Correlation 3. Multiple Regression
To investigate the influence of entrepreneurial capability and organisational performance.	Nalevanko (2013)	How do levels of entrepreneurial capability influence organisational performance?	High levels of entrepreneurial capabilities tend to positively influence organisational performance	IV2= Entrepreneurial capability DV2= organisational performance	Questionnaire Q7 to Q16	Ordinal Data (7 likert Scale)	
To establish the extent of external environmental influences on	The Constitution (www.gov.za)	What is the extent of external	External influences will moderate	Moderating V3= External environmental	Questionnaire Q17 to Q21	Ordinal Data (7 likert	

LINGO QUALS VS QUANTS

Propositions – Quals Hypotheses - Quants Variables – Quants Phenomenon – Quants

IV: Independent Variables: Entrepreneurial Intensity, Entrepreneurial capability
DV: Dependent Variable: Organisational performance
CV: Moderating influences: External influences

The Consistency matrix above, provides additional information on the research design in Table 2 above. A consistency matrix aids in ensuring alignment of aims, hypotheses, choice of data analytic tool and literature to be used. It provides a process flow and a point of reference during the research journey as reflected in the consistency matrix (Table 3). The key features of the above Table 3 are

methodology, data collection methods population sampling and data analysis.