Gordon Institute of Business Science
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Corporate entrepreneurship at an organisational level in the South African emerging market context

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Abstract

Corporate entrepreneurship is recognised as an important business practice as it develops the entrepreneurial and innovative propensities of organisations. This is particularly significant as an enabler for organisational strategy to assist organisations through economic environments that are becoming increasingly dynamic in the current 21st century corporate setting.

The aim of this study was to identify the existence of corporate entrepreneurship at an organisational level in the South African emerging market context. The study tested the perceptions of managers at a junior, middle, senior and executive management level via a research survey testing entrepreneurial orientation and corporate innovation. This allowed for the gathering of insights associated with the entrepreneurial and innovative tendencies of organisations doing business within South Africa.

The responses of 300 managers employed within organisations across a wide variety of industries in South Africa were statistically analysed. The results revealed that corporate entrepreneurship, through its antecedents of entrepreneurial orientation and corporate innovation, is prevalent in the South African emerging market context. However, the study also revealed that the extent to which corporate entrepreneurship is recognised and practised within South Africa is moderated by the dimensional traits that contribute to entrepreneurial orientation and corporate innovation.

This study was primarily relevant as it explored the arena of corporate entrepreneurship within the South African emerging market context, in the indicated absence of substantial research in the field.

Keywords

Corporate entrepreneurship, entrepreneurial orientation, corporate innovation, emerging markets, corporate entrepreneurial strategy

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Declaration

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

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1. Chapter 1 - Introduction to the Research Problem

1.1. Background

This research is based on corporate entrepreneurship and serves to explore the existence of this important business practice within the South African emerging market context. Corporate entrepreneurship, as stated in Kuratko and Covin (2010), is a term used to describe the entrepreneurial predispositions of organisational entities in the micro, small, medium and large profile categories. According to the popular consulting website, "Corporate Entrepreneurship", corporate entrepreneurship is a core competency required, to accelerate new business growth from inside organisations. Based on the general information available on this website, it was understood that corporate entrepreneurship practice requires entrepreneurial thinking within an organisation to enable its innovation and growth capabilities.

Kuratko (2017) re-enforced the understanding alluded to in the "Corporate Entrepreneurship" website as well as Kuratko and Covin (2010), and further re-iterated corporate entrepreneurship as an organisation's ability to attain competency skills and use them as capabilities for innovation and innovative ways of doing business. Terms such as intrapreneurship, organisational entrepreneurship, and corporate venturing are alternate references for corporate entrepreneurship (Morris et al., 2010) and relate to the exhibition of entrepreneurial actions and corporate innovation within organisations.

Entrepreneurial orientation is, according to Anderson, Covin, and Slevin (2009), a strategic orientation directed towards a firm's strategy formulation practices, encompassing managerial philosophies and decision-making behaviours. Together with the aforementioned aspects, innovativeness, proactiveness, risk-taking competitive aggressiveness, and autonomy are defining dimensions of entrepreneurially orientated organisations (Dess and Lumpkin, 2005). Entrepreneurially orientated activities can include both formal and informal activities that build new businesses either within organisations or outside of organisations (acquisitions) that contribute to innovation and develop new market opportunities (Morris et al., 2010; Zahra, Neubaum, & Huse, 2000). In order to carry out

entrepreneurial activities, entrepreneurial managers are required (Morris et al., 2010). Morris et al. (2010) further explained that managers are the leaders within organisations who become the decision makers. As decision makers, it is imperative for them to understand the complexity of an organisation's interaction with the external environment. Understanding the influence of the external environment on an organisation's existence ensures that they can contribute to effective and efficient, decision-making processes.

Another form of corporate entrepreneurship is corporate innovation (Kuratko, Hornsby, and Covin, 2014). Corporate innovation enables organisations to create pioneering improvements and successful business models for organisational sustainability. It also consists of product, process and organisational forms of innovation (Zahra, 1991), which seek to extract, and nurture entrepreneurial potential locked up within organisations via the dimensions of management support, work discretion, rewards and reinforcements, time availability, and organisational boundaries. It is known that the creation of an innovative environment within a firm is important and must be inculcated with the attitudes of top management before it permeates the entire organisation (Knight, 1987). Progressive, forward-thinking and dynamic organisations engage their human capital such that they can become the source of innovative ideas. This type of organisational behaviour gives rise to corporate entrepreneurs. Corporate entrepreneurs or intrapreneurs are, according to Knight (1987), employees who can present and coordinate pioneering projects within the corporate environment. In doing so, the employee's behaviour and demeanour exhibit that of an independent entrepreneur.

1.2. Business Context

In the current 21st century global business setting, markets are becoming increasingly dynamic (Kuratko, Hornsby et al., 2014). It is therefore imperative that an organisation can maintain a competitive advantage within the realm of this kind of business environment (De Jong, 2013; Lechner & Gudmundsson, 2014). For organisations to be competitive, it is key that a culture and environment of innovation is embraced (Claudy, Peterson, & Pagell, 2016). This would assist in ensuring and maintaining long-term competitiveness and sustainability of the organisation. In their

article, Covin and Miles (1999), recognised the practice of corporate entrepreneurship as a very viable means to encourage and sustain growth for corporates operating within the realms of national and international markets.

Furthermore, and according to Kuratko, Hornsby, and Hayton (2015), research over the last 40 years has shown that the field of corporate entrepreneurship, can be used as an effective strategy to facilitate an organisation's attempt to innovate for survival. This strategy could then be useful in coping with the competitive nature of the current global economic situation (Kuratko et al., 2015). Platin and Ergun (2017) demonstrated that adopting an innovative and strategic position enables adaptability and agility, and thus secures global competitiveness for growth and survival. Omotosho and Anyigba (2019) have also established that corporate entrepreneurial strategies have given businesses the competitive edge necessary for business survival, especially during difficult times.

According to Scott (2020), an emerging market, is the economy of a developing nation and are subject to difficulties in socio-economic conditions. It starts of as a low-income, less developed, pre-industrial economy. As an emerging market seeks to progress, it integrates with the larger global economy and competes with international markets so as to advance into developing modernism and industrialisation, thus realising growth and higher standards of living. Countries such as Brazil, India, China, Russia, Mexico, Pakistan and Saudi Arabia are distinguished emerging market economies. Due to rapid growth (measured by gross domestic product, i.e. GDP) and ambition towards industrialisation, emerging market economies provide suitable investment returns for investors (Scott, 2020).

In 2010, South Africa joined the BRIC (Brazil, Russia, India, China) emerging market grouping. Andreassen (2011) discussed South Africa's presence in Africa as an emerging market and the country's ability to be a leading player among emerging market economies within Africa and the world. Since emerging global markets are subject to difficult economic demands, organisations operating within the realms of these business conditions need to rely heavily on their resources and capabilities (Huse, Neubaum, & Gabrielsson, 2005). Corporate entrepreneurship practice would therefore be an effective strategy, as shown by Kuratko et al. (2015), to extract

organisational resources and exploit capabilities, such that these organisations can revolutionise economies of emerging markets. This study therefore played a critical role in identifying the current state of corporate entrepreneurship within organisations operating in the South African emerging market context.

1.3. Research Problem

Demirkan, Yang, and Jiang (2019) suggested that emerging markets provide a contrast to developed markets. As per the 2014 global competitiveness report, it was found that emerging economies are becoming increasingly internationally connected. From Ghemawat & Altman (2014), it was also evident that the majority of emerging market economies, South Africa included, strive to compete economically on a global scale (Ghemawat & Altman 2014). However, in order to be serious economic players on a global scale, it is imperative that these emerging economies equip themselves entrepreneurially and adopt innovation strategies such that they can interact, transact and compete effectively on a worldwide platform (Pantea, Zaharie, & Osoian, 2017). There are various studies on BRICS countries, yet, to the researcher's knowledge there is very little research that covers corporate entrepreneurship in emerging markets with particular reference to Africa and South Africa.

Furthermore, in terms of geographic proximity, Shaker, Zahra, and Fayolle (2013) confirmed that most studies in CE have been concentrated in the business environment of the United States of America. In as recently as 2017, Urban (2017) found that there still is a geographic bias with regards to entrepreneurship-specific academic literature on CE. Urban (2017) reiterated that there still exists a gap in terms of research for different economic settings, since most studies focus more on developed, western economies (Urban, 2017).

Additionally, it has also been identified in Urban (2017) that a more profound consideration ought to be given to the concept of corporate entrepreneurship within organisational environments. Demirkan, et al. (2019) further mentioned that emerging market firms, through their presence in emerging market economies, are subjects for economic development and growth and are therefore significant and

influential players in the global economic environment. It is therefore important that organisations within the emerging market environment can create and sustain a competitive advantage, by forming corporate entrepreneurial strategies (Kuratko et al., 2015; Murimbika & Urban, 2014; Urban & Wood, 2015). Yet, reviews of corporate entrepreneurship in emerging market firms are still lacking (Demirkan, et al., 2019).

From the afore-mentioned background on corporate entrepreneurship as well as the business context associated with the field of corporate entrepreneurship study, it was observed that the current global economic environment demanded competitive firms. In order for competitive firms to navigate competitive external environments, they must have internal environments that could produce entrepreneurial strategies through corporate entrepreneurship. (Kuratko, 2009). The problem statement in this study therefore assessed the internal environments of emerging market organisations, by testing the antecedents of corporate entrepreneurship, namely, entrepreneurial orientation and corporate innovation.

1.4. Scope of the Research

The platform on which this study was founded and developmentally constructed was corporate entrepreneurship. Since studies on corporate entrepreneurship are still relatively absent in the emerging market environment (Urban, 2017; Demirkan, et al., 2019), this research was conducted in an emerging market setting. Since, Scheepers, Hough and Bloom (2007) previously argued that there was a lack of research with regards to corporate entrepreneurship in the South African context, this provided an opportunity for South Africa, being a member of the BRICS emerging markets (Pantea et al., 2017), to be the geographical setting for the study.

The existence of key constructs for corporate entrepreneurship, namely, entrepreneurial orientation and corporate innovation (Dess & Lumpkin, 2005; Kuratko, Hornsby, et al., 2014), was investigated within the South African emerging market context. The study made use of employees of organisations operating within the South African business environment in order to test the internal environments of these organisations for corporate entrepreneurship practice. In doing so, this study sought to understand the extent to which organisations operating in the South African

emerging market environment, display entrepreneurial as well as innovative propensities, which contribute to corporate entrepreneurship.

Keywords: corporate entrepreneurship, entrepreneurial orientation, corporate innovation, emerging markets, corporate entrepreneurial strategy.

1.5. Business and Theoretical Need

The progressive changes in the global business environment have seen the emergence of a more dynamic and competitive business landscape over the last two decades (Morris et al., 2010). This rise in the use of technology and the rapid advancement in globalisation (Corbett, Covin, O'Connor, & Tucci, 2013) has amplified competition, thus forcing organisations to reassess and respond to the rapidly evolving changes. Organisations are faced with the challenge of developing entrepreneurial mindsets and adopting innovative practices, such that they can respond appropriately and effectively to the many disruptions taking place in the global setting. It is therefore imperative that such organisations have the resources, capabilities and competencies to formulate competitive strategies and response plans such that they can innovate for sustainability (Anderson, Covin & Slevin, 2009). According to Corbett et al. (2013), corporate entrepreneurship contributes to competitive advantage, thus allowing established organisations to remain viable and relevant in the changing business landscape.

South Africa's economic growth and national competitiveness is also dependent on the strength of its economy. As an emerging market environment, South Africa's economy is continually stressed (Schwab, 2018), due to the socio-economic issues that the country faces (Global Competitiveness Report, 2018). For South Africa to rise above these challenges, it is incumbent upon its businesses to contribute to the economic growth and national competitiveness of the country (Verachia, 2017). In such difficult economic settings, it is unavoidable that these organisations build an entrepreneurial and innovative culture. As is theoretically researched, an entrepreneurial and innovative culture will enhance the performance of organisations, thus contributing to the growth of the economy (Kuratko, 2009), as

well as to theoretical research in the field of corporate entrepreneurship. In doing so, there will also be a study contribution to the field of emerging markets.

1.6. Conclusion

This research was based on the platform of corporate entrepreneurship. It attempted to determine the state of entrepreneurial orientation and innovative tendencies of organisations doing business in the South African emerging market business setting. By doing so, the purpose was to extend the body of knowledge for corporate entrepreneurship for organisational settings in a corporate business environment. Moreover, since the study is conducted in an under-researched emerging market context (Smallbone, Welter, & Ateljevic, 2013), it was also intended to develop a literary contribution towards corporate entrepreneurship for the emerging market environments, South Africa being used as an emerging market test environment.

Chapter two of this proposal will contextualise corporate entrepreneurship and its relevant constructs based on recent academic literature. Chapter three will focus on the research questions and hypotheses derived from the academic literature review. The choice of methodology will be defended in chapter 4. This will be followed by the results obtained from testing the environments of organisations for corporate entrepreneurship practice. The results will then be discussed in Chapter 6 followed by a conclusion to the research topic in chapter 7.

2. Chapter 2: Theory and Literature Review

2.1. Introduction

The purpose of the study was to develop a deeper understanding regarding the entrepreneurial orientation of the internal environments of organisations within the South African emerging market context. The following literature analyses the theoretical background to the key constructs of the study of corporate entrepreneurship which were identified as entrepreneurial orientation and corporate innovation. Prior to the analyses of the constructs, the concept of entrepreneurship will be introduced to set the tone for the study of corporate entrepreneurship. The literature review further explored the dimensions of entrepreneurial orientation and the corporate innovation together. Lastly, the emerging market environment will be reviewed as it is important in the context of this study.

2.2. Contextualising Entrepreneurship

There are many definitions of entrepreneurship. Although the term entrepreneurship is so widely and often used, there is however, no clear academic definition that has been identified. Shane and Venkataraman (2000), contributing to and building on the earlier years of entrepreneurship research, explained entrepreneurship as the study of sources of opportunity and the exploitation thereof. As research has progressed there have been several other developments regarding the term entrepreneurship. Building on the Shane and Venkataraman's (2000) explanation, van Ness and Seifert (2016) theoretically created a definition timeline of the term entrepreneurship using Mair and Marti (2006), Mars (2009), Klofsten and Jones-Evans (2000), Powers and McDougall (2005) and Morris, et al. (2010). In doing so, van Ness and Seifert (2016) thricotomised the construct of entrepreneurship into three characteristics: (1) entrepreneur characteristics; (2) entrepreneuring processes; and (3) enterprise corollary.

In as recent as 2020, Malerba and McKelvey (2020) maintained that entrepreneurship remains an area of academic research that is highly varied and continuously growing. In the South African context, and against the backdrop of the fourth industrial revolution (4IR), entrepreneurship is believed to foster economic

development and create an opportunity for growth. This can be authenticated by the seminal works of Schumpeter (1934), who in a classical approach, classified entrepreneurship as resources combining to create disruption in an economic system, which in turn enables growth.

Metcalfe (2014) took an evolutionary approach to entrepreneurship and focused on economics and the dynamics thereof. It was shown in Metcalfe (2014) that when the economics of the environment is integrated with innovation within an organisational context, the culture of the internal environments of organisations are positively shifted. The Metcalfe (2014) study showed that innovative organisational and production processes, products, and organisational structures are characteristics of entrepreneurship and contribute to the advanced, forward thinking nature of the internal environments of an organisation. Hagel (2016) then suggested that the entrepreneurship classification needs to evolve to recognise entrepreneurial individuals. In the same review, entrepreneurial individuals were described as those who can identify and exploit an opportunity whilst accepting the risks involved in doing so (Hagel, 2016).

In more recent studies, Malerba and McKelvey (2018) interpreted the Schumpeterian (1934) classification of entrepreneurship as the ability to: take risks with new combinations; access new resources, and; create innovation out of new ideas. Malerba and McKelvey (2018) used the research of evolutionary economics and derived an understanding of the role of entrepreneurs and entrepreneurship.

Entrepreneurs, according to Malerba and McKelvey (2018, p.506), “Create, use and disperse knowledge; encourage learning and problem-solving; apply knowledge into new thoughts for innovation; and employ innovative activities which are influenced by education, knowledge and field experience.” Entrepreneurship, according to Malerba and McKelvey (2018, p.506), “involves actors looking for opportunities to apply their knowledge for the creation of new knowledge; is influenced by learning, technology and knowledge; and integrates the co-evolution of knowledge and organisational or institutional orientation”. From an innovation systems approach, Malerba and McKelvey (2018) further went on to derive that the efficacy of the

entrepreneurial function is dependent on the resources available to entrepreneurs, for effective innovation, within an organisation.

In Malerba and McKelvey's (2020) updated research, the authors explored how entrepreneurial teams are empowered to create opportunities. The study found that opportunities are created by the individual activities of the entrepreneur, forming part of the entrepreneurial team, which in turn creates an entrepreneurial organisation (Malerba & McKelvey, 2020). Entrepreneurial organisations are organisations that display corporate entrepreneurship principles (Kuratko et al., 2015). These principles have become necessary for firms to compete in a rapidly changing global environment (Drucker, 2013) with emerging economies like South Africa, displaying a high degree of connectedness and globalisation amid the fourth industrial revolution. It is mentioned in Kuratko, Hornsby, et al. (2014) that for organisations to remain relevant and competitive, it is imperative that they display an entrepreneurial orientation within their internal environments, characterised by the antecedents (top management support, work discretion, rewards and re-inforcement, time availability, and organisational boundaries) of corporate entrepreneurship. Furthermore, an entrepreneurial orientation of both individuals and companies, are critical for the growth and development of economies and countries (Lindner, 2018), such, that entrepreneurial activities contribute to employment creation and socio-economic upliftment.

2.3. Contextualising Entrepreneurial Orientation

Rose and Mamabolo (2019), using the works of Lomberg, Urbig, and Stockmann (2017) defined entrepreneurial thinking as "a strategy making process that provides organisations with a basis for entrepreneurial decisions and actions with the purpose of creating a competitive advantage." (p.1) The authors went on to argue that entrepreneurial orientation is achieved through entrepreneurial thinking. In a fast paced and dynamic economic setting, the volatility that organisations are exposed to renders them vulnerable to failure (Mamabolo et al., 2019). Urban and Govender (2000) suggested that for leaders of an organisation to achieve sustained competitiveness for the organisation, it is important to utilise their resources towards the growth of entrepreneurial thinking. Mamabolo et al. (2019) used the literary works

of Urban and Govender (2000) and concurred with the outcome that an organisational resource should be used towards entrepreneurial orientation.

According to Wales, Monsen, and McKelvie (2011), entrepreneurial orientation is presented as a key component of entrepreneurship. Entrepreneurship is also considered as foundational to entrepreneurial orientation (Wales et al., 2011). Entrepreneurial orientation is portrayed in Bucktowar, Kocak, and Padachi (2015) as being the business mindset of an organisation. In the same article, business mindset is clarified as the adoption of responsibility and accountability of managers, as an owner would of his/her own organisation (Bucktowar et al., 2015). It is also herein further explained that these managers adopted practices which are entrepreneurial in nature (Bucktowar et al., 2015).

The strategic direction that entrepreneurial orientation provides to an organisation, to demonstrate corporate entrepreneurship practice, has also been the theme of many research papers (Fernández-Mesa & Alegre, 2015; Lomberg et al., 2017; Mamabolo et al., 2019; Semrau, Ambos, and Kraus, 2016; Shirokova, Bogatyreva, Beliaeva, and Puffer, 2016). According to Urban (2016), entrepreneurship, also referred to as the foundation of entrepreneurial orientation (Wales et al., 2011) is a resource to the innovative environment of an organisation, which in turn contributes to corporate entrepreneurship practises and corporate entrepreneurial strategy. Corporate entrepreneurship practice fosters the development of entrepreneurial strategy through entrepreneurial orientation, thus providing organisations with a competitive edge in the context of the dynamic global economic reality (Kuratko, Hornsby, et al., 2014; Urban, 2016). It can therefore be inferred form the aforementioned literary works, in the field of entrepreneurial orientation, that entrepreneurial orientation is a key construct contributing towards corporate entrepreneurship.

From seminal work, it was shown that the first dimensions of entrepreneurial orientation were innovativeness, risk-taking and pro-activeness (Miller, 1983). Morris et al. (2010) further reiterated these entrepreneurial orientation dimensions as part of their publication. Later, Dess and Lumpkin (2005) added to these dimensions by introducing competitive aggressiveness and autonomy. These authors have done

much research into confirming the dimensions for entrepreneurial orientation as: (1) innovativeness; (2) risk-taking; (3) pro-activeness; (4) competitive aggressiveness, and; (5) autonomy. These dimensions are recognised in Dess and Lumpkin (2005) as important elements of an organisational environment encouraging the practise of entrepreneurial orientation and can be further understood as follows:

2.3.1. Autonomy

High levels of autonomy, according to Dess and Lumpkin (2005), may be beneficial to the presence of an entrepreneurially oriented environment and makes it understood that autonomy is the practice of organisations in creating independence for employees with limited supervision. The authors further re-iterated that autonomous environments create flexibility for information sharing and co-ordination between management and lower level employees (Dess & Lumpkin, 2005). Urban (2017), validated these views by Dess and Lumpkin (2005) and additionally recognised autonomy as the freedom of employees to employ calculated risks in decision-making processes. This argument by Urban (2017), is also re-iterated by Burcharth, Knudsen and Søndergaard (2017). This therefore strengthens the need for the dimension of autonomy by declaring that autonomy allows for the delegation of authority to employees in the absence of senior management (Burcharth, Knudsen & Søndergaard, 2017).

2.3.2. Innovativeness

In Uslu, Bülbül and Cubuk (2015), it was stated that innovativeness is the inclination of an organisation to support “new and creative ideas.” It was further argued, as per Karimi and Walter (2016), that innovation is a key dimension in the determination of entrepreneurial orientation. The authors explicitly detailed that without innovation, corporate entrepreneurship would be inexistent, despite the prevalence of the other dimensions of entrepreneurial orientation (Karimi & Walter, 2016). These two views are further entrenched by authors Dess and Lumpkin (2005) who specified as part of their research instrument that innovativeness is the ability of organisations to create fresh opportunities and determine innovative, pioneering solutions.

2.3.3. Risk- taking

From Dess and Lumpkin (2005) it was seen that risk-taking is the ability of organisations to recognise an opportunity and explore without knowing whether there will be a success story at the end of the venture. It is further expressed in Eze (2018) as the tendency of an organisation to take on innovative projects as opportunities for a successful organisation. In Brettel, Chomik and Flatten (2015), risk-taking is recognised as the ability of leaders to commit to risky opportunities in the face of uncertainty and complexity. From these three literatures (Dess & Lumpkin, 2005; Eze, 2018; Brettel et al., 2015), it can therefore be seen that there is a common understanding regarding the nature of risk-taking in organisations, which is seen as an important dimension in the field of entrepreneurial orientation.

2.3.4. Proactiveness

Dess and Lumpkin (2005) explained proactiveness as the ability of the organisation to take advantage of fresh opportunities. In this sense, it was noted by Dess and Lumpkin (2005) that proactiveness is seen as an organisation's ability to anticipate the needs of their stakeholders and act decisively without prompts. Proactiveness is also determined in Brettel al. (2015) as a forward looking, optimistic perspective, expectant of competitive advantage, in the process of entrepreneurial orientation. This further embeds the views expressed by Dess and Lumpkin (2005) and recognised proactiveness as an integral dimension in entrepreneurial orientation.

2.3.5. Competitive aggressiveness

A deeper investigation is warranted into this dimension, as per Khanna and Palepu (2010), as organisations in emerging markets, such as South Africa, are subject to competition from international firms entering their domain. Giachetti (2016) re-iterated this view and made it relevant for emerging markets. Giachetti (2016) found that although competitive aggressiveness has a direct implication on firm performance, this phenomenon has not been tested extensively in emerging market environments. Competitive aggressiveness is discussed in Dess and Lumpkin (2005) as an organisation's ability to strive to outclass its competition. The authors go on to

explain organisations that display competitive aggressiveness normally assert themselves under this banner as the leaders in the industry (Dess & Lumpkin, 2005) and make it an imperative dimension to be considered, supporting the findings of Khanna and Palepu (2010) and Giachetti (2016).

Therefore, from the seminal works of Dess and Lumpkin (2005), the above entrepreneurial dimensions are critical measures of the entrepreneurial orientation of the internal environments of an organisation. Entrepreneurial orientation is therefore an antecedent for corporate entrepreneurship practice within organisations (Dess & Lumpkin, 2005, Karimi & Walter, 2016). The presence of entrepreneurial orientation is further established in Urban (2016) as an antecedent for corporate entrepreneurship practice. Urban (2016) confirmed that organisations that display high levels of these dimensions will have high levels of entrepreneurial orientation. Anderson, Kreiser, Kuratko, and Hornsby (2017), later discussed entrepreneurial orientation and further entrenched its role as a principal antecedent in corporate entrepreneurship practice. Based on the analysis of the literature, it can therefore be theoretically established that entrepreneurial orientation is a key construct in determining whether organisations are displaying corporate entrepreneurship practice

The majority of previous studies on entrepreneurial orientation and corporate entrepreneurship have been thus far focused on the western economies (Urban, 2017). Therefore, as studies on entrepreneurial orientation and corporate entrepreneurship are still relatively absent in the emerging market environment (Demirkan, Yang, & Jiang, 2019; Urban, 2017), the dimensions of entrepreneurial orientation (Dess & Lumpkin, 2005) have not been extensively used to test the entrepreneurial orientation of organisations within the South African, emerging market environment. Based on the evidence provided in the preceding literature review, the first hypothesis and subsequent set of hypotheses are derived:

Hypothesis 1:
Organisations in the South African emerging market environment display entrepreneurial orientation.

Hypothesis 1a)
Entrepreneurial orientation as a higher order construct is reflective of autonomy as a first order dimension.

Hypothesis 1b)
Entrepreneurial orientation as a higher order construct is reflective of innovation as a first order dimension.

Hypothesis 1c)
Entrepreneurial orientation as a higher order construct is reflective of risk-taking as a first order dimension.

Hypothesis 1d)
Entrepreneurial orientation as a higher order construct is reflective of proactiveness as a first order dimension.

Hypothesis 1e)
Entrepreneurial orientation as a higher order construct is reflective of competitive aggressiveness as a first order dimension.

2.4. Contextualising innovation from corporate innovation

2.4.1. Innovation

Kahn (2018) alluded to the fact that there exists a common misunderstanding regarding “innovative” and “innovativeness”. It was therefore clarified as per Kahn (2018) that whilst “innovativeness” is a noun, it describes the capability of an organisation to innovate. By contrast and according to Kahn (2018), “innovative,” is an adjective. Kahn (2018), also described innovation as (1) the “introduction of something new” and (2) through Merriam-Webster (2017), as “a new idea, method or device.” Kahn (2018) further declared that innovation is an important requirement for the sustainability of organisations and may be summarised as follows:

Table1: Understanding the elements of innovation

Element	Strategic focus	Strategic question	Consideration
Innovation is an outcome.	Ends.	What do you want to happen?	• Product innovation. • Process innovation. • Marketing innovation. • Business model innovation.
Innovation is a process.	Ways and Means.	How will you make it happen?	• Innovation process. • Product development process.
Innovation is a mindset.	State.	What should be instilled and ingrained to prepare for the 'what' and the 'how'?	• Individual mindset. • Organisational culture.

Source: Kahn, K. B. (2018). Understanding innovation. *Business Horizons*, *61*(3), 453-460.

Prajogo (2016), mentioned that whilst research has proven that innovation is seen as an antecedent for positive business performance, it has yet to be tested in different market conditions. It would therefore be suitable for innovation to be tested within an emerging market context. Prajogo (2016) also referred to innovation as a competitive strategy which may be aligned to organisational culture and business performance.

2.4.2. Corporate Innovation

Kuratko, Hornsby, et al. (2014) declared corporate innovation an important strategic construct in corporate entrepreneurship through the practice of product and service innovations and revolutionary breakthroughs in processes, value chains, business models and human capital structure. Later, Kahn (2018) argued corporate innovation as a type of strategic organisational innovation that brings about transitions to an organisational structure, management, or environments of work. To corroborate corporate entrepreneurship as strategic, based on Kuratko, Hornsby, et al. (2014) and Kahn (2018), it was seen in Kuratko, Covin and Hornsby (2014) that it is imperative that its construct of corporate innovation is entrenched in the vison and mission of organisations. Therefore In 2014, the Lego case study was a clear

depiction of how corporate innovation can benefit an organisation to positively affect culture, diversity, collaboration, and an innovation friendly learning environment. Lego (2014) demonstrated that adopting such entrenched corporate innovation fostered the creation of such innovation inducing strategies.

Kuratko et al. (2014), who developed the corporate entrepreneurship assessment instrument (CEAI), highlighted that research in the area of corporate entrepreneurship, has evolved over the years and has reiteratively indicated the need for corporate innovation. Kuratko et al. (2014) further indicated that generating a work environment favourable for corporate innovation is a great way of ensuring that corporate entrepreneurship can be fostered in organisations. More so, as per Kuratko et al. (2014) the concept of innovation contributes significantly to the adoption of entrepreneurial propensities of an organisation and can be measured via the CEAI. This instrument is a diagnostic tool theoretically suggested for use in the assessment of corporate innovation within organisations, after developmental research was conducted in the field of corporate entrepreneurship. The CEAI is used to practically test an organisation's internal environment for orientation towards corporate innovation using the following test dimensions: (1) top management support; (2) work discretion; (3) rewards and re-inforcement; (4) time availability; and; (5) organisational boundaries. These dimensions are recognised in Kuratko et al. (2014) as "important determinants" of an organisational environment encouraging the practise of corporate innovation.

2.4.3. Top management support

According to Al Shaar, Khattab, Alkaied, and Manna (2015), top management act as protagonists in the success of corporate innovation. However, although top management support is seen as a critical enabler for corporate innovation, Amarakoon, Weerawardena and Vereynne (2018) have found that, human resource management, which addresses top management structures, have received limited attention. However, Kuratko et al. (2014), strongly recognises the relevance of top management support as a dimension for corporate innovation. This argument which has been through years of iteration (Kuratko, 2009(a); Kuratko, 2009(b)), is embedded in Kuratko et al. (2014) which emphatically states that top management

support has been found to have a direct and positive relationship with corporate innovation.

2.4.4. Work discretion

It is argued in Kassa and Raju (2015) that there is a powerful requirement for organisations to improve productivity and employee engagement through discretionary work environments. The authors maintained that employee creativity and innovation is fostered through the practice of corporate entrepreneurship (Kassa & Raju, 2015). Later, Banumathi and Rajkumar (2016) concluded and re-iterated the views of Kassa and Raju (2015) and further discussed that employees must be afforded the right to legitimate power to act with discretion. According to Kuratko et al. (2014), it was established that higher levels of work discretion have been found to have a direct and positive relationship with corporate innovation.

2.4.5. Rewards and reinforcement

Rewards and reinforcement through its recognition as an antecedent to employee engagement for corporate entrepreneurship practise (Kassa & Raju, 2015), is acknowledged as an important dimension in the construct of corporate innovation. Urban and Wood (2017) argued that in order for organisations to benefit from this dimension, it is imperative that a rewards system that inspires entrepreneurial contributions, be established for employees. According to Kuratko et al. (2014), higher levels of rewards and reinforcements have been found to have a direct and positive relationship with corporate innovation.

2.4.6. Time availability

In Urban and Wood (2017) it is necessitated that employees be given the opportunity to explore entrepreneurial ways of doing business within the work environment, by being afforded the time to do so. This is further entrenched as a distinct dimension of corporate innovation in Ahmed, Shah and Qureshi (2018). The availability of time and other resources are key to innovative outcomes and is therefore recognised as a key dimension as per Kuratko et al., (2014). Kuratko et al. (2014), recognises

categorically that higher levels of time availability have been found to have a direct and positive relationship with behaviour associated with corporate innovation.

2.4.7. Organisational boundaries

The structure of organisations was identified in Doz (2016) as playing a crucial role in developing the culture of organisations. Doz (2016) further mentioned that organisational boundaries are developed through structure. The existence of supportive organisational structures with limited to no organisational silos or organisational boundaries, was demanded for corporate innovation to be developed (Scheepers, Hough & Bloom, 2018). According to Kuratko et al. (2014), higher levels of flexible organisational boundaries have been found to have a direct and positive relationship with entrepreneurial behaviour towards corporate innovation.

The research instrument (CEAI) was used in subsequent studies (Kassa & Raju, 2015; Monsen, Biniari, & Levie, 2016) and measured the following dimensions as orientation towards developing a corporate innovation strategy (Kuratko et al., 2014). Although Kassa and Raju (2015) conducted their study in the emerging market environment, Urban (2017) indicated that most studies in the corporate innovation space focused on developed western economies. Landström, Astrom & Harichi (2015) concluded that studies in the field of corporate innovation should be increased and globalised to provide context and contrast for comparison and depth. Based on these two studies, a motivational basis exists to study this construct within the South African emerging market. As such, based on the Lego (2014) case study, a comparison may be drawn to determine successful innovative tendencies within organisations doing business in the South African emerging market context.

Therefore, based on the evidence provided in the preceding literature review, the second hypothesis and set of sub-hypotheses are derived by employing the above five dimensions from Kuratko et al. (2014).

Hypothesis 2:
Organisations in the South African emerging market environment display corporate innovation.

Hypothesis 2a)
Corporate innovation as a higher order construct is reflective of management support as a first order dimension.

Hypothesis 2b)
Corporate innovation as a higher order construct is reflective of work discretion as a first order dimension.

Hypothesis 2c)
Corporate innovation as a higher order construct is reflective of rewards/re-inforcements as a first order dimension.

Hypothesis 2d)
Corporate innovation as a higher order construct is reflective of time availability as a first order dimension.

Hypothesis 2e)
Corporate innovation as a higher order construct is reflective of organisational boundaries as a first order dimension.

2.5. Contextualising Corporate Entrepreneurship

Peterson and Berger (1971) were early proponents of corporate entrepreneurship introducing it as a strategy and leadership approach employed by organisations to cope with different economic conditions at the time. Later research by Guth and Ginsberg (1990), as seminal works since Peterson and Berger (1971), was also an early introducer of the concept of corporate entrepreneurship. In the authors' article, Guth and Ginsberg (1990) initially alluded that corporate entrepreneurship involves strategic renewal as well as new business venturing. The authors argued that although the focus at that time was on internal innovation and business venturing, strategic renewal would become a key focus in the field of corporate entrepreneur. This was confirmed by the additional seminal work of Zahra (1996), which focused

particularly on the concept of strategical renewal to the corporate entrepreneurship model.

Govindarajan and Trimble (2005), as part of the early research linking corporate entrepreneurship and corporate innovation, introduced the idea that strategic leaders and management within organisations are transcending beyond the product and services innovation to innovation of value chains, business models and management structures. In recent research, Kuratko, Hornsby, and Covin (2014) further explained corporate innovation as an important form of corporate entrepreneurship. Corporate innovation, according to this study, is the ability of organisations to invent new ways of coping when the environment becomes competitive and challenging (Kuratko, et al., 2014).

Bierwerth, Schwens, Isidor, and Kabst (2015) also viewed the concept of corporate innovation as a key component of corporate entrepreneurship. In the same article, it was emphasised that the three components of corporate entrepreneurship namely strategic renewal, business venturing and corporate innovation, are particularly important for organisations seeking to pursue growth in the new global economic reality (Bierwerth et al., 2015). Bierwerth et al., (2015) also concluded that corporate entrepreneurship is a key factor in contributing to the performance of organisations. This confirms the predictions of the seminal works by Peterson and Berger (1971) and Guth and Ginsberg (1990), where the challenges of the business environment were projected to be a key driver for Corporate entrepreneurship practice.

Also, in seminal works, it was proposed that corporate entrepreneurship brings about the creation of new businesses ventures within an existing business (Sharma & Chrisman, 2007). Sharma and Chrisman (2007) found that new business venture gives rise to change that the organisation can embrace through the regeneration of new ideas. New business venturing continues to be highlighted and used as corporate entrepreneurship principles in current literature (Sakhdari, Burgers, Farsi & Rostamnezhad, 2020). Kuratko (2017) described corporate entrepreneurship as entrepreneurial behaviour within small, medium and large organisations, which can be related to the business venturing concept. These principles are still prevalent as

raised in earlier literature works (Guth and Ginsberg, 1990; Sharma & Chrisman, 2007).

2.6. Corporate entrepreneurship in emerging markets

Shen, Shuai, Jiao, Tan, and Song (2020) identified BRICS countries as emerging leading powers who are important in contributing both socially and economically to the global environment. Emerging markets differ from developed countries in the form of institutions, economics, culture, social norms and technology, yet they have valuable contributions to make towards the global economy (Demirkan et al., 2019). Therefore, the competitiveness of organisations operating in this context has become increasingly important to overcome the challenges posed by turmoil in the economic environment (Akben-Selkuk, 2016).

Hughes and Mustafa (2017) concluded that it is important for organisations in an emerging market context to have internal environments that are supportive of corporate entrepreneurship. South Africa, a member of the BRICS economies, represents an emerging market. However, very few studies on corporate entrepreneurship existed within the realms of this business environment. Nevertheless, it is therefore important that organisations within this environment prepare themselves for competitive strategies (Kuratko et al., 2015; Murimbika & Urban, 2014; Urban & Wood, 2015).

Therefore, as studies on corporate entrepreneurship are still relatively absent in the emerging market environment (Demirkan, et al., 2019; Urban, 2017) the dimensions of Kuratko et al. (2014) and Dess and Lumpkin (2005) measuring corporate innovation and entrepreneurial orientation respectively, have not been extensively tested within the internal environments of organisations operating in the South African, emerging market environment.

2.7. Conclusion

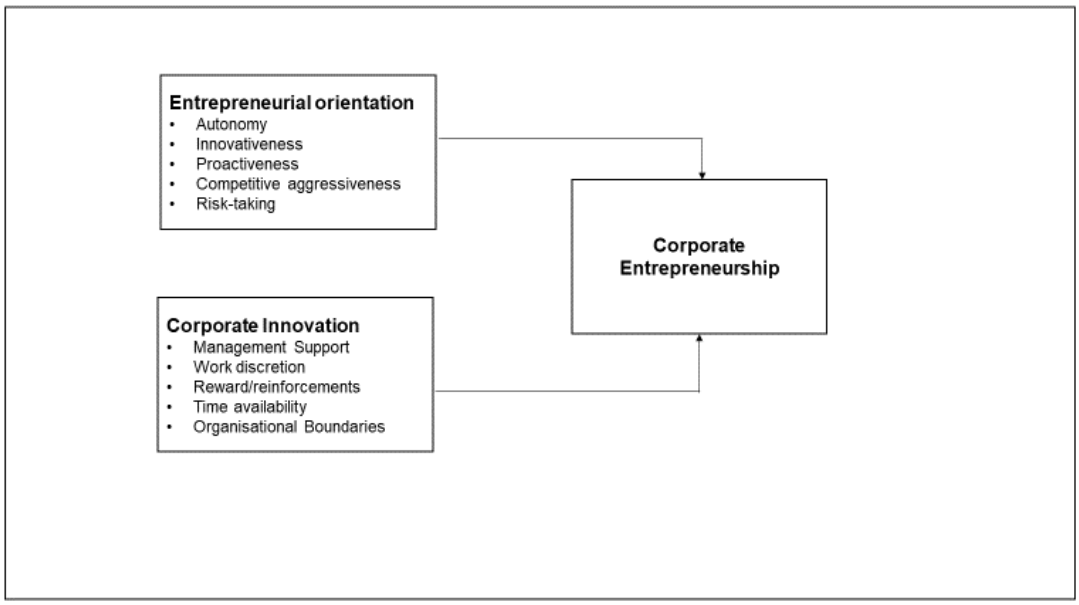
As there is a lack of research in the corporate entrepreneurship space for South Africa (Scheepers et al., 2008; van Zyl, 2015), this study focused on organisations

within South Africa (as an emerging economy). Research by Scheepers et al. (2008) and then subsequently Hornsby et al. (2013) have found that there are substantial correlations between the internal environment of organisations and corporate entrepreneurship (van Zyl, 2015).

The study therefore tested the internal environment of organisations operating in the South African emerging market environment for entrepreneurial orientation (hypothesis 1) as well as its capability for corporate innovation practice (hypothesis 2) as antecedents for corporate entrepreneurship. The study also reviewed further literature on South Africa's competitiveness in the global economy which warrants a need for entrepreneurial orientation and advanced innovative behaviour of its businesses.

The following simple conceptual model (figure 1) attempts to demonstrate the link to corporate entrepreneurship practice, through the antecedents of entrepreneurial orientation (Dess and Lumpkin, 2005) and corporate innovation (Kuratko et al., 2014), and each of its dimensions.

Figure 1: Simple conceptual model demonstrating the antecedents for corporate entrepreneurship



3. Chapter 3: Research Questions and Hypotheses

3.1. Introduction

The foundation of this study is based on corporate entrepreneurship. The literature review identified entrepreneurial orientation and corporate innovation as key constructs for corporate entrepreneurship. Dess and Lumpkin (2005) and Kuratko et al. (2014) further defined the dimensions of these constructs of entrepreneurial orientation and corporate innovation respectively. This study investigated the existence of entrepreneurial orientation and corporate innovation as higher order constructs reflective of the first order dimensions. The hypotheses and sub hypotheses were therefore as follows:

3.2. Hypothesis 1:

Organisations in the South African emerging market environment display entrepreneurial orientation.

Hypothesis 1a)

Entrepreneurial orientation as a higher order construct is reflective of autonomy as a first order dimension.

Hypothesis 1b)

Entrepreneurial orientation as a higher order construct is reflective of innovation as a first order dimension.

Hypothesis 1c)

Entrepreneurial orientation as a higher order construct is reflective of risk-taking as a first order dimension.

Hypothesis 1d)

Entrepreneurial orientation as a higher order construct is reflective of proactiveness as a first order dimension.

Hypothesis 1e)

Entrepreneurial orientation as a higher order construct is reflective of competitive aggressiveness as a first order dimension.

3.3. Hypothesis 2:

Organisations in the South African emerging market environment display corporate innovation.

Hypothesis 2a)
Corporate innovation as a higher order construct is reflective of management support as a first order dimension.

Hypothesis 2b)
Corporate innovation as a higher order construct is reflective of work discretion as a first order dimension.

Hypothesis 2c)
Corporate innovation as a higher order construct is reflective of rewards/re-inforcements as a first order dimension.

Hypothesis 2d)
Corporate innovation as a higher order construct is reflective of time availability as a first order dimension.

Hypothesis 2e)
Corporate innovation as a higher order construct is reflective of organisational boundaries as a first order dimension.

3.4. Conclusion

This study sought to test the internal environments of organisations, operating within the South African emerging market environment, for corporate entrepreneurship. The above stated hypotheses and sub-hypotheses are intended to determine whether organisations operating within the South African emerging market environment, display entrepreneurial orientation and corporate innovation, towards corporate entrepreneurship.

4. Chapter 4: Research Methodology

4.1. Introduction

Research philosophy is defined as the "overall term that relates to the development of knowledge and the nature of that knowledge in relation to the research work" (Saunders & Lewis, 2018, p.106; Bauer 2017). As indicated in chapter 1, the objective of this research was to develop a better understanding of the existence of entrepreneurial orientation of organisations within the South African business environment. In doing so, it was intended that the body of knowledge for corporate entrepreneurship can be extended overall and, developed for emerging market environments using South Africa as the test environment.

For the purposes of this research, a quantitative approach was used as the research methodology. A survey was utilised to gather data regarding the entrepreneurial orientation of organisations, as well as, to determine the ability of organisations to engage in corporate innovation. The results thereof determined whether these organisations exhibit corporate entrepreneurship such that they can develop corporate entrepreneurial strategies.

This chapter therefore focuses on the systematic way the hypotheses (outlined in the previous chapter 3) were tested in a quantitative manner.

Hypothesis 1:
Organisations in the South African emerging market environment display entrepreneurial orientation.
Hypothesis 1a)
Entrepreneurial orientation as a higher order construct is reflective of autonomy as a first order dimension.
Hypothesis 1b)
Entrepreneurial orientation as a higher order construct is reflective of innovation as a first order dimension.
Hypothesis 1c)
Entrepreneurial orientation as a higher order construct is reflective of risk-taking as a first order dimension.

Hypothesis 1d)
Entrepreneurial orientation as a higher order construct is reflective of proactiveness as a first order dimension.
Hypothesis 1e)
Entrepreneurial orientation as a higher order construct is reflective of competitive aggressiveness as a first order dimension.

Hypothesis 2:
Organisations in the South African emerging market environment display corporate innovation.
Hypothesis 2a)
Corporate innovation as a higher order construct is reflective of management support as a first order dimension.
Hypothesis 2b)
Corporate innovation as a higher order construct is reflective of work discretion as a first order dimension.
Hypothesis 2c)
Corporate innovation as a higher order construct is reflective of rewards/re-inforcements as a first order dimension.
Hypothesis 2d)
Corporate innovation as a higher order construct is reflective of time availability as a first order dimension.
Hypothesis 2e)
Corporate innovation as a higher order construct is reflective of organisational boundaries as a first order dimension

The rest of the chapter is dedicated to the strategy utilised by the researcher to prove the hypotheses. This includes the choice of methodology, research design, population sampling, unit of analysis, and sampling size. The research instrument is also discussed. Furthermore, the approach with regards to data gathering, validity and reliability of information, the ethics process and the analysis and interpretation of the results obtained is explored.

4.2. Choice of methodology

In order to understand whether an environment exists for entrepreneurial orientation and corporate entrepreneurship practice within organisations, the researcher investigated within organisations that made use of the employees as a source of information. Generally, the laws of positivism are used in a quantitative research to determine the social realities of employees in their organisational environments (Saunders & Lewis, 2018). A general conclusion is here from determined, using existing theory to fix the hypotheses (Saunders & Lewis, 2018). Further, a positivist approach generally elicits conclusions that are free from the researcher's bias (Ryan, 2018), thus the subsequent knowledge creation is underpinned by facts and lends to focus on measuring its own validity, neutrality and objectivity (Wangari, Gichuhi, & Macharia, 2019). To assist with bias, the study relied on literature to enable the interpretation of the results of the survey.

The quantitative methodology adhered to the following process: first, existing theory was used to determine the hypotheses. Thereafter, a statistical analysis was performed to determine the results from the quantitative survey. Finally, the results from the survey were then tested for validity, using tried and tested statistical methods. The valid results were then discussed and in a neutral and objective manner, using literature to eliminate bias from this study.

4.3. Research Design

Saunders and Lewis (2018) proposed two approaches to research: the induction approach as well as the deduction approach. Induction is defined as "a research approach which involves the building of theory from analysing data already collected" (Saunders & Lewis, 2018, p.113). Inductive methods of study are mostly used in qualitative methods of research (Harriman, 2010, Woiceshyn & Daellenbach, 2018). Deduction is defined as "a research approach that involves the testing of theoretical proposition, by using a research strategy specifically designed to collect data for the purpose of its testing" (Saunders & Lewis, 2018, p.112). Woicehyn and Daellenbach (2018) reiterated that a deductive research commences with an existing theoretical base and generates hypotheses based on theory. The article further goes on to

mention that in a deductive approach, data is collected and tested using statistical analysis, before the findings either confirm or modify, or extend the existing theory (Woicehyn & Daellenbach, 2018). This study therefore utilised a deductive approach, as it used existing theory as a basis to determine its hypotheses. Data was collected and tested statistically in order to accept or reject the derived hypotheses. The derived hypotheses were accepted, and thus extended the body of knowledge for corporate entrepreneurship at an organisational level in the South African emerging market context. Furthermore, a mono-method of methodology (quantitative method) was used as there was limited time available to conduct this study.

As this research was relatively novel in the South African space (Scheepers et al., 2008; van Zyl, 2015) new beneficial insights for South African businesses were sought. Since South Africa is an emerging market, new understandings of corporate entrepreneurship were developed for emerging markets. Therefore, according to Saunders and Lewis (2018), this study was also exploratory in nature as it is aimed to seek new insights in an already researched area of design, thus informing new questions and new ideas for consideration and adoption in the corporate entrepreneurship space for both South Africa as well emerging markets.

4.4. Population and Sampling

The current dynamic economic environment is dependent on people to ensure advancement of organisations for competitiveness (Geissbauer, Vedso, & Schrauf, 2015). The authors confirmed that these individuals of skill and expertise were generally able to perform entrepreneurially (George, 2015). These individuals were therefore also able to provide information regarding the dimensions of entrepreneurial orientation and corporate innovation within their work environments. The population in this study was therefore defined as managerial employees (at management level) within organisations (not specific to any sector) who do business within the South African economic, emerging market environment. This is also in accordance with the Burns and Grove's (2005) definition of population, which refers to "all elements that are required to draw conclusions."

Saunders and Lewis (2018) referred to a sample as the “sub-group of all group members or the whole population” (p.138). Hence, the sample size was the total number of respondents to the survey. These respondents (sample set) comprised of employees at junior, middle, senior and executive management levels, who had first-hand experience regarding the internal environments of their organisations. It was the intention of the research to reach a target of 300 employees.

The method of quota sampling was used as, according to Saunders and Lewis (2018), quota sampling “ensures that the sample selected represents certain characteristics in the population that the researcher has chosen” (p.144). This is further reiterated in Taherdoost (2016). The population for this research was specifically chosen to be that of employees in the junior, middle, senior and executive management levels and therefore restricted the sample to these criteria which were explicitly chosen.

Saunders and Lewis (2018) established that a cross-sectional study will normally employ a survey strategy to produce quantitative data. A cross-sectional study is also defined as “study of a particular topic at a particular time i.e. a snapshot” (Saunders & Lewis, 2018, p.130). Jingnan, Yunus and Kamal (2018) further confirmed that a cross-sectional study is performed at a specific period in time. This study was therefore cross-sectional in nature, as it utilised a survey to produce quantitative data (Saunders & Lewis, 2018). This survey was also conducted once off at a specific point in time in order to collect the data required for the testing of the hypotheses derived in chapter 2 (Saunders & Lewis, 2018; Jingnan, Yunus & Kamal (2018).

4.5. Unit of Analysis

The internal environments of organisations within the South African environment was tested for entrepreneurial orientation (Dess & Lumpkin, 2005) and corporate entrepreneurship practice (Kuratko et al., 2014), via the research instruments borrowed from Kuratko et al. (2014) and Dess & Lumpkin (2005). The unit of analysis will therefore be the employees at junior, middle, senior managers and executive management levels who contributed to the managerial make-up of South African

organisations, and who provided feedback regarding the entrepreneurial nature of these organisations' internal environments.

4.6. Research Measurement Instrument

A mono-method of gathering information formed the methodological choice for the research study. Since the research was quantitative in nature, a structured questionnaire in the form of a survey (Dess & Lumpkin, 2005; Kuratko et al, 2014; Saunders & Lewis, 2018) was used to gather data from specifically chosen employees within organisations.

The survey comprised of the following:

a) Section 1 introduced the researcher and the topic being researched. Further to this, the need for the study as well as the reasoning behind the choice of potential respondents were included as an introduction to the Google Forms questionnaire.

b) Section 2 tested the demographics of the population. It is important to note that demographics itself was not being researched as part of this study. According to Peltokorpi, Allen and Froese (2015), relationships could be found between demographics and the responses to the dimensions of the constructs being researched. The respondents were able to choose the applicable answer from a list of choices provided for selection. The list of choices was designed such that each respondent would be able to choose a definitive answer.

c) Section 4 consisted of the CEAI, which was initially developed as part of the Kuratko et al.'s (1990) study and then further refined in the Hornsby, Kurako and Zahra (2002) study, was used as an investigative tool for testing employees' observations regarding entrepreneurial orientation and corporate entrepreneurship practise within their organisations.

d) The CEAI was boosted with questions from "enhancing a firm's entrepreneurial orientation: Issues to consider" (Dess & Lumpkin, 2005, p.153) and made up section 3 of the survey.

The research section of the questionnaire (sections 2 3) consisted of ten sections in the form of five-point Likert style questions. The first five sections were based on Dess and Lumpkin (2005), which tested the entrepreneurial orientation of the environments within organisations. They key areas tested herein were autonomy, innovativeness, pro-activeness, competitive aggressiveness and risk-taking.

The next five sections were based on the CEAI (Kuratko et al., 2014) and tested the internal environments of organisations for corporate entrepreneurship practice. The key areas tested herein were management support for corporate entrepreneurship, autonomy/work discretion, rewards and re-enforcement, time availability and organisational boundaries. There was a total of 69 questions within the instrument (Appendix A).

4.7. Reliability and Validity

The statistical analysis for this study was done utilising SPSS. The model was tested with all of the original items in the questionnaire, however, it was found not to be normally distributed. The measurement model was then re-estimated using the MLM estimator (Muthen & Muthen, 2017). MLM estimation allowed for the validation of the constructs.

In order to test the consistency of the responses to the survey, convergent reliability was tested (Field, 2013). The internal consistency and reliability of the results were also checked using the Cronbach's Alpha (Field, 2020). The constructs with convergent validity and reliability issues were subsequently removed from the original model. The model was then re-estimated for a better fit (Field, 2013). Later, discriminant validity of the constructs was also verified to determine whether the constructs were distinct from one another (Fornell and Larcker, 1981).

The CEAI instrument was also tested by Hornsby, Kuratko, Holt, and Wales (2013) as a pre-cursor to Kuratko et al., (2014). Later, Kassa and Raju (2015) and Monsen, et al. (2016) also subsequently used the CEAI instrument in their studies. The instrument was found to be stable and reliable for testing the internal environments within organisations for corporate entrepreneurship and entrepreneurial orientation. The CEAI, which was boosted with questions from "enhancing a firm's entrepreneurial orientation: Issues to consider" (Dess & Lumpkin, 2005), was also a tried and tested research questionnaire that was derived after many years of iterative research through authors Dess and Lumpkin.

Prior to distributing the official survey, the survey was piloted through ten respondents. This was recommended as per Pallant (2007) and Zikmund et al., 2013). Pilot testing the survey assisted to ensure that the questionnaire was explicit. An explicit questionnaire ensured that respondents were clear with regards to the understanding of the requirements of the study as well as their interpretation of the questions in the survey.

4.8. Data Gathering Process

The CEAI (Kuratko et al., 2014), together with the questions from Dess & Lumpkin (2005), were used as a research tool. This was electronically distributed to the target population. The research tool was fully automated using the online tool Google Forms. A time period of three weeks was allowed to distribute and receive feedback. Further to this, the need for the study as well as the reasoning behind the choice of potential respondents was included as an introduction to the Google Forms questionnaire.

A wide distribution of the research tool was accounted for, when the target population was chosen for this study. In order to check if the research tool worked, pilot testing was first done. This was recommended as per Pallant (2007). Pre-testing was conducted with ten individuals. Any issues that arose in the pilot test was addressed at this stage before the questionnaire was distributed to the larger scale of potential respondents (Zikmund, Babin, Carr, & Griffin 2013; Saunders & Lewis, 2018).

This was a cross-sectional study that allowed for only one opportunity for the population to contribute to the research. It was therefore important that the survey was concise and accurate whilst being able to gather enough information on the constructs of CE.

The Google Forms survey link was sent via e-mail and WhatsApp to 500 potential respondents in management positions within organisations operating in the South African emerging market environment. A total of 300 responses were received and were all usable in the data analysis of the study (Kuhn & Petzer, 2018). The target sample size of 300 responses was therefore achieved and was large enough for statistical analysis to be conducted. The response data was downloaded from Google Forms for this purpose.

4.9. Analysis Approach

As this is a quantitative study, descriptive data analysis was also performed as the researcher was collecting measurable, quantifiable data via a structured survey questionnaire (Saunders & Lewis, 2018). Statistical tests were performed, using the statistical analysis software SPSS. The data output was numerical and categorical. It was arranged in code so that it could be analysed. This determined the outcomes of each tested hypotheses regarding entrepreneurial orientation and corporate innovation.

The nature of the analysis was such that it first descriptively explained results of the demographics. To determine whether parametric tests were suitable for difference testing, an assessment for normality of distribution was conducted (Pallant, 2013; Muthen & Muthen, 2017). It was found that the data was not normally distributed and therefore parametric tests were not suitable to test for differences. Thereafter a confirmatory factor analysis (CFA) for the original measurement model was done, testing model fit, validity and reliability. The model was found not to exhibit univariate normality and therefore had to be re-estimated using the MLM estimator (Muthen & Muthen, 2017). The re-estimated model was then tested for model fit, convergent validity, reliability (Pallant, 2013; Muthen & Muthen, 2017) and discriminant validity (Fornell & Larcker, 1981). After receiving enough evidence for construct validity and

reliability, the second order constructs of EO and corporate innovation were tested to confirm if they were reflective of their first order dimensions (Dess & Lumpkin, 2005; Kuratko et al.; 2014). The paths of the structural model proposed in chapter 3 were then tested to validate the study hypotheses. Statistical tests for differences were then conducted, utilising non-parametric tests, since the data for the study was not normally distributed (Allen & Bennet, 2012; Pallant, 2013).

As the study was descriptive in nature, new insights were gained through the data analysis, as descriptive studies are “a forerunner to explanation” (Saunders & Lewis, 2018, p. 116). The results also informed whether organisations need to adopt transformative journeys in developing CE practice and subsequent corporate entrepreneurial strategies where the results indicated the need for improvement in these areas.

4.10. Quality Controls

The target population was chosen such that the sample size was a representative reflection of the study. Permission was first obtained from each organisation regarding the use of their employees as a target population for the survey. Furthermore, a thorough covering letter accompanied the research instrument with clearly stated reasons and objectives for the study (Saunders & Lewis, 2018).

The survey and survey tool were first pilot tested before being distributed on a large scale. This allowed for corrections, if any, before the survey was distributed on a large scale. It was stressed to the respondents that any response given would be on a voluntary basis. Each member of the target population was not compelled to respond. There was an emphasis that no reference to any participant would be made when the results are discussed and interpreted. A commitment to confidentiality of respondents was made by the researcher.

The research tool used in the study, the CEAI, was an established instrument for determining results in CE research (Kuratko et al., 2014). To boost this instrument and to test entrepreneurial orientation, Dess and Lumpkin (2005), was also utilised. These were both trusted and reliable instruments for CE research.

4.11. Ethics

As per the University of Pretoria and GIBS regulations, ethical approval was applied for, in order for this study to commence. The ethics application form was filled in and sought to determine and verify the methodology that was adopted in the process of the research. The study utilised an attitude of voluntary participation and explicitly explained this as part of the research questionnaire. In addition, the respondents were assured of the confidentiality and anonymity of their participation in the study. The ethics application was subsequently approved by the GIBS ethics committee which then allowed for this study to commence, via the distribution of the research questionnaires to the target population.

4.12. Limitations

The limited time-frame within which to conduct the study meant that the researcher had to conduct a mono-method as opposed to a mixed method quantitative study. This was a constraint as the survey was conducted at a specific point in time and could therefore not test the responses of employees over a period (Baran, 2016). Baran (2016), also mentioned that the mixed methodology approach can work around a constraint that a single research methodology approach often subjects the researcher to. A mixed method approach, including the ability to conduct semi-structured interviews in a qualitative manner would have therefore contributed to a verification of the statistical analysis resulting from this quantitative approach to the study. One of the drawbacks of such a quantitative cross-sectional study was that further understanding of the responses was not possible to explore.

Furthermore, being a cross-sectional study, the investigation could only attain data from participants at a specific period. Such a study thus could not give a clear picture on the actual tendencies of the organisational environment over a considerable time-frame (Saunders & Lewis, 2018).

The respondents in the research survey had differing years of service and hence differing years of experience within their organisations. This therefore led to a lack consistency to the nature of their responses when answering the survey (Cresswell,

2012). This limitation had theoretically skewed the results, which was realised in the difference testing with the study. In turn, the study hypotheses were affected with regards to the strength of its entrepreneurial orientation (Cresswell, 2012).

Finally, gathering enough data was important for the successful conclusion of this study. Cresswell (2012) suggested that the identified sample population could be largely unresponsive. Although this study reached a target of 300 respondents, having a larger sample size would have been additionally beneficial for the statistical analysis undertaken. Another limitation of quantitative statistical analysis is the emergence of outliers from the survey responses, which in turn affected the quantitative calculations and results (Wegner, 2016).

5. Chapter 5: Research Results

5.1. Introduction

This chapter explores the details from the results of the data that was gathered through the distribution of the online survey via Google Forms. The chapter will report on results on the basis that the data was cleaned. Cleaned data assisted in determining out of range values or outliers which would have otherwise produced poor quality information (Wegner, 2016). Cleaning data to an acceptable level enabled coding such that statistical analysis could be performed using SPSS software.

This chapters structured to first explain the descriptive statistics. Thereafter the confirmatory factor analysis (CFA) for the original measurement model was tested. CFA tested the model fit and psychometric properties, construct validity and reliability of the measurement scales of the model. The test for second order constructs, specifically, entrepreneurial orientation and corporate innovation, was subsequently conducted. This test was followed by a test for the structural model using structural equation modelling. After investigating model fit for the structural model, the structural paths were examined for statistical significance to determine whether the study's hypotheses should be accepted or rejected. Lastly, non-parametric tests were conducted to test for differences between the dimensions of entrepreneurial orientation and corporate innovation.

5.2. Demographic Profile of Respondents

The survey generated 300 responses. They were all usable and were included in the data analysis of the study (Kuhn & Petzer, 2018). The following are the results of the data analysis:

5.2.1. Gender of Respondents

The following table 2 shows the proportion of male professionals (48.3%) to female professionals (99.7%). One respondent preferred not to divulge their gender status. However, it was negligible at 0.3%. These results illustrated that approximately two times more women than men responded to the survey.

Table 2: Gender of Respondents

Gender of Respondents					
		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
	Male	145	48.3	48.3	48.3
	Female	154	51.3	51.3	99.7
	Prefer not to say	1	.3	.3	100.0
	Total	**300**	**100.0**	**100.0**	

5.2.2. Education Level of Professionals

The following table 3 shows that 8.6% of the respondents only completed matric. 41.3% of the respondents were in possession of an undergraduate degree or diploma, whilst 50% of the respondents had completed post-graduate studies.

Table3: Education Level of Professionals

Education level					
		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
	Matric/ Grade 12 completed	26	8.6	8.6	8.7
	Diploma/Degree completed	124	41.3	41.3	50.0
	Post Graduate Diploma/ Degree completed	150	50.0	50.0	100.0
	Total	**300**	**100.0**	**100.0**	

5.2.3. Industry profile of respondents

The following table 4 reflects the percentage of respondents in each of the main industries reflective of the South African emerging market economy. The largest participation noted was from the finance and insurance sector (30%). This was

followed by the energy sector (26.9%) made up of the mining; electricity, gas and water; petrochemical and chemical sectors combined. Technical service and technical companies made up 10% of the respondents, whilst the manufacturing sector contributed 5% of the opinions. The afore-mentioned statistics are important to report on, as these industries are large financial contributors to the South African economy (Urban & Wood, 2015).

Table 4: Industry Profile of Respondents

Industry					
		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
	Agriculture, forestry and fishing	2	.7	.7	.7
	Mining	24	8.0	8.0	8.7
	Manufacturing	15	5.0	5.0	13.7
	Electricity, Gas and Water	7	2.3	2.3	16.0
	Petrochemical	28	9.3	9.3	25.3
	Chemical	22	7.3	7.3	32.7
	Construction	7	2.3	2.3	35.0
	Wholesale and Retail	8	2.7	2.7	37.7
	Motor Trade and Repair	2	.7	.7	38.3
	Transport and Storage	3	1.0	1.0	39.3
	Accommodation and Hospitality	2	.7	.7	40.0
	Communication	16	5.3	5.3	45.3
	Financial and Insurance	90	30.0	30.0	75.3
	Education	10	3.3	3.3	78.7
	Government	12	4.0	4.0	82.7
	FMCG	4	1.3	1.3	84.0
	Medical and Healthcare	12	4.0	4.0	88.0
	Technical Services	30	10.0	10.0	98.0
	Logistics	3	1.0	1.0	99.0
	Legal	3	1.0	1.0	100.0
	Total	**300**	**100.0**	**100.0**	

5.2.4. Size profile of organisations that employ the respondent managers

The following table 5 depicts the size of the organisations that respondents belong to. 77% of the respondents belonged to large organisations (>250 employees), whilst the respondents from small organisations (11-50 employees) made up 10.3% of the sample. Only 6.7% and 6.0% came from medium sized organisations (51-250 employees) and micro-sized organisations (< 10 employees) respectively.

Table 5: Size of Organisation

Size Profile of Organisation					
		Frequency	Percent	Valid Percent	Cumulative Percent
	Micro (<10 employees)	18	6.0	6.0	6.0
	Small (11-50 employees)	31	10.3	10.3	16.3
	Medium (51-250 employees)	20	6.7	6.7	23.0
	Large (> 250 employees)	231	77.0	77.0	100.0
	Total	**300**	**100.0**	**100.0**	

5.2.5. Management Level of Respondents

The following table 6 shows the management level within which respondents were employed at the time of the survey. Junior management made up 27% of the sample, whereas . middle management and senior management comprised 39% and 25.7% respectively of the sample.

Only 8.3% of the sample was on the level of executive management. These statistics are important as employees sitting in these levels of management have, first-hand experience regarding the internal environments of their organisations.

Table 6: Management Level of Respondents

Management Level of Respondents					
		Frequency	Percent	Valid Percent	Cumulative Percent
	Junior management (Skilled worker, technically and academically qualified, supervisors)	81	27.0	27.0	27.0
	Middle Management (Professionally qualified and experienced specialists)	117	39.0	39.0	66.0
	Senior Management	77	25.7	25.7	91.7
	Executive Management	25	8.3	8.3	100.0
	Total	**300**	**100.0**	**100.0**	

5.2.6. Work Experience of Respondents

The following table 7 reflects the work experience of the respondents in their current role as per the raw data that was produced from the online survey.

Table 7: Work experience in current role

Work Experience in Current Role					
		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
	< 1 year	4	1.3	1.3	1.3
	1-3 years	46	15.3	15.3	16.7
	3-5 years	39	13.0	13.0	29.7
	> 5 years	211	70.3	70.3	100.0
	Total	300	100.0	100.0	

However, category "< 1year" and category "1-3 years" were combined to form a new category called "less than 3 years." This ensured that the groups were made comparatively larger in order to test for differences. The following table 8 gives the results of the new combined data for work experience in the current role:

Table 8: New Combined Work Experience in Current Role

New current work role					
		Frequency	Percent	Valid Percent	Cumulative Percent
	Less than 3 years	50	16.7	16.7	16.7
	3-5 years	39	13.0	13.0	29.7
	More than 5 years	211	70.3	70.3	100.0
	Total	300	100.0	100.0	

The following table 9 reflects the total work experience of the respondents in their current role:

Table 9: Total Work Experience of Respondents

Total Work Experience of Respondents					
		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
	1-3 years	7	2.3	2.3	2.3
	3-5 years	11	3.7	3.7	6.0
	5-10 years	41	13.7	13.7	19.7
	10-20 years	125	41.7	41.7	61.3
	>20 years	116	38.7	38.7	100.0
	Total	**300**	**100.0**	**100.0**	

Category “1-3 years,” “3-5 years,” and “5-10 years” were combined to form a new category called “less than 10 years.” Again, this ensured that the groups were made comparatively larger in order to test for differences. The following table 10 gives the results of the new combined data for work experience in the current role:

Table 10: Combined Total Work Experience of Respondents

Combined Total Work Experience of Respondents					
		Frequency	Percent	Valid Percent	Cumulative Percent
	Less than 10 years	59	19.7	19.7	19.7
	10-20 years	125	41.7	41.7	61.3
	More than 20 years	116	38.7	38.7	100.0
	Total	300	100.0	100.0	

5.2.7. Age Profile of Respondents

The following table 11 depicts the age profile of the respondents. Categories “51-60” and “61-70” were combined to create a new category “51 years and older.” The majority of the respondent professionals belong to the 31-40-year-old age group. The least number of respondent professionals represented the 20-30-year-old age group.

Table 11: Age Profile of Respondents

New Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
	20-30	34	11.3	11.3	11.3
	31-40	112	37.3	37.3	48.7
	41-50	109	36.3	36.3	85.0
	51 years and older	45	15.0	15.0	100.0
	Total	**300**	**100.0**	**100.0**	

5.3. Assessment for Normality of Distribution

The normality of data distribution for each question had to be assessed to determine if parametric tests were suitable. This test was also required to check if confirmatory factor analysis (CFA) and structural models could be estimated using Maximum Likelihood estimator (Muthén & Muthén, 2017). The normality of distribution was assessed in SPSS using the Kolmogorov-Smirnov test and confirmed with the Shapiro-Wilk tests (Pallant, 2013) and the results thereof are depicted in Table 12 below.

The results are depicted in the table below:

Table 12: Normality of Distribution Assessment

Items	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Q1	0.226	300	0.0001	0.899	300	0.0001
Q2	0.306	300	0.0001	0.852	300	0.0001
Q3	0.262	300	0.0001	0.882	300	0.0001
Q4	0.320	300	0.0001	0.841	300	0.0001
Q5	0.310	300	0.0001	0.844	300	0.0001
Q6	0.355	300	0.0001	0.758	300	0.0001
Q7	0.345	300	0.0001	0.808	300	0.0001
Q8	0.314	300	0.0001	0.803	300	0.0001
Q9	0.227	300	0.0001	0.889	300	0.0001
Q10	0.234	300	0.0001	0.895	300	0.0001
Q11	0.360	300	0.0001	0.749	300	0.0001
Q12	0.292	300	0.0001	0.846	300	0.0001
Q13	0.291	300	0.0001	0.854	300	0.0001
Q14	0.312	300	0.0001	0.839	300	0.0001
Q15	0.261	300	0.0001	0.872	300	0.0001
Q16	0.239	300	0.0001	0.880	300	0.0001
Q17	0.309	300	0.0001	0.850	300	0.0001
Q18	0.315	300	0.0001	0.840	300	0.0001
Q19	0.299	300	0.0001	0.845	300	0.0001
Q20	0.338	300	0.0001	0.814	300	0.0001
Q21	0.331	300	0.0001	0.786	300	0.0001
Q22	0.328	300	0.0001	0.811	300	0.0001
Q23	0.307	300	0.0001	0.850	300	0.0001
Q24	0.293	300	0.0001	0.853	300	0.0001
Q25	0.305	300	0.0001	0.854	300	0.0001
Q26	0.247	300	0.0001	0.892	300	0.0001
Q27	0.297	300	0.0001	0.861	300	0.0001
Q28	0.274	300	0.0001	0.877	300	0.0001
Q29	0.304	300	0.0001	0.855	300	0.0001
Q30	0.256	300	0.0001	0.882	300	0.0001
Q31	0.249	300	0.0001	0.870	300	0.0001
Q32	0.212	300	0.0001	0.898	300	0.0001
Q33	0.208	300	0.0001	0.896	300	0.0001
Q34	0.242	300	0.0001	0.877	300	0.0001
Q35	0.252	300	0.0001	0.884	300	0.0001
Q36	0.216	300	0.0001	0.892	300	0.0001
Q37	0.210	300	0.0001	0.893	300	0.0001

Q38	0.235	300	0.0001	0.894	300	0.0001
Q39	0.218	300	0.0001	0.894	300	0.0001
Q40	0.324	300	0.0001	0.839	300	0.0001
Q41	0.264	300	0.0001	0.862	300	0.0001
Q42	0.253	300	0.0001	0.866	300	0.0001
Q43	0.350	300	0.0001	0.806	300	0.0001
Q44	0.367	300	0.0001	0.788	300	0.0001
Q45	0.386	300	0.0001	0.761	300	0.0001
Q46	0.275	300	0.0001	0.836	300	0.0001
Q47	0.343	300	0.0001	0.816	300	0.0001
Q48	0.275	300	0.0001	0.845	300	0.0001
Q49	0.323	300	0.0001	0.835	300	0.0001
Q50	0.304	300	0.0001	0.840	300	0.0001
Q51	0.316	300	0.0001	0.841	300	0.0001
Q52	0.270	300	0.0001	0.859	300	0.0001
Q53	0.340	300	0.0001	0.822	300	0.0001
Q54	0.311	300	0.0001	0.849	300	0.0001
Q55	0.284	300	0.0001	0.870	300	0.0001
Q56	0.353	300	0.0001	0.769	300	0.0001
Q57	0.314	300	0.0001	0.823	300	0.0001
Q58	0.370	300	0.0001	0.775	300	0.0001
Q59	0.309	300	0.0001	0.842	300	0.0001
Q60	0.261	300	0.0001	0.856	300	0.0001
Q61	0.330	300	0.0001	0.812	300	0.0001
Q62	0.260	300	0.0001	0.844	300	0.0001
Q63	0.374	300	0.0001	0.773	300	0.0001
Q64	0.325	300	0.0001	0.822	300	0.0001
Q65	0.325	300	0.0001	0.800	300	0.0001
Q66	0.254	300	0.0001	0.859	300	0.0001
Q67	0.316	300	0.0001	0.838	300	0.0001
Q68	0.337	300	0.0001	0.816	300	0.0001
Q69	0.326	300	0.0001	0.786	300	0.0001

a. Lilliefors Significance Correction

The results of Kolmogorov-Smirnov and the Shapiro-Wilk tests show that for all items, all Sig. p-values are less than 0.05 and statistically significant at $p < 0.05$., Hence the data does not exhibit univariate normality. Therefore, the CFA and SEM models cannot be estimated using Maximum Likelihood (ML). Instead, the MLM estimator was used (Muthén and Muthén, 2017). The MLM estimator produces parameter estimates with standard errors. The parameter estimates also include a

mean-adjusted chi-square test statistic which is also known as the Satorra-Bentler chi-square. The MLM estimator is robust to non-normality (Muthén and Muthén, 2017). Additionally, parametric tests cannot be used for difference testing and non-parametric alternatives will be used (Allen & Bennet, 2012; Pallant, 2013).

5.4. Descriptive statistics for original individual items

The mean and standard deviation were calculated for all individual Likert-scaled items. The mean reflects the average response (Wegner, 2017) of the sample population to the questions that were posed regarding entrepreneurial orientation and corporate innovation. The standard deviation according to Wegner (2017) shows the dispersion of the random variable from the set of results as per the table 13 below.

Table 13: Descriptive statistics for individual items

Items	N	Mean	Std. Deviation
	Statistic	Statistic	Statistic
Q1	300	3.35	0.993
Q2	300	3.42	1.105
Q3	300	3.38	1.140
Q4	300	3.47	1.129
Q5	300	3.57	1.150
Q6	300	3.97	0.932
Q7	300	3.71	1.070
Q8	300	3.91	1.064
Q9	300	3.30	1.158
Q10	300	3.34	1.126
Q11	300	3.98	0.934
Q12	300	3.71	1.134
Q13	300	3.77	0.894
Q14	300	3.57	1.090
Q15	300	3.31	1.095
Q16	300	3.05	1.179
Q17	300	3.62	1.032
Q18	300	3.54	1.104
Q19	300	3.79	0.985
Q20	300	3.80	0.924
Q21	300	3.96	0.972
Q22	300	3.68	1.142
Q23	300	3.48	1.132
Q24	300	3.67	1.106
Q25	300	3.45	1.085
Q26	300	2.69	1.064
Q27	300	3.56	1.063
Q28	300	2.66	1.142
Q29	300	2.52	1.137
Q30	300	3.18	1.108
Q31	300	2.95	1.206
Q32	300	2.97	1.143

Q33	300	2.97	1.104
Q34	300	3.03	1.121
Q35	300	3.17	1.077
Q36	300	2.95	1.178
Q37	300	2.99	1.079
Q38	300	2.75	1.127
Q39	300	3.03	1.127
Q40	300	3.51	1.087
Q41	300	2.84	1.260
Q42	300	3.06	1.188
Q43	300	3.38	1.101
Q44	300	3.46	1.067
Q45	300	3.69	0.951
Q46	300	3.04	1.197
Q47	300	3.48	1.189
Q48	300	3.01	1.205
Q49	300	3.35	1.214
Q50	300	3.19	1.167
Q51	300	3.30	1.179
Q52	300	2.88	1.169
Q53	300	3.51	1.042
Q54	300	3.51	1.114
Q55	300	3.57	1.047
Q56	300	3.92	1.020
Q57	300	3.77	1.056
Q58	300	2.23	0.984
Q59	300	2.63	1.124
Q60	300	3.19	1.134
Q61	300	3.63	1.082
Q62	300	2.84	1.109
Q63	300	3.56	1.015
Q64	300	3.47	1.104
Q65	300	3.89	1.013
Q66	300	3.11	1.220
Q67	300	3.46	1.238
Q68	300	3.64	1.175
Q69	300	3.99	0.932

5.5. Descriptives for the Original Constructs

According to Kuratko et al., (2014), the following questions 42, 57, 60 and 61 required reverse coding and was therefore subsequently recoded into different variables. The composite mean scores were thereafter calculated after reverse coding was done and is shown in the table 14 below:

Table 14: Descriptive Statistics for Constructs

Constructs	N	Mean	Std. Deviation
Entrepreneurial orientation	**300**	**3.588**	**0.708**
Autonomy	300	3.440	0.884
Innovativeness	300	3.646	0.840
Proactiveness	300	3.757	0.839
Competitive aggressiveness	300	3.327	0.830
Risk taking	300	3.772	0.804

Corporate entrepreneurship	**300**	**3.290**	**0.503**
Management support	300	3.116	0.808
Rewards & reinforcements	300	3.447	0.708
Time availability	300	3.049	0.443
Organisational boundaries	300	3.589	0.650
Work discretion	300	3.249	0.770

5.6. Descriptives for the Refined Constructs

The constructs were refined following the original confirmatory factor analysis (CFA). Following the removal of these items, new composite mean scores were calculated as is shown in the following table 15 (Kuhn, Spies & Petzer, 2015):

Table 15: Descriptive Statistics for Refined Constructs

Constructs	N	Mean	Std. Deviation
Entrepreneurial orientation	**300**	**3.62**	**0.719**
Autonomy	300	3.440	0.884
Innovativeness	300	3.646	0.840
Proactiveness	300	3.757	0.839
Competitive aggressiveness	300	3.47	0.881
Risk taking	300	3.772	0.804
Corporate entrepreneurship	**300**	**3.22**	**0.632**
Management support	300	3.116	0.808
Rewards & reinforcements	300	3.27	0.885
Time availability	300	2.52	0.826
Organisational boundaries	300	3.75	0.854
Work discretion	300	3.27	0.885

5.7. Original Measurement Model

The measurement model was tested with all the items in the questionnaire. Because the data was not normally distributed, the measurement model had to be re-estimated using the MLM estimator (Muthen & Muthen, 2017). The purpose of estimating the model was to determine construct validity. Construct validity is defined as the psychometric properties of the items used to measure constructs of a study (Muthen & Muthen, 2017). In this study the constructs are entrepreneurial orientation and corporate innovation. Construct validity was established on the constructs of entrepreneurial orientation and corporate innovation including the dimensions of each of these constructs. Construct validity was determined by testing (1) model fit (2) convergent validity and reliability as well as (3) discriminant validity.

5.7.1. Model Fit

In order to test model, the measurement model was tested with all original items using the MLM estimator. The results are as per below:

Table 16: Model fit statistics for the original measurement model

Fit indices	Value	Recommended cut-off value
Satorra-Bentler χ^2/df ratio	2.08	< 3
Chi-square value (χ^2)	4634.308	NA
Degrees of freedom (df)	2232	NA
Scaling Correction Factor for MLM	1.0817	NA
RMSEA (Root Mean Square Error Of Approximation)	0.060	< 0.08
CFI (Comparative Fit Indices)	0.790	>0.9
TLI (Tucker Lewis Index)	0.780	>0.9
SRMR (Standardized Root Mean Square Residual)	0.073	< 0.08

From the results, it can be determined that the measurement model fits the data reasonably well. However, the exceptions were the Comparative Fit Indices (CFI) and the Tucker Lewis Index (TLI). Both these values are below the cut-off value of 0.9.

5.7.2. Convergent Validity and Reliability

In order to determine how consistent, the responses were to questions in the survey, convergent reliability, was tested (Field, 2013). Internal consistency reliability was checked using Cronbach's Alpha and composite reliability scores. According to Hair et al. (2014), internal consistency reliability can be concluded if the Cronbach Alpha value composite reliability value are >0.7. The table below shows that the Cronbach's Alpha were > 0.7 for all constructs except for COMPETE and BOUNDARY which were marginally below 0

The test for convergent validity was used to check the extent to which two measures of similar constructs yielded similar results when compared with each other (Hair et al., 2014). Hair et al (2014) goes on to state that convergent validity exists when the standardized estimates (or factor loadings) > 0.5 and statically significant at $p < 0.05$ and when average variance extracted (AVE) per construct exceeds 0.5 or 50%. The

table below shows that questions Q16, Q42, Q53, Q57, Q60, Q63, Q64 and Q66 had factor loadings below 0.5. These questions were subsequently removed from the analysis. Additionally, convergent validity issues were observed on the following constructs; COMPETE (competitive aggressiveness), REWARD (rewards and reinforcements), TIME (time availability), BOUNDARY (flexible organisation boundaries). These constructs had an AVE < 0.5.

Table 17: Construct validity and reliability for original measurement model

Constructs	Standardised estimate	S.E. Est.	t-value	p-value	AVE	Cronbach Alpha values	Composite reliability
AUTONOMY					**0.560**	**0.859**	**0.863**
Q1	0.663	0.028	23.473	0.0001*			
Q2	0.754	0.024	31.605	0.0001*			
Q3	0.829	0.016	50.716	0.0001*			
Q4	0.794	0.019	41.297	0.0001*			
Q5	0.688	0.023	29.84	0.0001*			
INNOVATE					**0.532**	**0.842**	**0.849**
Q6	0.791	0.015	52.319	0.0001*			
Q7	0.795	0.019	42.373	0.0001*			
Q8	0.732	0.023	31.862	0.0001*			
Q9	0.686	0.023	29.79	0.0001*			
Q10	0.629	0.03	21.229	0.0001*			
PROACTIV					**0.586**	**0.843**	**0.849**
Q11	0.795	0.018	43.814	0.0001*			
Q12	0.802	0.019	43.263	0.0001*			
Q13	0.632	0.026	24.318	0.0001*			
Q14	0.818	0.017	47.865	0.0001*			
COMPETE					**0.358**	**0.616**	**0.621**
Q15	0.695	0.028	24.509	0.0001*			
Q16	0.491	0.036	13.523	0.0001*			
Q17	0.592	0.033	18.201	0.0001*			
RISK							
Q18	0.669	0.025	26.237	0.0001*	**0.559**	**0.820**	**0.833**
Q19	0.857	0.016	52.767	0.0001*			
Q20	0.797	0.019	42.249	0.0001*			
Q21	0.646	0.035	18.453	0.0001*			
SUPPORT					**0.500**	**0.949**	**0.950**
Q22	0.741	0.021	35.598	0.0001*			
Q23	0.798	0.016	49.702	0.0001*			

Q24	0.739	0.019	39.629	0.0001*			
Q25	0.742	0.019	39.411	0.0001*			
Q26	0.644	0.026	24.682	0.0001*			
Q27	0.706	0.021	32.994	0.0001*			
Q28	0.598	0.03	20.277	0.0001*			
Q29	0.588	0.03	19.771	0.0001*			
Q30	0.773	0.019	40.818	0.0001*			
Q31	0.638	0.026	24.249	0.0001*			
Q32	0.714	0.022	32.277	0.0001*			
Q33	0.732	0.021	34.709	0.0001*			
Q34	0.739	0.021	35.406	0.0001*			
Q35	0.738	0.02	37.185	0.0001*			
Q36	0.768	0.016	48.428	0.0001*			
Q37	0.695	0.026	27.126	0.0001*			
Q38	0.722	0.02	35.295	0.0001*			
Q39	0.61	0.03	20.487	0.0001*			
Q40	0.706	0.022	31.521	0.0001*			
DISCRETE					**0.502**	**0.860**	**0.906**
Q41	0.613	0.03	20.685	0.0001*			
Q42_R	0.328	0.044	7.477	0.0001*			
Q43	0.806	0.017	47.011	0.0001*			
Q44	0.812	0.017	48.386	0.0001*			
Q45	0.724	0.022	32.206	0.0001*			
Q46	0.753	0.021	35.52	0.0001*			
Q47	0.768	0.019	40.81	0.0001*			
Q48	0.757	0.021	36.002	0.0001*			
Q49	0.756	0.019	39.851	0.0001*			
Q50	0.632	0.029	22.007	0.0001*			
REWARD					**0.365**	**0.719**	**0.743**
Q51	0.665	0.027	24.428	0.0001*			
Q52	0.552	0.034	16.378	0.0001*			
Q53	0.327	0.042	7.705	0.0001*			
Q54	0.813	0.019	42.102	0.0001*			
Q55	0.805	0.022	35.885	0.0001*			
Q56	0.161	0.046	3.477	0.001*			
TIME					**0.375**	**0.771**	**0.769**
Q57_R	0.494	0.037	13.496	0.0001*			
Q58	0.768	0.022	34.971	0.0001*			
Q59	0.769	0.025	30.93	0.0001*			
Q60_R	0.299	0.042	7.131	0.0001*			
Q61_R	0.531	0.036	14.915	0.0001*			
Q62	0.672	0.028	23.726	0.0001*			

BOUNDARY					**0.305**	**0.685**	**0.699**
Q63	0.198	0.045	4.367	0.0001*			
Q64	0.08	0.05	1.592	0.111			
Q65	0.539	0.034	15.948	0.0001*			
Q66	0.279	0.042	6.571	0.0001*			
Q67	0.678	0.03	22.419	0.0001*			
Q68	0.846	0.021	40.395	0.0001*			
Q69	0.738	0.029	25.837	0.0001*			

*statistically significant at $p < 0.05$, two-tailed

The results of the convergent validity test required that the questions with factor loadings < 0.5 be removed from the analysis. Hence the model was re-estimated (Field, 2013).

5.8. Re-estimated measurement model

5.8.1. Model Fit

After removing the items with convergent validity issues from the original model, the results of the re-estimated measurement model show better fit indices. Although the CFI and TLI are still marginally below 0.9, it can be can concluded that the model fit is dependent on all of the indices and not just a few. Since the CFI and TLI are only marginally < 0.9, it can be concluded that the re-estimated model is a better fit.

Table 18: Model fit statistics for re-estimated measurement model

Fit indices	Value	Recommended cut-off value
Satorra-Bentler χ^2/df ratio	1.97	< 3
Chi-square value (χ^2)	3368.843	NA
Degrees of freedom (df)	1717	NA
Scaling Correction Factor for MLM	1.0922	NA
RMSEA (Root Mean Square Error Of Approximation)	0.057	< 0.08
CFI (Comparative Fit Indices)	0.845	>0.9
TLI (Tucker Lewis Index)	0.835	>0.9
SRMR (Standardized Root Mean Square Residual)	0.067	< 0.08

5.8.2. Convergent Validity and Reliability

The results in the table below show that there was evidence of convergent validity for most constructs. However, there was still convergent validity issues with the following constructs; COMPETE (competitive aggressiveness), REWARD (rewards and re-inforcement) and TIME (Time availability); which had AVE values < 0.5. All constructs were deemed reliable since they had Cronbach's Alpha value > 0.7, except for the construct COMPETE (competitive aggressiveness).

Table 19: Construct validity and reliability for re-estimated measurement model

Constructs	Standardised estimate	S.E. Est.	t-value	p-value	AVE	Cronbach Alpha values	Composite reliability
AUTONOMY					**0.560**	**0.859**	**0.863**
Q1	0.663	0.027	24.759	0.0001*			
Q2	0.753	0.023	32.912	0.0001*			
Q3	0.828	0.016	50.794	0.0001*			
Q4	0.795	0.019	40.902	0.0001*			
Q5	0.688	0.022	31.168	0.0001*			
INNOVATE					**0.531**	**0.842**	**0.849**
Q6	0.787	0.016	49.929	0.0001*			
Q7	0.793	0.019	40.986	0.0001*			
Q8	0.73	0.023	31.283	0.0001*			
Q9	0.689	0.023	29.989	0.0001*			
Q10	0.633	0.029	21.94	0.0001*			
PROACTIV					**0.586**	**0.843**	**0.849**
Q11	0.796	0.018	45.263	0.0001*			
Q12	0.801	0.018	44.029	0.0001*			
Q13	0.633	0.023	27.197	0.0001*			
Q14	0.818	0.017	48.275	0.0001*			
COMPETE					**0.373**	**0.541**	**0.543**
Q15	0.641	0.033	19.63	0.0001*			
Q17	0.579	0.033	17.472	0.0001*			
RISK							
Q18	0.669	0.026	26.207	0.0001*	**0.559**	**0.820**	**0.834**
Q19	0.856	0.016	54.381	0.0001*			
Q20	0.798	0.018	44.065	0.0001*			
Q21	0.648	0.033	19.654	0.0001*			
SUPPORT					**0.500**	**0.949**	**0.950**
Q22	0.74	0.022	34.24	0.0001*			
Q23	0.797	0.016	49.85	0.0001*			
Q24	0.74	0.018	40.271	0.0001*			

Q25	0.743	0.019	40.128	0.0001*			
Q26	0.643	0.026	24.448	0.0001*			
Q27	0.705	0.022	32.254	0.0001*			
Q28	0.598	0.03	20.277	0.0001*			
Q29	0.585	0.028	20.878	0.0001*			
Q30	0.772	0.018	43.844	0.0001*			
Q31	0.639	0.024	26.594	0.0001*			
Q32	0.714	0.021	33.319	0.0001*			
Q33	0.733	0.022	33.971	0.0001*			
Q34	0.739	0.022	34.272	0.0001*			
Q35	0.74	0.021	35.341	0.0001*			
Q36	0.768	0.017	46.226	0.0001*			
Q37	0.695	0.026	27.152	0.0001*			
Q38	0.721	0.02	36.851	0.0001*			
Q39	0.611	0.028	21.793	0.0001*			
Q40	0.707	0.021	33.278	0.0001*			
DISCRETE					**0.546**	**0.913**	**0.915**
Q41	0.613	0.029	20.874	0.0001*			
Q43	0.803	0.017	46.075	0.0001*			
Q44	0.81	0.016	49.127	0.0001*			
Q45	0.724	0.022	32.808	0.0001*			
Q46	0.756	0.021	36.249	0.0001*			
Q47	0.77	0.019	41.048	0.0001*			
Q48	0.759	0.019	39.433	0.0001*			
Q49	0.757	0.019	39.504	0.0001*			
Q50	0.635	0.029	22.181	0.0001*			
REWARD					**0.417**	**0.721**	**0.754**
Q51	0.663	0.028	23.735	0.0001*			
Q52	0.543	0.035	15.678	0.0001*			
Q54	0.82	0.021	38.156	0.0001*			
Q55	0.807	0.023	35.435	0.0001*			
Q56	0.158	0.042	3.764	0.0001*			
TIME					**0.478**	**0.772**	**0.779**
Q58	0.786	0.023	34.274	0.0001*			
Q59	0.804	0.027	29.601	0.0001*			
Q61_R	0.478	0.043	11.136	0.0001*			
Q62	0.646	0.031	20.761	0.0001*			
BOUNDARY					**0.502**	**0.784**	**0.797**
Q65	0.525	0.04	13.277	0.0001*			
Q67	0.684	0.029	23.69	0.0001*			
Q68	0.843	0.022	38.476	0.0001*			
Q69	0.743	0.03	24.772	0.0001*			

***statistically significant at p < 0.05, two-tailed**

5.9. Discriminant Validity

Discriminant validity was assessed to determine whether the constructs of the model were distinct from one another (Fornell & Larcker, 1981). Based on the Fornell and Larcker (1981) criterion, there was evidence of discriminant validity when the square root of the AVE exceeded the correlations between each pair of constructs as can be seen in the following Table 19:

Table 20: Discriminant validity for re-estimated measurement model

CONSTRUCTS	AUTONOMY	INNOVATE	PROACTIV	COMPETE	RISK	SUPPORT	DISCRETE	REWARD	TIME	BOUNDARY
AUTONOMY	**0.748**									
INNOVATE	0.792	**0.729**								
PROACTIV	0.712	0.898	**0.766**							
COMPETE	0.721	0.854	0.98	**0.611**						
RISK	0.676	0.706	0.801	0.887	**0.748**					
SUPPORT	0.819	0.801	0.711	0.87	0.652	**0.707**				
DISCRETE	0.659	0.573	0.511	0.635	0.5	0.755	**0.739**			
REWARD	0.483	0.399	0.301	0.439	0.346	0.569	0.615	**0.645**		
TIME	0.457	0.293	0.291	0.404	0.367	0.525	0.473	0.365	**0.691**	
BOUNDARY	0.581	0.463	0.403	0.528	0.444	0.563	0.534	0.518	0.435	**0.708**

Note: Square root of the AVE on the diagonal

From the above table, it can be determined that there was evidence of discriminant validity since the square root of the AVE for most constructs exceeded the correlation it had with other constructs (Fornell and Larcker, 1981). The following constructs however lacked evidence of discriminant validity: (1) autonomy and innovative, (2) autonomy and support, (3) innovative and proactive, (4) innovative and compete, (5) innovative and support, (6) proactive and compete, (7) proactive and risk, (8) proactive and support, (9) compete and risk, (10) compete and support, (11) support and discrete. These constructs were subsequently examined for evidence discriminant validity with the procedure proposed by Shiu, Pervan, Bove and Beatty (2011). According to this procedure, a chi-square value > 3.84 implies that discriminant validity exists between the constructs. Since the MLM estimator was used in this model, the Satorra Bentler Chi-square difference test was used.

Table 21: Assessing discriminant validity for re-estimated model using the Satorra Bentler Chi-square difference test

Construct pairs	Scaling factor freely estimated model	Scaling factor fixed model	df free	df fixed	χ^2 free	χ^2 fixed	Satorra-Bentler Scaled Chi Square	df	*p*-value
Autonomy and innovative	1.2408	1.2438	34	35	112.972	207.948	88.03	1	0.000
Autonomy and compete	1.2428	1.2371	13	14	46.701	114.383	71.77	1	0.000
Autonomy and support	1.1417	1.1406	251	252	791.159	961.369	223.56	1	0.000
Innovative and proactive	1.387	1.3903	26	27	61.68	111.346	46.92	1	0.000
Innovative and compete	1.3126	1.3275	13	14	87.468	124.922	33.542	1	0.000
Innovative and support	1.1562	1.1578	251	252	823.522	954.63	98.19	1	0.000
Proactive and compete	1.3198	1.3135	8	9	29.331	53.429	24.91	1	0.000
Proactive and risk	1.3517	1.3645	19	20	39.298	102.809	54.22	1	0.000
Proactive and support	1.1633	1.165	229	230	717.666	910.952	145.66	1	0.000
Compete and risk	1.2751	1.2634	8	9	24.451	27.224	**2.75**	1	0.097
Compete and support	1.1763	1.1771	188	189	608.189	611.294	**3.12**	1	0.077
Support and discrete	1.1452	1.1465	349	350	1061.065	1460.499	287.04	1	0.000

From the results in the above table, it could be determined that the difference in Chi-square value exceeded 3.84 in all instances, except for (1) compete and risk and (2) compete and support (which is significant at $p < 0.1$), suggesting that the pairs of constructs being tested were distinct from one another. Hence, although (1) compete and risk and (2) compete and support displayed a lack of discriminant validity, these were just two out of the ten pairs of constructs. Most of the constructs passed the

discriminant validity test suggesting that there was enough evidence for construct reliability and validity.

5.10. Testing second order constructs – entrepreneurial orientation and corporate innovation

According to Table 1 in Dess and Lumpkin (2005), the dimensions of entrepreneurial orientation are (1) autonomy, (2) innovativeness (3) proactiveness, (4) competitive aggressiveness and (5) risk-taking. EO is therefore a higher second order construct reflective of the first order dimensions (Dess & Lumpkin, 2005). Similarly, according to Table 1 in Kuratko et al. (2014) the dimensions of corporate innovation are (1) management support, (2) work discretion/autonomy, (3) rewards/re-inforcement, (4) time availability, and (5) organisational boundaries. Corporate innovation is therefore a higher second order construct reflective of the first order dimensions (Kuratko et al., 2014).

The Bayesian Information Criterion (MIC)asserted that there was a strong existence of the second order construct (van der Westhuizen, 2018). This was a model selection criterion used to estimate the dimensions of the model (Fabozzi, Focardi, Rachev, Arshanapalli, 2014) for this topic of research. The guidelines to interpret BIC differences are shown in the table below**:**

Table 22: Bayesian Information Criterion

Result	Interpretation
0-2	weak evidence
2-6	positive evidence
6-10	strong evidence
above 10	very strong evidence
Smaller BIC	Indicative of a better model fit

The results of the statistical test are as follows, after the BIC was performed.

5.10.1. Entrepreneurial Orientation as a Second-Order Construct

Two measurement models were tested, and their BIC scores were compared to one another. The model with the smallest BIC was indicative of a better model fit (van der Westhuizen, 2018).

Model 1:

In model 1, the test was done for the following as first-order reflective constructs only that correlated with one another: (1) autonomy, (2) innovativeness (3) proactiveness, (4) competitive aggressiveness and (5) risk-taking.

The result: BIC = 14846.942

Model 2:

In model 2, the test was done for EO as a second-order reflective construct with four underlying dimensions used as indicators: (1) autonomy, (2) innovativeness (3) proactiveness, (4) competitive aggressiveness and (5) risk-taking.

The result: BIC = 14837.844

From the BIC values, the BIC result for model 2 < BIC result for model 1, indicating that there was positive evidence that EO was a second order construct reflective of first-order dimensions (1) autonomy, (2) innovativeness (3) proactiveness, (4) competitive aggressiveness and (5) risk-taking. Hence, model 2 was therefore a better model fit.

Furthermore, since the BIC scores > 10, there was very strong evidence of a high correlation between the first order dimensions (1) autonomy, (2) innovativeness (3) proactiveness, (4) competitive aggressiveness and (5) risk-taking. This indicated that there was strong evidence of the existence of entrepreneurial orientation as a second order construct.

5.10.2. Corporate Innovation as a Second-Order Construct

Again, two measurement models were tested, and their BIC scores were compared to one another. The model with the smallest BIC was indicative of a better model fit (van der Westhuizen, 2018).

Model 1

In model 1, the test was done for the following as first-order reflective constructs only that correlated with one another: (1) management support, (2) work discretion/autonomy, (3) rewards/re-inforcement, (4) time availability, (5) organisational boundaries.

The result: BIC = 32184.308

Model 2:

In model 2, the test was done for corporate innovation as a second-order reflective construct with four underlying dimensions used as indicators: (1) management support, (2) work discretion/autonomy, (3) rewards/re-inforcement, (4) time availability, (5) organisational boundaries.

The result: BIC = 32163.909

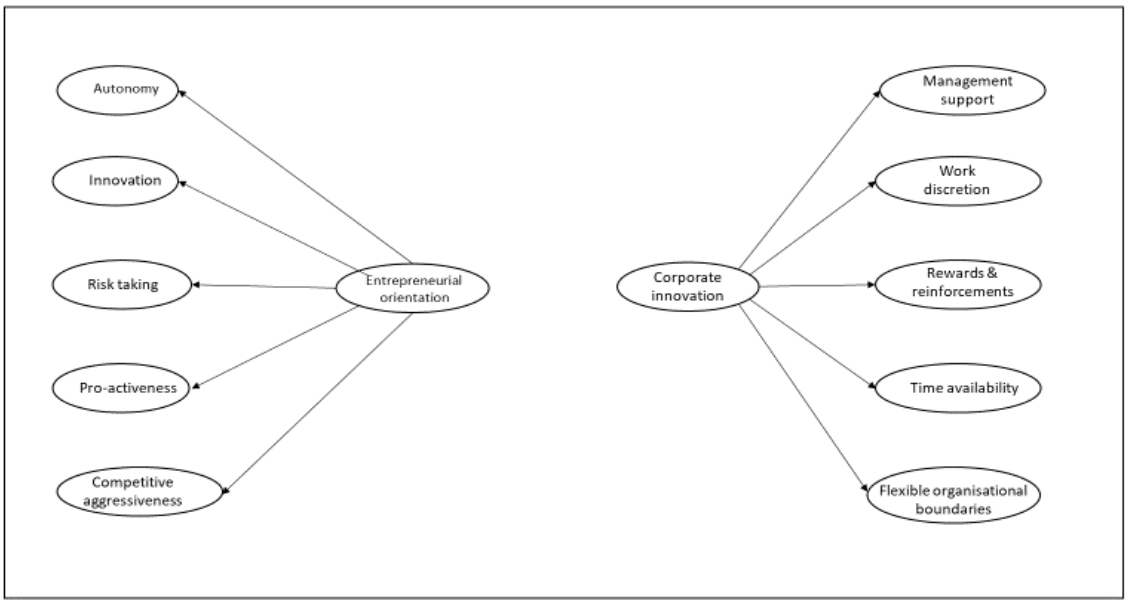
From the BIC values, the BIC result for model 2 < BIC result for model 1, indicating that there was positive evidence that corporate innovation is a second order construct reflective of first-order dimensions (1) management support, (2) work discretion/autonomy, (3) rewards/re-inforcement, (4) time availability and (5) organisational boundaries. Hence, model 2 was a better model fit.

Furthermore, since the BIC scores > 10, there was very strong evidence of a high correlation between the first order dimensions (1) management support, (2) work discretion/autonomy, (3) rewards/re-inforcement, (4) time availability and (5) organisational boundaries. This indicated that there was strong evidence of the existence of corporate innovation as a second order construct.

5.11. Structural Model to Test Main Effects

As per the results in section 7, since the second order constructs were reflective of first order dimensions, the structural paths could be confirmed according to the conceptual model in the following figure:

Figure 2: structural model



Source: Author's own.

Table 21: Model fit statistics for the structural model

Fit indices	Value	Recommended cut-off value
Satorra-Bentler χ^2/df ratio	1.93	< 3
Chi-square value	3366.037	NA
Degrees of freedom	1745	NA
Scaling Correction Factor for MLM	1.0910	NA
RMSEA (Root Mean Square Error Of Approximation)	0.056	< 0.08
CFI (Comparative Fit Indices)	0.848	>0.9
TLI (Tucker Lewis Index)	0.841	>0.9
SRMR (Standardized Root Mean Square Residual)	0.070	< 0.08

From Table 21 above, it can be shown that the re-estimated measurement model fits the data reasonably well, apart from CFI and TLI being slightly below cut-off point of 0.9. However, the model fit was dependent on all the indices and not just a few. Since the CFI and TLI were only marginally < 0.9, it can be concluded that the re-estimated model is still a good fit.

5.12. Validation of the Study Hypotheses

As concluded in section 8, the re-estimated model was a good fit. Therefore, the structural model as per figure X above was valid for the structural paths indicated. Subsequently, the structural paths were inspected to determine the validity of the hypotheses of the study. The following results were achieved:

5.12.1. Hypothesis 1:

Organisations in the South African emerging market environment display entrepreneurial orientation.

The results for the following sub-hypotheses were as follows:

Hypothesis 1a)

Entrepreneurial orientation as a higher order construct is reflective of autonomy as a first order dimension.

Table 22: Standard estimate of autonomy as a first order dimension of EO

Path			Standardized Estimate	S.E. Est.	p-value	t-value	Result
EO	→	Autonomy	0.824	0.01	0.0001*	42.743	Significant

*statistically significant at p < 0.01, one tailed

From the above Table 22, it could be concluded that hypothesis 1a) is supported (SE = 0.824; p < 0.0001). Autonomy is a positive indicator of EO.

Hypothesis 1b)

Entrepreneurial orientation as a higher order construct is reflective of innovation as a first order dimension.

Table 23: Standard estimate of innovation as a first order dimension of EO

Path			Standardized Estimate	S.E. Est.	p-value	t-value	Result
EO	→	Innovation	0.961	0.018	0.0001*	53.579	Significant

*statistically significant at p < 0.01, one tailed

From the above Table 23 it can be concluded that hypothesis 1b) is supported (SE = 0.961; p < 0.0001). Innovation is a positive indicator of EO.

Hypothesis 1c)

Entrepreneurial orientation as a higher order construct is reflective of risk-taking as a first order dimension.

Table 24: Standard estimate of risk taking as a first order dimension of EO

Path			Standardized Estimate	S.E. Est.	p-value	t-value	Result
EO	→	Risk taking	0.823	0.025	0.0001*	33.55	Significant

*statistically significant at p < 0.01, one tailed

From the above Table 24, it can be concluded that hypothesis 1c) is supported (SE = 0.823; p < 0.0001). Risk-taking is a positive indicator of EO.

Hypothesis 1d)

Entrepreneurial orientation as a higher order construct is reflective of proactiveness as a first order dimension.

Table 25: Standard estimate of pro-activeness as a first order dimension of EO

Path			Standardized Estimate	S.E. Est.	p-value	t-value	Result
EO	→	Pro-activeness	0.92	0.015	0.0001*	61.838	Significant

*statistically significant at p < 0.01, one tailed

From the above Table 25, it can be concluded that Hypothesis 1d) is supported (SE = 0.920; p < 0.0001). Autonomy is a positive indicator of EO.

Hypothesis 1e)

Entrepreneurial orientation as a higher order construct is reflective of competitive aggressiveness as a first order dimension.

Table 26: Standard estimate of competitive aggressiveness as a first order dimension of EO

Path			Standardized Estimate	S.E. Est.	p-value	t-value	Result
EO	→	Competitive aggressiveness	0.827	0.019	0.0001*	25.647	Significant

*statistically significant at p < 0.01, one tailed

From the above Table 26, it can be concluded that hypothesis 1e) is supported (SE = 0.827; p < 0.0001). Competitive aggressiveness is a positive indicator of EO.

On closer inspection of the estimates (Kuhn & Bothma, 2018) , it was seen that innovation (SE = 0.961; p < 0.0001) was the strongest indicator of EO, followed by pro-activeness (SE = 0.920; p < 0.0001), competitive aggressiveness (SE = 0.827; p < 0.0001), autonomy (SE = 0.824; p < 0.0001) and risk-taking (SE = 0.823; p < 0.0001) . All these dimensions had a significant, positive influence on EO, and therefore it can be concluded that there was a strong display of EO in the South African emerging market context, thus confirming hypothesis 1.

5.12.2. Hypothesis 2:

Organisations in the South African emerging market environment display corporate innovation.

The results for the following sub-hypotheses were as follows:

Hypothesis 2a)
Corporate innovation as a higher order construct is reflective of management support as a first order dimension.

Table 27: Standard estimate of management support as a first order dimension of CI

Path			Standardized Estimate	S.E. Est.	p-value	t-value	Result
CE	→	Management support	0.954	0.01	0.0001*	100.369	Significant

*statistically significant at p < 0.01, one tailed

From the above Table 27, it can be concluded that hypothesis 2a) is supported (SE = 0.954; p < 0.0001). Management support is a positive indicator of CI.

Hypothesis 2b)

Corporate innovation as a higher order construct is reflective of work discretion as a first order dimension.

Table 28: Standard estimate of work discretion as a first order dimension of CI

Path			Standardized Estimate	S.E. Est.	p-value	t-value	Result
CE	→	Work discretion	0.826	0.02	0.0001*	41.35	Significant

*statistically significant at p < 0.01, one tailed

From the above Table 28 it can be concluded that hypothesis 2b) is supported (SE = 0.826; p < 0.0001). Work discretion is a positive indicator of CI.

Hypothesis 2c)

Corporate innovation as a higher order construct is reflective of rewards/re-inforcements as a first order dimension.

Table 29: Standard estimate of rewards and re-inforcement as a first order dimension of CI

Path			Standardized Estimate	S.E. Est.	p-value	t-value	Result
CE	→	Rewards & reinforcement	0.775	0.037	0.0001*	21.105	Significant

*statistically significant at p < 0.01, one tailed

From the above Table 29, it can be concluded that hypothesis 2c) is supported (SE = 0.775; p < 0.0001). Reward and re-inforcement is a positive indicator of CI.

Hypothesis 2d)
Corporate innovation as a higher order construct is reflective of time availability as a first order dimension.

Table 30: Standard estimate of time availability as a first order dimension of CI

Path			Standardized Estimate	S.E. Est.	p-value	t-value	Result
CE	→	Time availability	0.689	0.035	0.0001*	19.462	Significant

*statistically significant at p < 0.01, one tailed

From the above Table 30, it can be concluded that hypothesis 2d) is supported (SE = 0.689; p < 0.0001). Time availability is a positive indicator of CI.

Hypothesis 2e)
Corporate innovation as a higher order construct is reflective of flexible organisational boundaries as a first order dimension.

Table 31: Standard estimate of flexible organizational boundaries as a first order dimension of CI

Path			Standardized Estimate	S.E. Est.	p-value	t-value	Result
CE	→	Flexible organisational boundaries	0.618	0.04	0.0001*	15.375	Significant

*statistically significant at p < 0.01, one tailed

From the above Table 31, it can be concluded that hypothesis 2e) is supported (SE = 0.618; p < 0.0001). Flexible organisational boundaries are a positive indicator of EO.

On closer inspection of the estimates (Kuhn & Bothma, 2018), it was seen that management support (SE = 0.954; p < 0.0001) was the strongest indicator of

corporate innovation, followed by work discretion (SE = 0.826; p < 0.0001), rewards and re-inforcement (SE = 0.775; p < 0.0001), time availability (SE = 0.689; p < 0.0001) and flexible organisational boundaries (SE = 0.618; p < 0.0001). All these dimensions had a significant, positive influence on corporate innovation, and therefore it can be concluded that there is a strong display of corporate innovation in the South African emerging market context, thus confirming hypothesis 2.

5.13. Testing for differences between the dimensions of entrepreneurial orientation and corporate innovation

Statistical tests for differences were conducted between the dimensions of EO and CE. Non-parametric tests were utilised because the resultant data for the study was not normally distributed (Allen & Bennet, 2012; Pallant, J, 2013).

5.13.1. Differences between demographics entrepreneurial orientation

5.13.1.1. Differences for new age

The Kruskal Wallis One-way ANOVA (Allen & Bennet, 2012) was used to determine whether there were differences between entrepreneurial orientation dimensions and age. The results are as follows:

Table 32: Ranked data for the Kruskal Wallis to test age and entrepreneurial orientation dimensions

Ranks			
	New Age	**N**	**Mean Rank**
Autonomy	20-30	34	161.43
	31-40	112	136.70
	41-50	109	148.39
	51 years and older	45	181.70
	Total	300	
Innovative	20-30	34	167.47
	31-40	112	141.69
	41-50	109	150.75
	51 years and older	45	159.00
	Total	300	
Proactive	20-30	34	163.29
	31-40	112	141.65
	41-50	109	154.19
	51 years and older	45	153.93
	Total	300	
Compete	20-30	34	144.22

	31-40	112	142.84
	41-50	109	151.94
	51 years and older	45	170.81
	Total	300	
Risk	**20-30**	34	149.28
	31-40	112	144.01
	41-50	109	155.66
	51 years and older	45	155.09
	Total	300	

Table 33: Kruskal Wallis results for age and entrepreneurial orientation dimensions

Test Statistics[a,b]					
	Autonomy	**Innovative**	**Proactive**	**Compete**	**Risk**
Kruskal-Wallis H	9.324	2.912	2.207	3.704	1.169
df	3	3	3	3	3
Asymp. Sig.	0.025	0.405	0.531	0.295	0.760
a. Kruskal Wallis Test					
b. Grouping Variable: New Age					

As the Kruskal Wallis test generates an Asymp. Sig value of 0.025 < 0.05, it can be concluded that there was a statistically significant difference between age; assigned to “20-30” (Mean Rank = 161.43), “31-40” (Mean Rank = 136.70), “41-50” (Mean Rank = 148.39), “51 years and older” (Mean Rank = 181.70), H (corrected for ties) = 9.324, df = 3, N = 300, p = 0.025; and autonomy.

5.13.1.2. Differences for gender

There was only one respondent that indicated “Prefer not to say” when asked about gender in the survey. This one respondent was discarded from difference analysis. The Mann-Whitney U test was used to determine whether males and females differ in terms of their perceptions of dimensions of EO (Allen & Bennet, 2012).

Table 34: Ranked data for the Mann Whitney U to test gender and entrepreneurial orientation dimensions

Ranks				
	Gender	**N**	**Mean Rank**	**Sum of Ranks**
Autonomy	Male	145	144.44	20944.00

	Female	154	155.23	23906.00
	Total	299		
Innovative	Male	145	148.88	21587.00
	Female	154	151.06	23263.00
	Total	299		
Proactive	Male	145	151.48	21964.00
	Female	154	148.61	22886.00
	Total	299		
Compete	Male	145	154.31	22375.50
	Female	154	145.94	22474.50
	Total	299		
Risk	Male	145	154.32	22377.00
	Female	154	145.93	22473.00
	Total	299		

Table 35: Mann Whitney U results for gender and entrepreneurial orientation dimensions

Test Statistics[a]					
	Autonomy	**Innovative**	**Proactive**	**Compete**	**Risk**
Mann-Whitney U	10359.000	11002.000	10951.000	10539.500	10538.000
Wilcoxon W	20944.000	21587.000	22886.000	22474.500	22473.000
Z	-1.083	-.219	-.289	-0.855	-0.848
Asymp. Sig. (2-tailed)	0.279	0.827	0.773	0.392	0.396
a. Grouping Variable: Gender					

The results of the Mann Whitney U test revealed no statistically significant differences in the opinions of the two genders and the dimensions of entrepreneurial orientation as the Asymp. Sig. (2- tailed) > 0.05 for all dimensions of entrepreneurial orientation.

5.13.1.3. Differences for education

The Kruskal Wallis One-way ANOVA (Allen & Bennet, 2012) was used to determine whether there were differences between entrepreneurial orientation dimensions and education.

Table 36: Ranked data for the Kruskal Wallis to test education and entrepreneurial orientation dimensions

Ranks			
	Education level	**N**	**Mean Rank**
Autonomy	Matric/ Grade 12 completed	26	149.06
	Diploma/Degree completed	124	173.47
	Post Graduate Diploma/ Degree completed	150	131.76

	Total	300	
Innovative	Matric/ Grade 12 completed	26	150.92
	Diploma/Degree completed	124	175.90
	Post Graduate Diploma/ Degree completed	150	129.43
	Total	300	
Proactive	Matric/ Grade 12 completed	26	141.50
	Diploma/Degree completed	124	174.19
	Post Graduate Diploma/ Degree completed	150	132.48
	Total	300	
Compete	Matric/ Grade 12 completed	26	148.35
	Diploma/Degree completed	124	165.14
	Post Graduate Diploma/ Degree completed	150	138.77
	Total	300	
Risk	Matric/ Grade 12 completed	26	135.06
	Diploma/Degree completed	124	167.65
	Post Graduate Diploma/ Degree completed	150	139.00
	Total	300	

Table 37: Kruskal Wallis results for education and EO dimensions

Test Statistics[a,b]					
	Autonomy	**Innovative**	**Proactive**	**Compete**	**Risk**
Kruskal-Wallis H	15.813	19.630	16.246	6.562	8.485
df	2	2	2	2	2
Asymp. Sig.	0.000	0.000	0.000	0.038	0.014
a. Kruskal Wallis Test					
b. Grouping Variable: Education level					

Since the Kruskal Wallis test generated an Asymp. Sig value of < 0.05 for all the dimensions of entrepreneurial orientation, it could be concluded that there was a statistically significant difference between education and all dimensions of .

5.13.1.4. Differences for organisational size

The Kruskal Wallis One-way ANOVA (Allen & Bennet, 2012) was used to determine whether there were differences between entrepreneurial orientation dimensions and organisational size.

Table 38 : Ranked data for the Kruskal Wallis to test organisational size and entrepreneurial orientation dimensions

Ranks			
	What is the size of your organisation?	**N**	**Mean Rank**
Autonomy	Micro (<10 employees)	18	181.89
	Small (11-50 employees)	31	194.77
	Medium (51-250 employees)	20	131.32
	Large (> 250 employees)	231	143.77
	Total	300	

Innovative	Micro (<10 employees)	18	161.75
	Small (11-50 employees)	31	154.24
	Medium (51-250 employees)	20	136.00
	Large (> 250 employees)	231	150.38
	Total	300	
Proactive	Micro (<10 employees)	18	151.00
	Small (11-50 employees)	31	165.27
	Medium (51-250 employees)	20	117.83
	Large (> 250 employees)	231	151.31
	Total	300	
Compete	Micro (<10 employees)	18	137.97
	Small (11-50 employees)	31	164.06
	Medium (51-250 employees)	20	116.38
	Large (> 250 employees)	231	152.61
	Total	300	
Risk	Micro (<10 employees)	18	142.56
	Small (11-50 employees)	31	161.81
	Medium (51-250 employees)	20	121.45
	Large (> 250 employees)	231	152.12
	Total	300	

Table 39: Kruskal Wallis results for organisational size and entrepreneurial orientation dimensions

Test Statistics[a,b]					
	Autonomy	**Innovative**	**Proactive**	**Compete**	**Risk**
Kruskal-Wallis H	12.888	.927	3.814	4.556	3.065
df	3	3	3	3	3
Asymp. Sig.	0.005	0.819	0.282	0.207	0.382
a. Kruskal Wallis Test					
b. Grouping Variable: What is the size of your organisation?					

Since the Kruskal Wallis test generated an Asymp. Sig value of 0.005 < 0.05, it could be concluded that there was a statistically significant difference between organisational size; assigned to “Micro (<10 employees)” (Mean Rank = 181.89), “Small (11-50 employees)” (Mean Rank = 194.77), “Medium (51-250 employees)” (Mean Rank = 131.32), “Large (> 250 employees)” (Mean Rank = 143.77), H (corrected for ties) = 12.888, df = 3, N = 300, p = 0.005; and autonomy.

5.13.1.5. Differences for management level

The Kruskal Wallis One-way ANOVA (Allen & Bennet, 2012) was used to determine whether there were differences between entrepreneurial orientation dimensions and management level.

Table 40: Ranked data for the Kruskal Wallis to test management level and entrepreneurial orientation dimensions

Ranks			
	What level of management are you in?	**N**	**Mean Rank**
Autonomy	Junior management (Skilled worker, technically and academically qualified, supervisors)	81	148.12
	Middle Management (Professionally qualified and experienced specialists)	117	141.41
	Senior Management	77	159.44
	Executive Management	25	173.20
	Total	300	
Innovative	Junior management (Skilled worker, technically and academically qualified, supervisors)	81	162.06
	Middle Management (Professionally qualified and experienced specialists)	117	139.62
	Senior Management	77	149.94
	Executive Management	25	165.70
	Total	300	
Proactive	Junior management (Skilled worker, technically and academically qualified, supervisors)	81	154.96
	Middle Management (Professionally qualified and experienced specialists)	117	133.16
	Senior Management	77	164.31
	Executive Management	25	174.64
	Total	300	
Compete	Junior management (Skilled worker, technically and academically qualified, supervisors)	81	159.89
	Middle Management (Professionally qualified and experienced specialists)	117	131.32
	Senior Management	77	167.86
	Executive Management	25	156.34
	Total	300	
Risk	Junior management (Skilled worker, technically and academically qualified, supervisors)	81	160.64
	Middle Management (Professionally qualified and experienced specialists)	117	137.47
	Senior Management	77	155.84
	Executive Management	25	162.20
	Total	300	

Table 41: Kruskal Wallis results for management level and entrepreneurial orientation dimensions

Test Statistics[a,b]					
	Autonomy	**Innovative**	**Proactive**	**Compete**	**Risk**
Kruskal-Wallis H	3.903	4.083	8.909	10.295	4.588
df	3	3	3	3	3
Asymp. Sig.	0.272	0.253	0.031	0.016	0.205
a. Kruskal Wallis Test					
b. Grouping Variable: What level of management are you in?					

Since the Kruskal Wallis test generated an Asymp. Sig value of 0.031 < 0.05, it could be concluded that there was a statistically significant difference between

management level; assigned to “Junior management (Skilled worker, technically and academically qualified, supervisors)” (Mean Rank = 154.96), “Middle Management (Professionally qualified and experienced specialists)” (Mean Rank = 133.16), “Senior Management” (Mean Rank = 164.31), “Executive Management” (Mean Rank = 174.64), H (corrected for ties) = 8.909, df = 3, N = 300, p = 0.031; and pro-activeness.

Since the Kruskal Wallis test generated an Asymp. Sig value of 0.005 < 0.05, it could be concluded that there was a statistically significant difference between management level; assigned to “Junior management (Skilled worker, technically and academically qualified, supervisors)” (Mean Rank = 159.89), “Middle Management (Professionally qualified and experienced specialists)” (Mean Rank = 131.32), “Senior Management” (Mean Rank = 167.86), “Executive Management” (Mean Rank = 174.64), H (corrected for ties) = 10.295, df = 3, N = 300, p = 0.016; and competitive aggressiveness.

5.13.1.6. Differences for work experience in current role

The Kruskal Wallis One-way ANOVA (Allen & Bennet, 2012) was used to determine whether there are differences between EO dimensions and the respondents’ work experience in current role.

Table 42: Ranked data for the Kruskal Wallis to test work experience in current role and entrepreneurial orientation dimensions

Ranks			
	New current work role	**N**	**Mean Rank**
Autonomy	Less than 3 years	50	140.25
	3-5 years	39	133.49
	More than 5 years	211	156.07
	Total	300	
Innovative	Less than 3 years	50	137.34
	3-5 years	39	144.53
	More than 5 years	211	154.72
	Total	300	
Proactive	Less than 3 years	50	144.58
	3-5 years	39	138.59
	More than 5 years	211	154.10
	Total	300	
Compete	Less than 3 years	50	137.26
	3-5 years	39	131.94
	More than 5 years	211	157.07
	Total	300	
Risk	Less than 3 years	50	134.29

	3-5 years	39	152.51
	More than 5 years	211	153.97
	Total	300	

Table 43: Kruskal Wallis results for work experience in current role and entrepreneurial orientation dimensions

Test Statistics[a,b]					
	Autonomy	**Innovative**	**Proactive**	**Compete**	**Risk**
Kruskal-Wallis H	3.091	1.850	1.353	4.342	2.150
df	2	2	2	2	2
Asymp. Sig.	0.213	0.396	0.509	0.114	0.341
a. Kruskal Wallis Test					
b. Grouping Variable: New current work role					

Since the Kruskal Wallis test generated an Asymp. Sig value of > 0.05 for all the dimensions of entrepreneurial orientation, it could be concluded that there was no statistically significant difference between work experience in current role and all dimensions of EO.

5.13.1.7. Differences for work experience overall

The Kruskal Wallis One-way ANOVA (Allen & Bennet, 2012) was used to determine whether there were differences between entrepreneurial orientation dimensions and overall work experience of the respondents.

Table 44: Ranked data for the Kruskal Wallis to overall work experience and entrepreneurial orientation dimensions

Ranks			
	New total work	**N**	**Mean Rank**
Autonomy	Less than 10 years	59	157.40
	10-20 years	125	138.15
	More than 20 years	116	160.30
	Total	300	
Innovative	Less than 10 years	59	156.77
	10-20 years	125	139.14
	More than 20 years	116	159.55
	Total	300	

Proactive	Less than 10 years	59	157.01
	10-20 years	125	141.22
	More than 20 years	116	157.19
	Total	300	
Compete	Less than 10 years	59	138.51
	10-20 years	125	142.06
	More than 20 years	116	165.70
	Total	300	
Risk	Less than 10 years	59	143.59
	10-20 years	125	148.26
	More than 20 years	116	156.43
	Total	300	

Table 45: Kruskal Wallis results for overall work experience and entrepreneurial orientation dimensions

Test Statistics[a,b]					
	Autonomy	**Innovative**	**Proactive**	**Compete**	**Risk**
Kruskal-Wallis H	4.416	3.742	2.492	6.129	1.020
df	2	2	2	2	2
Asymp. Sig.	0.110	0.154	0.288	0.047	0.600
a. Kruskal Wallis Test					
b. Grouping Variable: New total work					

Since the Kruskal Wallis test generated an Asymp. Sig value of 0.047 < 0.05, it could be concluded that there was a statistically significant difference between overall work experience; assigned to “Less than 10 years” (Mean Rank = 138.51), “10-20 years” (Mean Rank = 142.06), “More than 20 years” (Mean Rank = 165.70), H (corrected for ties) = 6.129, df = 2, N = 300, p = 0.0047; and competitive aggressiveness.

5.13.2. Differences between Demographics and Corporate Innovation

5.13.2.1. Differences for new age categories

The Kruskal Wallis One-way ANOVA (Allen & Bennet, 2012) was used to determine whether there were differences between corporate innovation dimensions and age of the respondents.

Table 46: Ranked data for the Kruskal Wallis to test age and corporate innovation dimensions

Ranks			
	New Age	**N**	**Mean Rank**
Support	20-30	34	158.40
	31-40	112	146.94
	41-50	109	149.79
	51 years and older	45	155.12
	Total	300	
Work	20-30	34	138.79
	31-40	112	143.74
	41-50	109	153.90
	51 years and older	45	167.92
	Total	300	
Reward	20-30	34	155.29
	31-40	112	147.54
	41-50	109	149.70
	51 years and older	45	156.19
	Total	300	
Time	20-30	34	164.87
	31-40	112	142.28
	41-50	109	142.30
	51 years and older	45	179.96
	Total	300	
Boundary	20-30	34	150.25
	31-40	112	146.88
	41-50	109	145.38
	51 years and older	45	172.12
	Total	300	

Test Statistics[a,b]					
	Support	**Work**	**Reward**	**Time**	**Boundary**
Kruskal-Wallis H	.606	3.291	.441	8.212	3.443
df	3	3	3	3	3
Asymp. Sig.	.895	.349	.932	.042	.328
a. Kruskal Wallis Test					
b. Grouping Variable: New Age					

Since the Kruskal Wallis test generated an Asymp. Sig value of 0.042 < 0.05, it could be concluded that there was a statistically significant difference between age; assigned to “20-30” (Mean Rank = 164.87), “31-40” (Mean Rank =142.28), “41-50” (Mean Rank = 142.30), “51 years and older” (Mean Rank = 179.96,) H (corrected for ties) = 8.212, df = 3, N = 300, p = 0.042; and time availability.

5.13.2.2. Differences for gender

There was only one respondent that indicated “Prefer not to say” in the survey. This one respondent was discarded from difference analysis. The Mann-Whitney U test

was used to determine whether males and females differ in terms of their perceptions of dimensions of corporate innovation (Allen & Bennet, 2012).

Table 47: Ranked data for the Mann Whitney U to test gender and corporate innovation dimensions

Ranks				
	Gender	**N**	**Mean Rank**	**Sum of Ranks**
Support	Male	145	155.28	22515.50
	Female	154	145.03	22334.50
	Total	299		
Work	Male	145	165.08	23936.50
	Female	154	135.80	20913.50
	Total	299		
Reward	Male	145	160.10	23215.00
	Female	154	140.49	21635.00
	Total	299		
Time	Male	145	148.91	21592.50
	Female	154	151.02	23257.50
	Total	299		
Boundary	Male	145	151.18	21921.00
	Female	154	148.89	22929.00
	Total	299		

Table 48: Mann Whitney U results for gender and corporate innovation dimensions

Test Statistics[a]					
	Support	**Work**	**Reward**	**Time**	**Boundary**
Mann-Whitney U	10399.500	8978.500	9700.000	11007.500	10994.000
Wilcoxon W	22334.500	20913.500	21635.000	21592.500	22929.000
Z	-1.025	-2.930	-1.970	-.212	-.231
Asymp. Sig. (2-tailed)	0.305	0.003	0.049	0.832	0.817
a. Grouping Variable: Gender					

The results of the Mann Whitney U test revealed statistically significant differences in the opinions of the two genders. For work discretion, male respondents (Mean Rank = 165.08, n 145) ranked higher than female respondents (Mean Rank = 135.80, n = 154). For rewards and re-inforcements, male respondents (Mean Rank = 160.10, n = 145) ranked higher than female respondents (Mean Rank = 140.49, n = 154).

5.13.2.3. Differences for education

The Kruskal Wallis One-way ANOVA (Allen & Bennet, 2012) was used to determine whether there were differences between corporate innovation dimensions and education level of the respondents.

Table 49 : Ranked data for the Kruskal Wallis to test education and corporate innovation dimensions

Ranks			
	Education level	**N**	**Mean Rank**
Support	Matric/ Grade 12 completed	26	164.40
	Diploma/Degree completed	124	170.36
	Post Graduate Diploma/ Degree completed	150	131.67
	Total	300	
Work	Matric/ Grade 12 completed	26	134.44
	Diploma/Degree completed	124	163.25
	Post Graduate Diploma/ Degree completed	150	142.74
	Total	300	
Reward	Matric/ Grade 12 completed	26	140.75
	Diploma/Degree completed	124	156.13
	Post Graduate Diploma/ Degree completed	150	147.53
	Total	300	
Time	Matric/ Grade 12 completed	26	165.88
	Diploma/Degree completed	124	155.76
	Post Graduate Diploma/ Degree completed	150	143.48
	Total	300	
Boundary	Matric/ Grade 12 completed	26	111.85
	Diploma/Degree completed	124	160.40
	Post Graduate Diploma/ Degree completed	150	149.02
	Total	300	

Table 50 : Kruskal Wallis results for education and corporate innovation dimensions

Test Statistics[a,b]					
	Support	**Work**	**Reward**	**Time**	**Boundary**
Kruskal-Wallis H	14.246	4.782	1.036	2.287	6.966
df	2	2	2	2	2
Asymp. Sig.	0.001	0.092	0.596	0.319	0.031
a. Kruskal Wallis Test					
b. Grouping Variable: Education level					

Since the Kruskal Wallis test generated an Asymp. Sig value of 0.001< 0.05, it could be concluded that there was a statistically significant difference between education; assigned to “Matric/ Grade 12 completed” (Mean Rank = 164.40), “Diploma/Degree

completed " (Mean Rank =170.36), "Post Graduate Diploma/ Degree completed " (Mean Rank = 131.67), H (corrected for ties) = 14.246, df = 2, N = 300, p = 0.001; and management support.

Since the Kruskal Wallis test generated an Asymp. Sig value of 0.031 < 0.05, it can be concluded that there was a statistically significant difference between education; assigned to "Matric/ Grade 12 completed" (Mean Rank = 164.40), "Diploma/Degree completed " (Mean Rank =170.36), "Post Graduate Diploma/ Degree completed " (Mean Rank = 131.67), H (corrected for ties) = 6.966, df = 2, N = 300, p = 0.031; and flexible organisational boundaries.

5.13.2.4. Differences for organisational size

The Kruskal Wallis One-way ANOVA (Allen & Bennet, 2012) was used to determine whether there are differences between corporate innovation dimensions and organisational size.

Table 51: Ranked data for the Kruskal Wallis to test organisational size and corporate innovation dimensions

Ranks			
	What is the size of your organisation?	**N**	**Mean Rank**
Support	Micro (<10 employees)	18	209.94
	Small (11-50 employees)	31	179.26
	Medium (51-250 employees)	20	102.60
	Large (> 250 employees)	231	146.16
	Total	300	
Work	Micro (<10 employees)	18	176.53
	Small (11-50 employees)	31	156.79
	Medium (51-250 employees)	20	112.90
	Large (> 250 employees)	231	150.88
	Total	300	
Reward	Micro (<10 employees)	18	128.08
	Small (11-50 employees)	31	166.34
	Medium (51-250 employees)	20	118.65
	Large (> 250 employees)	231	152.88
	Total	300	
Time	Micro (<10 employees)	18	162.06
	Small (11-50 employees)	31	158.56
	Medium (51-250 employees)	20	140.50
	Large (> 250 employees)	231	149.38
	Total	300	
Boundary	Micro (<10 employees)	18	145.58
	Small (11-50 employees)	31	150.34
	Medium (51-250 employees)	20	129.18
	Large (> 250 employees)	231	152.75
	Total	300	

Table 52: Kruskal Wallis results for education and corporate innovation dimensions

Test Statistics[a,b]					
	Support	**Work**	**Reward**	**Time**	**Boundary**
Kruskal-Wallis H	18.549	5.560	5.152	.904	1.452
df	3	3	3	3	3
Asymp. Sig.	0.000	0.135	0.161	0.825	0.693
a. Kruskal Wallis Test					
b. Grouping Variable: What is the size of your organisation?					

Since the Kruskal Wallis test generated an Asymp. Sig value of 0.000 < 0.05, it could be concluded that there was a statistically significant difference between management support; assigned to "Micro (<10 employees)" (Mean Rank = 209.94), "Small (11-50 employees) " (Mean Rank =179.26), "Medium (51-250 employees)" (Mean Rank = 102.60), "Large (> 250 employees)" (Mean Rank = 146.16), H (corrected for ties) = 6.966, df = 3, N = 300, p = 0.000; and organisational size.

5.13.2.5. Differences for management level

The Kruskal Wallis One-way ANOVA (Allen & Bennet, 2012) was used to determine whether there were differences between corporate innovation dimensions and management level.

Table 53: Ranked data for the Kruskal Wallis to test management level and corporate innovation dimensions

Ranks			
	What level of management are you in?	**N**	**Mean Rank**
Support	Junior management (Skilled worker, technically and academically qualified, supervisors)	81	157.83
	Middle Management (Professionally qualified and experienced specialists)	117	129.12
	Senior Management	77	163.96
	Executive Management	25	185.36
	Total	300	
Work	Junior management (Skilled worker, technically and academically qualified, supervisors)	81	143.29
	Middle Management (Professionally qualified and experienced specialists)	117	133.68
	Senior Management	77	178.37
	Executive Management	25	166.76
	Total	300	

Reward	Junior management (Skilled worker, technically and academically qualified, supervisors)	81	148.53
	Middle Management (Professionally qualified and experienced specialists)	117	137.62
	Senior Management	77	171.64
	Executive Management	25	152.06
	Total	300	
Time	Junior management (Skilled worker, technically and academically qualified, supervisors)	81	172.39
	Middle Management (Professionally qualified and experienced specialists)	117	135.16
	Senior Management	77	155.95
	Executive Management	25	134.60
	Total	300	
Boundary	Junior management (Skilled worker, technically and academically qualified, supervisors)	81	164.95
	Middle Management (Professionally qualified and experienced specialists)	117	136.23
	Senior Management	77	158.75
	Executive Management	25	145.06
	Total	300	

Table 54: Kruskal Wallis results for management level and corporate innovation dimensions

Test Statistics[a,b]					
	Support	**Work**	**Reward**	**Time**	**Boundary**
Kruskal-Wallis H	13.589	13.824	7.267	10.099	6.342
df	3	3	3	3	3
Asymp. Sig.	0.004	0.003	0.064	0.018	.096
a. Kruskal Wallis Test					
b. Grouping Variable: What level of management are you in?					

Since the Kruskal Wallis test generated an Asymp. Sig value of 0.004 < 0.05, it could be concluded that there was a statistically significant difference between management level; assigned to “Junior management (Skilled worker, technically and academically qualified, supervisors) ” (Mean Rank = 157.83), “Middle Management (Professionally qualified and experienced specialists) ” (Mean Rank = 129.12), “Senior Management ” (Mean Rank = 163.96), “Executive Management ” (Mean Rank = 185.36), H (corrected for ties) = 13.589, df = 3, N = 300, p = 0.004; and management support.

Since the Kruskal Wallis test generated an Asymp. Sig value of 0.003 < 0.05, it could be concluded that there was a statistically significant difference between management level; assigned to “Junior management (Skilled worker, technically and

academically qualified, supervisors) ” (Mean Rank = 143.29), “Middle Management (Professionally qualified and experienced specialists) ” (Mean Rank = 133.68), “Senior Management ” (Mean Rank = 178.37), “Executive Management” (Mean Rank = 166.76), H (corrected for ties) = 13.824, df = 3, N = 300, p = 0.003; and work discretion.

Since the Kruskal Wallis test generated an Asymp. Sig value of 0.018 < 0.05, it can be concluded that there is a statistically significant difference between management level; assigned to “Junior management (Skilled worker, technically and academically qualified, supervisors) ” (Mean Rank = 172.39), “Middle Management (Professionally qualified and experienced specialists) ” (Mean Rank = 135.16), “Senior Management” (Mean Rank = 155.95), “Executive Management ” (Mean Rank = 134.60), H (corrected for ties) = 10.099, df = 3, N = 300, p = 0.018; and time availability.

5.13.2.6. Differences for work experience in current role

The Kruskal Wallis One-way ANOVA (Allen & Bennet, 2012) was used to determine whether there were differences between corporate innovation dimensions and management level.

Table 55: Ranked data for the Kruskal Wallis to test management level and corporate innovation dimensions

Ranks			
	New current work role	**N**	**Mean Rank**
Support	Less than 3 years	50	139.83
	3-5 years	39	139.46
	More than 5 years	211	155.07
	Total	300	
Work	Less than 3 years	50	139.35
	3-5 years	39	164.15
	More than 5 years	211	150.62
	Total	300	
Reward	Less than 3 years	50	153.37
	3-5 years	39	163.72
	More than 5 years	211	147.38
	Total	300	
Time	Less than 3 years	50	147.74
	3-5 years	39	152.38
	More than 5 years	211	150.81
	Total	300	
Boundary	Less than 3 years	50	139.34
	3-5 years	39	147.06
	More than 5 years	211	153.78
	Total	300	

Table 56: Kruskal Wallis results for management level and corporate innovation dimensions

Test Statistics[a,b]					
	Support	**Work**	**Reward**	**Time**	**Boundary**
Kruskal-Wallis H	1.974	1.797	1.245	0.073	1.216
df	2	2	2	2	2
Asymp. Sig.	0.373	0.407	0.537	0.964	.545
a. Kruskal Wallis Test					
b. Grouping Variable: New current work role					

Since the Kruskal Wallis test generated an Asymp. Sig value of > 0.05 for all the dimensions of corporate innovation, it could be concluded that there is no statistically significant difference between work experience in current role and all dimensions of corporate innovation.

5.13.2.7. Differences for work experience overall

The Kruskal Wallis One-way ANOVA (Allen & Bennet, 2012) was used to determine whether there were differences between corporate innovation dimensions and management level.

Table 57: Ranked data for the Kruskal Wallis to test overall work experience and corporate innovation dimensions

Ranks			
	New total work	**N**	**Mean Rank**
Support	Less than 10 years	59	156.40
	10-20 years	125	142.29
	More than 20 years	116	156.34
	Total	300	
Work	Less than 10 years	59	138.47
	10-20 years	125	143.26
	More than 20 years	116	164.42
	Total	300	
Reward	Less than 10 years	59	144.25
	10-20 years	125	150.90
	More than 20 years	116	153.25
	Total	300	
Time	Less than 10 years	59	155.44
	10-20 years	125	140.63
	More than 20 years	116	158.63
	Total	300	
Boundary	Less than 10 years	59	149.29

	10-20 years	125	143.14
	More than 20 years	116	159.05
	Total	300	

Table 58: Kruskal Wallis results for overall work experience and corporate innovation dimensions

Test Statistics[a,b]					
	Support	**Work**	**Reward**	**Time**	**Boundary**
Kruskal-Wallis H	1.920	5.007	0.429	2.867	2.083
df	2	2	2	2	2
Asymp. Sig.	0.383	0.082	0.807	0.238	0.353
a. Kruskal Wallis Test					
b. Grouping Variable: New total work					

Since the Kruskal Wallis test generated an Asymp. Sig value of > 0.05 for all the dimensions of corporate innovation, it could be concluded that there is no statistically significant difference between overall work experience and all dimensions of corporate innovation.

5.14. Conclusion

The results of the study established that autonomy, innovativeness, pro-activeness, competitive aggressiveness and risk-taking positively indicated the presence of entrepreneurial orientation, thus confirming hypothesis 1. It can therefore be concluded that organisations in the South African emerging market context do in fact display entrepreneurial orientation. Similarly, it was also found that management support, work discretion, time availability, rewards and re-inforcements and flexible organisational boundaries also positively indicated the presence of corporate innovation. This confirmed hypothesis 2. Correspondingly, it can therefore also be concluded that organisations in the South African emerging market context do in fact display corporate innovation. However, the extent, to which each of the dimensions positively indicate entrepreneurial orientation and corporate innovation, need to be explored.

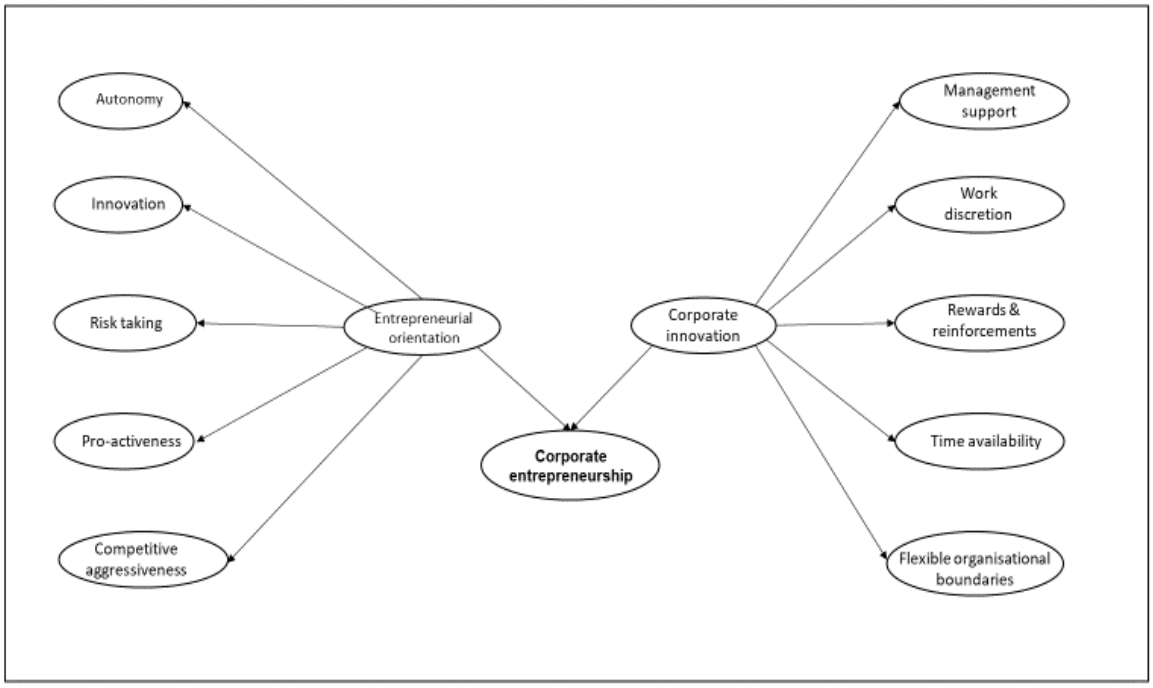
For entrepreneurial orientation, the results showed that there were differences in opinions of the respondents for the following; age and autonomy, education and autonomy, education and innovativeness, education and pro-activeness, education

and competitive aggressiveness, education and risk, organisational size and autonomy, management level and pro-activeness, management level and competitive aggressiveness as well as overall work experience and competitive aggressiveness. Similarly, for corporate innovation, the outcomes revealed that there were differences in opinions of the respondents for the following; age and time, gender and work discretion, gender and rewards and re-inforcements, education and management support, education and flexible organisational boundaries, organisational size and management support, management level and management support, management level and work discretion as well as management level and time availability. These will be explored further in Chapter 6.

Since the presence of entrepreneurial organisation and corporate innovation are key constructs for corporate entrepreneurship (Kuratko et al, 2014; Dess & Lumpkin, 2005), it can therefore also be theoretically concluded that the prevalence of corporate entrepreneurship practice is evident within organisations in the South African emerging market context.

Thus, the following model can therefore be confirmed:

Figure 3: Structural model confirming the existence of corporate entrepreneurship, through the constructs of entrepreneurial orientation and corporate innovation, in the South African emerging market context.



Source: Authors own

6. Chapter 6: Discussion of Results

6.1. Introduction

The objective of this study was to determine whether organisations within the South African emerging market context display entrepreneurial orientation and corporate innovation such that they can exhibit corporate entrepreneurship practise. Given that the external business environment is challenging and extremely dynamic, it is imperative that organisations have competencies and capabilities to help them navigate through difficult economic times. Entrepreneurial orientation and corporate innovation allow for organisations to develop these competencies and capabilities and was hypothesised in chapter 3 of this study. These hypotheses will be further elaborated on in this chapter together with an exploration of the results obtained in chapter 5. This will aid in the understanding of the positioning of corporate entrepreneurship practise within the South African emerging market context.

6.2. Demographics

6.2.1. Gender Differences with the Constructs of Entrepreneurial Orientation and Corporate Innovation

Although gender was not part of the study or listed as part of the hypotheses, it was used to determine the profile of the respondents who participated in the research. There were 300 respondents, all in management positions. 145 respondents (48.3%) were males and 154 (51.3%) were females. One respondent (0.3%) preferred not to disclose gender and was removed from the data set for analysis when differences were tested for.

Statistical tests (Mann Whitney U-test) were conducted to check whether males and females differed in their perceptions with regards to the dimensions of entrepreneurial orientation. The results showed that there were no statistical differences between gender and the dimensions of entrepreneurial orientation for the South African test environment. This implies that the perceptions of male managers did not differ from the perceptions of female managers regarding the entrepreneurial nature of their organisations. This was corroborated by Kepler and Shane (2007), who found that gender does not make a difference in the recognition of

entrepreneurial qualities of an organisation. However, gender does play a role in terms of the reason for which entrepreneurial activities will be undertaken (Kepler & Shane, 2007). Female managers are more likely to accommodate projects with low risks whereas male managers are more likely to accommodate projects with a higher growth and risk (Kepler & Shane, 2007).

Similarly, Statistical tests (Mann Whitney U test) were conducted to check whether males and females differed in their perceptions with regards to the dimensions of corporate innovation. The results showed that there were statistical differences between gender and the dimensions of work discretion and rewards/re-enforcements for the South African test environment. This implies that the perceptions of male managers differed from the perceptions of female managers regarding the work discretion and rewards/reinforcements. According to Amanatatulla and Morris (2010), women, as opposed to men, avoid being firm and assertive for fear of backlash and criticism from colleagues. They often take on a more subservient role and tolerate workload ahead of delegating so that work may be shared (Amanatullah & Morris, 2010). This negatively affects the entrepreneurial and innovative nature of women. Similarly, for rewards and reinforcements, it is seen in Kulich and Trojanowski (2011) and Ellemers (2020), that there are huge disparities in remuneration with regards to gender. Men are generally more generously compensated and rewarded as opposed to women, in an organisational setting (Kulich & Trojanowski, 2011; Ellemers 2020). This type of culture would therefore contribute to a lack of corporate innovation initiative from females, in organisational environments.

6.2.2. Age Differences with the Constructs of Entrepreneurial Orientation and Corporate Innovation

An analysis of the age group of managers, found that most managers (112 respondents) were in the of 31-40 age group. This was followed by the managers (109 respondents) in the 41-50 age group. This is generally consistent with the age group of managers in most organisational settings, but not necessarily within South Africa (Backman & Karlsson, 2020).

The Kruskal Wallis One-way ANOVA was conducted to determine whether there are differences between the dimensions of entrepreneurial orientation and age. The results showed that there was a statistically significant difference between age and the dimension of autonomy. According to Dess and Lumpkin (2005), an autonomous culture prevails when there is management support for initiatives generated from the "bottom-up." This "bottom-up" approach encourages creative thought and innovative ideas from all employees (Dess & Lumpkin, 2005). It was evident from the results that management respondents that were 51 years and older did not perceive their organisations supportive of autonomous cultures. The results were an indication that that managers within the category 51 years and older did not have the freedom to employ calculated risks, as per Urban (2017), and did not feel like they were entrusted to responsibility in the absence of senior management (Burcharth et al., 2017).

For corporate innovation, the Kruskal Wallis One-way ANOVA (Allen & Bennet, 2012) was once again conducted to establish whether there were differences between the dimensions of corporate innovation and age. The results showed that there were statistically significant differences between age and time availability. According to Kuratko et al. (2014), the time availability dimension of corporate innovation refers to the time available to employees to chase innovation and creativity after the general work schedule has been completed. They refer to this as an important resource for entrepreneurial initiatives. A statistically significant difference between the age and time availability dimension of CE means that managers felt that they did not have enough time available for innovation and creative thinking. The results were particularly significant for the category of 31-40 age group and 41-50 age group, who felt that they did not have adequate time creatively innovate. This result is particularly important because most managers that would contribute to the corporate innovation initiative are present in these age categories (Backman & Karlsson, 2020). This lack of time would have a significant adverse effect on the construct of corporate innovation.

6.2.3. Educational Differences with the Constructs of Entrepreneurial Orientation and Corporate Innovation

An analysis of the qualification status of managers found that most managers (150 respondents) had completed a post-graduate qualification. This was followed by managers (124 respondents) who had completed an undergraduate qualification. 26 of the 300 respondents were made up of managers who had only completed matric.

The Kruskal Wallis One-way ANOVA was conducted to determine whether there were differences between the dimensions of entrepreneurial orientation and the educational qualifications of managers. The results showed that there was a statistically significant difference between education and all dimensions of entrepreneurial orientation namely: autonomy, innovativeness, proactiveness, competitive aggressiveness and risk-taking. It was found that the group with the highest mean rank in this test was that of managers who had only an undergraduate degree. According to Dess and Lumpkin (2005), an autonomous culture prevails when there is management support for initiatives generated from the "bottom-up." This "bottom-up" approach encourages creative thought and innovative ideas from all employees (Dess & Lumpkin, 2005). It is evident then, that the perception of managers who held an undergraduate degree was that there was no management support for creative initiatives from their part. Dess and Lumpkin (2005) also described innovativeness as an organisation attempt to identify new business opportunities and innovative solutions for ageing technologies and current outdated ways of working. It can be seen from the results that managers with an undergraduate degree have a perception that their organisations are not innovative enough and are not solution driven to eradicate old and inefficient ways of working. Proactiveness, according to Dess and Lumpkin (2005), refers to an organisation's ability to recognise and exploit new opportunities. It is apparent from the results that managers with an undergraduate degree found that their organisations were not proactive enough. It was the perception of this category of managers that their organisations were not able to monitor industry trends, recognise the needs and pain points of customers, and anticipate changes in the environmental conditions, such that they could proactively exploit the potential of new venture opportunities to become leaders in the industry. Dess and Lumpkin (2005) discussed competitive aggressiveness as an organisation's zeal and strategy to outperform its rivals. However, managers with an undergraduate degree seemed to perceive no urgent aggression from their organisations towards making efforts for being competitively

ahead of competition in the marketplace. Giachetti (2016) found that competitive aggressiveness has a direct implication on firm performance, yet this phenomenon has not been tested extensively in emerging market environments. Since managers, with an undergraduate degree in this study found that competitive aggression within their organisations are not existent, this result contributes to the body of knowledge in an emerging market environment. Dess and Lumpkin (2005) mentioned risk-taking as an organisation's inclination to take advantages of opportunities, although it may be unaware of the consequences associated with the potential risk. Here again, managers with an undergraduate degree found that their organisations were less inclined to risk-taking endeavours. This is in direct contrast to Malte et al. (2015), where it was discussed that risk-taking is recognised as the ability of leaders to commit to risky opportunities in the face of uncertainty and complexity.

For corporate innovation, the Kruskal Wallis One-way ANOVA (Allen & Bennet, 2012) was once again conducted to establish whether there were differences between the dimensions of corporate innovation and education. The results showed that there were statistically significant differences between the corporate innovation dimensions of management support and organisational boundaries. According to Kuratko et al. (2014), management support for entrepreneurial activity is found to have a direct and positive relationship with corporate innovation through the facilitation and promotion of entrepreneurial conduct. However, the results showed that managers with an undergraduate degree did not perceive top management to be supportive towards corporate innovation. This perception was in direct contrast to Al Shaar et al. (2015), who distinguished that top management act as protagonists in the success of corporate innovation. Furthermore. Kuratko et al. (2014) explained organisational boundaries as the extent to which there is flexibility and fluid flow of information across departments within the organisation as well as with the external environment. However, managers with an undergraduate degree felt that organisational silos were very present in organisations.

6.2.4. Organisational Size Differences with the Constructs of Entrepreneurial Orientation and Corporate Innovation

An analysis of the organisational size associated with the respondent managers revealed the following: large organisations (>250 employees), were represented by 231 respondents. Thirty-one respondents represented small organisations (11-50 employees). This was followed by twenty respondents from medium sized organisations (51-250 employees). Lastly, there were eighteen respondents from micro-sized organisations (<10 employees).

The Kruskal Wallis One-way ANOVA was conducted to determine whether there are differences between the dimensions of entrepreneurial orientation and the organisational size that the respondents belonged to. The results showed that there was a statistically significant difference between organisational size and the dimension of autonomy of entrepreneurial orientation. As discussed earlier, Dess and Lumpkin (2005) found that an autonomous culture prevails when there is management support for initiatives generated from the "bottom-up." This "bottom-up" approach encourages creative thought and innovative ideas from all employees (Dess & Lumpkin, 2005). However, respondents from small organisations indicated that the autonomous culture is strongly lacking in their organisations. Urban (2017) recognised autonomy as the freedom of employees to employ calculated risks in decision-making processes. It is evident that employees in small organisations believed that they are not at liberty to explore calculated risks. Neither are they in a position to enjoy the benefits of delegation of authority in the absence of senior management as autonomy is suggested in Burcharth et al. (2017).

The Kruskal Wallis One-way ANOVA was also conducted to determine whether there were differences between the dimensions of corporate innovation and the organisational size that the respondents belonged to. The results revealed that there was a statistically significant difference between the dimension of management support and the size of the organisation. Management support according to Kuratko et al. (2014) is the urgency with which entrepreneurial initiatives are supported by the upper levels of management in an organisation. The results reveal that management in micro organisations (<10 employees), did not receive management support for entrepreneurial initiatives. This implies that the top management of micro organisations do not prioritise corporate innovation for performance enhancement and growth towards a successful business model.

6.2.5. *Overall Work Experience Differences with the Constructs of Entrepreneurial Orientation and Corporate Innovation*

An analysis of the overall work experience category of the respondent managers revealed the following: 125 managerial respondents had between “10-20 years” of overall working experience. This was followed by the category of “more than 20 years” overall work experience, which was represented by 116 respondents. Lastly, 59 respondents had “less than 10 years” overall work experience.

The Kruskal Wallis One-way ANOVA was conducted to determine whether there were differences between the dimensions of entrepreneurial orientation and the overall work experience demographic of the respondent managers. The results showed that there was a statistically significant difference between overall work experience and the dimension of competitive aggressiveness for entrepreneurial orientation. As discussed earlier, Dess and Lumpkin (2005) discusses competitive aggressiveness as an organisation’s zeal and strategy to outperform its rivals. In this test for differences, it was revealed that managers with “more than 20 years’’ experience generally disagreed or strongly disagreed that their organisations were competitively aggressive.

The Kruskal Wallis One-way ANOVA was once again conducted to determine whether there were differences between the dimensions of corporate innovation and the overall work experience demographic of the respondent managers. The results showed that there was no statistically significant difference between overall work experience and the dimensions corporate innovation. This result implies that managers in all categories of work experience recognised that the dimensions of corporate innovation, namely, management support, work discretion, rewards and re-inforcements, time availability and organisational boundaries (Kuratko et al. 2014) were positively embraced by their respective organisations.

6.2.6. *Management Level Differences with the Constructs of Entrepreneurial Orientation and Corporate Innovation*

An examination of the management level demographic category revealed that 117 respondent managers belonged to “middle management”. This was followed by 81 respondents in “junior management” and 77 respondents in “senior management”. The “executive management’ category was made up of 25 respondents.

The Kruskal Wallis One-way ANOVA was once again conducted to determine whether there were differences between the dimensions of entrepreneurial orientation and the management level demographic of the respondent managers. The results showed that there was a statistically significant difference between the proactiveness dimension of corporate innovation and the management level demographic. Dess and Lumpkin (2005) explained proactiveness as the ability of the organisation to take advantage of fresh opportunities. In making sense of this dimension, it was interpreted that organisations, in being proactive, are able to anticipate the needs of their stakeholders and act decisively without prompts. As per the results obtained from the analysis, it can be seen that middle management managers did not view their organisations as being proactive and contradicted the view of in Malte et al. (2015), who expressed proactive organisations as a forward looking, optimistic, expectant of competitive advantage, in the process of entrepreneurial orientation. The Kruskal Wallis One-way Anova also revealed that the competitive aggressiveness dimension of entrepreneurial orientation yielded a statistically significant different result, when compared to management level. Here again, managers in the middle management category either disagreed or strongly disagreed that their organisations have the ability to exhibit zeal and strategy to outperform its rivals (Dess & Lumpkin, 2005).

In determining the differences for the dimensions of corporate innovation and the demographic of management level, the Kruskal Wallis One-way ANOVA revealed that there were statistically significant differences between the dimensions of management support, work discretion and time availability. For all three of the aforementioned dimensional categories of corporate innovation, it was those respondents that belonged to middle management that either disagreed or strongly disagreed with management support, work discretion and time availability. Middle managers did not perceive top management as supportive towards entrepreneurial activities that reinforced and built corporate innovation for firm performance and entrepreneurial strategy (Kuratko et al., 2014). Work discretion, according to Kassa

and Raju (2015), allows for discretionary work environments, which further allow for productivity and employee engagement. The results clearly indicated that middle managers in the South African, emerging market environment either disagree or strongly disagree with the levels of work discretion required for corporate innovation. Similarly, for the dimension of time availability towards corporate innovation, middle management respondents in the South African emerging market organisational environment, either disagreed or strongly disagreed to having discretionary time available for corporate innovation initiatives, in direct contrast to the need for time availability to execute corporate innovation activities as researched (Kuratko et al., 2014; Urban & Wood, 2017).

6.3. Discussion on the hypotheses

6.3.1. Hypothesis 1: Organisations in the South African emerging market environment display entrepreneurial orientation.

In order to accept or reject hypothesis 1, a structural model for entrepreneurial orientation was conceptualised as per the literature reviewed in chapter 2. The structural model identified entrepreneurial orientation as a second order construct reflective of first order dimensions namely; autonomy, innovation, risk-taking, proactiveness, and competitive aggressiveness (Dess and Lumpkin, 2005). Statistical tests were conducted to determine the model fit. The model fit statistics revealed that the data was compatible with the re-estimated measurement model. The structural paths were subsequently inspected to determine whether the second order construct of entrepreneurial orientation was reflective of the first order dimensions, using the data that was obtained from the survey conducted. The results were as follows:

Hypothesis 1a): Entrepreneurial orientation as a higher order construct is reflective of autonomy as a first order dimension.

The result for hypothesis 1a) was statistically significant at $p < 0.01$(one tailed) standardised estimate of 0.824. The standardised estimate is above 0.5 and closer to 1, which implies that that the perception of managers in the South African emerging market test environment perceived autonomy as a first order dimension,

reflective of entrepreneurial orientation (Dess & Lumpkin, 2005) as second order construct. Thus, based on these results, hypothesis 1a) can be accepted. However, the value of the standardised estimate and the strength of the autonomous culture (Burcharth et al., 2017; Urban, 2017) was affected by the differences experienced with the various demographics, namely; age, education and organisational size. These demographic categories tended to perceive their organisations as somewhat less autonomous in certain areas of autonomy related entrepreneurial initiatives.

Hypothesis 1b): Entrepreneurial orientation as a higher order construct is reflective of innovation as a first order dimension.

The result for hypothesis 1b) was statistically significant at $p < 0.01$(one tailed) standardised estimate of 0.961. The standardised estimate is above 0.5 and closer to 1, which implies that the perception of managers in the South African emerging market test environment strongly perceived innovation as a first order dimension, which was reflective of entrepreneurial orientation (Dess & Lumpkin, 2005) as second order construct. Thus, based on these results, hypothesis 1b) can be accepted. The strength of the standardised estimate was only affected by the differences noted in the demographic of education. It was noted that managers with an undergraduate degree did not distinguish their organisations as innovative enough to eradicate old and inefficient ways of working such that they could become market leaders in entrepreneurial orientation.

Hypothesis 1c): Entrepreneurial orientation as a higher order construct is reflective of risk-taking as a first order dimension.

The result for hypothesis 1c) was statistically significant at $p < 0.01$(one tailed) standardised estimate of 0.823. The standardised estimate is above 0.5 and closer to 1. This implies that the perception of managers in the South African emerging market test environment also strongly perceived risk-taking as a first order dimension, which is reflective of entrepreneurial orientation (Dess & Lumpkin, 2005) as second order construct. Thus, based on these results, hypothesis 1c) can be accepted. The strength of the standardised estimate was only affected by the differences noted in the demographic of education. It was noted that managers with

an undergraduate degree perceived their organisations as slightly more risk-averse rather than entrepreneurial.

Hypothesis 1d): Entrepreneurial orientation as a higher order construct is reflective of proactiveness as a first order dimension.

The result for hypothesis 1d) was statistically significant at $p < 0.01$(one tailed) standardised estimate of 0.920. The standardised estimate is above 0.5 and closer to 1. This implies that the perception of managers in the South African emerging market test environment also strongly perceived pro-activeness as a first order dimension, which is reflective of entrepreneurial orientation (Dess & Lumpkin, 2005) as second order construct. Thus, based on these results, hypothesis 1d) can be accepted. The strength of the standardised estimate was only affected by the differences noted in the demographic of education. It was noted that managers with an undergraduate degree perceived their organisations as slightly less proactive with entrepreneurial initiatives.

Hypothesis 1e: Entrepreneurial orientation as a higher order construct is reflective of competitive aggressiveness as a first order dimension.

The result for hypothesis 1e) was statistically significant at $p < 0.01$(one tailed) standardised estimate of 0.827. The standardised estimate is above 0.5 and closer to 1. This implies that the perception of managers in the South African emerging market test environment also strongly perceived that their organisations were competitively aggressive, confirming the strong presence of this characteristic as a first order dimension which is reflective of the entrepreneurial orientation (second order construct) of their organisations (Dess & Lumpkin, 2005). Thus, based on these results, hypothesis 1e) can be accepted. The strength of the perception was affected by the differences noted in the demographics of education and management level. It was noted that managers with an undergraduate degree perceived their organisations as slightly less aggressive with regards to competitiveness. Furthermore, managers that were in the middle management category also concurred with the same observation.

6.3.2. *Hypothesis 2: Organisations in the South African emerging market environment display corporate innovation.*

In order to accept or reject hypothesis 2, a structural model for entrepreneurial orientation was conceptualised as per the literature reviewed in chapter 2. The structural model identified corporate innovation as a second order construct reflective of first order dimensions namely; autonomy, innovation, risk-taking, proactiveness, and competitive aggressiveness (Dess and Lumpkin, 2005). Statistical tests (discussed in chapter 4) were conducted to determine the model fit. The model fit statistics revealed that the data was compatible with the re-estimated measurement model. The structural paths were subsequently inspected to determine whether the second order construct of corporate innovation, was reflective of the first order dimensions, using the data that was obtained from the survey conducted. The results were as follows:

Hypothesis 2a): Corporate innovation as a higher order construct is reflective of management support as a first order dimension.

The result for hypothesis 2a) was statistically significant at $p < 0.01$(one tailed) standardised estimate of 0.954. The standardised estimate is above 0.5 and closer to 1. This implies that the perception of managers in the South African emerging market test environment strongly viewed their organisations' top management as a first order dimension, supportive enough to be reflective of corporate innovation (second order construct) within their organisations (Kuratko et al., 2014). Thus, based on these results, hypothesis 2a) can be accepted. The strength of the managerial view was slightly affected by the differences noted in the demographics of educational level, organisational size and management level. It was noted that managers with an undergraduate degree perceived their top managers to be less supportive of entrepreneurially innovative initiatives. The size of the organisations also influenced the perceptions of managers to reveal that micro-organisations did not offer top management support for entrepreneurial initiatives. Furthermore, middle managers were also of the opinion that top management support towards them for innovation and innovative activities was not completely evident within their organisational settings.

Hypothesis 2b: Corporate innovation as a higher order construct is reflective of work discretion as a first order dimension.

The result for hypothesis 2b) was statistically significant at $p < 0.01$(one tailed) standardised estimate of 0.826. The standardised estimate is above 0.5 and closer to 1. This implies that the perception of managers in the South African emerging market test environment strongly viewed work discretion characteristics as a first order dimension, supportive enough to be reflective of corporate innovation (second order construct) within their organisations (Kuratko et al., 2014). Thus, based on these results, hypothesis 2b) can be accepted. The strength of the work discretion practices was affected by the differences noted in the demographics of gender and management level. It was noted that male managers either disagreed or strongly disagreed with the questions asked around work discretion methods adopted by their organisations. It was also perceived by middle managers that work discretion characteristics were not evident as innovative work ways within organisations operating in the South African emerging market context.

Hypothesis 2c): Corporate innovation as a higher order construct is reflective of rewards/re-inforcements as a first order dimension.

The result for hypothesis 2c) was statistically significant at $p < 0.01$(one tailed) standardised estimate of 0.775. The standardised estimate is above 0.5 and closer to 1. This implies that the perception of managers in the South African emerging market test environment viewed the partial existence of rewards and reinforcements as a first order dimension, minimally supportive, and enough to be reflective of corporate innovation (second order construct) within their organisations (Kuratko et al., 2014). Thus, based on these perceptions, hypothesis 2c) can be accepted. The strength of the presence of rewards and re-inforcements supportive of innovativeness within the work environment was perceived as minimal by the respondent managers. This was noted in the differences as per the demographic of gender. It was distinguished that male managers either disagreed or strongly disagreed with the questions asked around rewards and re-inforcements associated with their organisations of employment. It was this demographic alone that contributed to the huge difference, thus indicating that males felt really strongly about

the lack of rewards and reinforcements that were offered to promote innovative work environments.

Hypothesis 2d): Corporate innovation as a higher order construct is reflective of time availability as a first order dimension.

The result for hypothesis 2c) was statistically significant at $p < 0.01$(one tailed) standardised estimate of 0.689. The standardised estimate is above 0.5 and closer to 1. This implies that the perception of managers in the South African emerging market test environment viewed the partial existence of time availability as a first order dimension, minimally supportive, and just enough to be reflective of corporate innovation (second order construct) within their organisations (Kuratko et al., 2014). Thus, based on these perceptions, hypothesis 2d) can be accepted. The strength of the presence of time availability for managers to be able to undertake of innovative work practices within the organisational environment was perceived as minimal by the respondent managers. This was noted in the differences as per the demographic of age and management level. It was noted that managers in the category “51 years and older”, found that the time available to them was not enough for employing corporate innovation methods. The senior management category also alluded to the lack of time available to employ methods and work practices for corporate innovation.

Hypothesis 2e): Corporate innovation as a higher order construct is reflective of flexible organisational boundaries as a first order dimension.

The result for hypothesis 2e) was statistically significant at $p < 0.01$(one tailed) standardised estimate of 0.618. The standardised estimate is above 0.5 and closer to 1. This implies that the perception of managers in the South African emerging market test environment viewed the partial presence of flexible organisational boundaries as a first order dimension, minimally supportive, and just enough to be reflective of corporate innovation (second order construct) within their organisations (Kuratko et al., 2014). Thus, based on these managerial perceptions, hypothesis 2e) can be accepted. The strength of the existence of flexible organisation boundaries for managers to be able to undertake of innovative work practices within the organisational environment was perceived as minimal by the respondent managers. This was noted in the differences as per the demographic of educational level of the

respondent managers. It was noted that managers who had only an undergraduate qualification found that the lack of flexible organisational boundaries was a hindrance to employing corporate innovation methods and practises.

6.4. Summary of findings

Table: Summary of hypotheses test results for Hypothesis 1

Research Hypotheses	Result
H1a) Entrepreneurial orientation as a higher order construct is reflective of autonomy as a first order dimension.	Accepted
H1b) Entrepreneurial orientation as a higher order construct is reflective of innovation as a first order dimension.	Accepted
H1c) Entrepreneurial orientation as a higher order construct is reflective of risk-taking as a first order dimension.	Accepted
H1d) Entrepreneurial orientation as a higher order construct is reflective of proactiveness as a first order dimension.	Accepted
H1e) Entrepreneurial orientation as a higher order construct is reflective of competitive aggressiveness as a first order dimension.	Accepted

Table: Summary of hypotheses test results for Hypothesis 2

Research Hypotheses	Result
H2a) Corporate innovation as a higher order construct is reflective of management support as a first order dimension.	Accepted
H2b) Corporate innovation as a higher order construct is reflective of work discretion as a first order dimension.	Accepted
H2c) Corporate innovation as a higher order construct is reflective of rewards/re-inforcements as a first order dimension.	Accepted
H2d) Corporate innovation as a higher order construct is reflective of time availability as a first order dimension.	Accepted
H2e) Corporate innovation as a higher order construct is reflective of flexible organisational boundaries as a first order dimension.	Accepted

6.5. Conclusion

As the objective of this study was to determine whether organisations in the South African emerging market context display corporate entrepreneurship practice, this chapter explored the results obtained in chapter 5, related to the constructs of CE. Such constructs were defined as entrepreneurial orientation and corporate innovation. The intention was to accept or reject the hypotheses and sub-hypotheses linking the constructs and associated dimensions.

The sub-hypotheses of hypothesis 1 were accepted, thus hypothesis 1 was confirmed. This proved that organisations within the South African emerging market context do in fact display entrepreneurial orientation. However, an exploration of the results revealed that there were moderating factors associated with the extent to which entrepreneurial orientation is practised. These moderating factors will be further discussed in Chapter 7.

Similarly, the sub-hypotheses of hypothesis 2 were accepted, thus hypothesis 2 was confirmed. This proved that organisations within the South African emerging market context do in fact display corporate innovation. Here again, an exploration of the results revealed that there were moderating factors associated with the extent to which corporate innovation is practised. These moderating factors will also be further discussed in chapter 7.

7. Chapter 7: Conclusion

7.1. Introduction

This chapter concludes the study around CE at an organisational level in the South African emerging market context. In doing so, it will discourse the consolidated findings associated with this research study on CE. The limitations that prevailed through this study will then also be discussed. Lastly, an attempt will be made to suggest ideas for future research in the field of CE.

The constructs of CE namely; entrepreneurial orientation and corporate innovation were tested within organisations in an emerging market business environment; South Africa being the geographical setting. This was done using the questionnaire from Dess and Lumpkin (2005) together with the CEAI (Kuratko et al. 2014), which were selectively distributed to managers employed by organisations operating within the South African emerging market business environment. This approach allowed for the testing of the perceptions of managers at junior, middle, senior and executive management level, who could offer insights into the strategies and objectives of their respective organisations.

Having insights into the manner in which organisations in South Africa conducted business eventually provided the understandings needed to determine the existence of CE at an organisational level within the South African emerging market context. This study was of particular importance to identify this existence of CE practice within the South African emerging market context and in doing so, expose the areas within entrepreneurial orientation and corporate innovation that require further efforts for development.

7.2. Principal Findings

The results from the study provided a high-level view of how managers in the South African emerging market context perceive their organisations with regards to entrepreneurial orientation and corporate innovation as antecedents for CE practise. The connection of these antecedents of entrepreneurial orientation and CE were surveyed and examined, to reveal that both entrepreneurial orientation and CE are

in fact present in organisations within the South African emerging market context. However, the extent to which organisations displayed these antecedents was influenced by moderating factors displayed within the dimensions of entrepreneurial orientation and corporate innovation.

The study found that the dimensions of entrepreneurial orientation namely; autonomy, innovation, risk-taking, proactiveness and competitive aggressiveness (Dess & Lumpkin, 2005) strongly indicated the existence of entrepreneurial orientation within organisations operating in the South African emerging market context. The order of influence of the dimensions were as follows: (1) innovation, (2) proactiveness, (3) competitive aggressiveness, (4) autonomy, and (5) risk-taking.

Whilst the presence of entrepreneurial orientation within the South African emerging market context was strongly evident from the study results (average standardised estimate of 0.871), it was still slightly moderated by all of its dimensions. This was particularly indicated by certain demographic groups whose opinions were tested as part of the study. It was found that the dimension of autonomy lacked in organisations in the South African emerging market context and was particularly revealed by the demographics of the age group of “51 years and older” as well as managers within smaller organisations. As managers with an undergraduate degree, tended to perceive that their organisations lacked in all dimensions of entrepreneurial orientation, managers with “more than 20 years of work experience”, viewed competitive aggressiveness as an area that their organisations needed to give attention to.

In conjunction, the study found that the dimensions of corporate innovation namely; management support, work discretion, rewards and reinforcements, time availability and flexible organisation boundaries (Kuratko et al., 2014) indicated the existence of corporate innovation within organisations operating in the South African emerging market context. The order of influence of the dimensions were as follows: (1) top management support, (2) work discretion, (3) rewards and reinforcements, (4) time availability, and (5) flexible organisational boundaries.

In terms of corporate innovation, the results of the study revealed an average standardised estimate of 0.772. This indicated a medium presence of corporate innovation in organisations operating within the South African emerging market context. The strength of the presence of corporate innovation in the South African emerging market context was strongly moderated by all of its dimensions. The demographic of gender indicated that female managerial respondents identified areas of work discretion and rewards and reinforcements as areas that disadvantaged corporate innovation. Work discretion was also an area of concern of middle management managers. In the age categories "31-40-year olds" and "41-50-year olds" it was revealed that limited time is available to devote to corporate innovation activities. Middle management also exposed that time was a limiting factor in engaging in corporate innovation activities. In smaller organisations, operating in the South African emerging market context, managers exhibited that they did not receive top management support for corporate innovation. This lack of support from top management was corroborated by managers that belonged to the middle management sector, as well as those who were in possession of an undergraduate degree.

The above findings are tabulated as follows:

Table 59: Principle findings of the moderating factors of corporate entrepreneurship at an organisational level in the South African emerging market context

	Corporate Entrepreneurship	
Moderating Factors	**Entrepreneurial Orientation**	**Corporate innovation**
Autonomy	•	
Innovation	•	
Risk-taking	•	
Proactiveness	•	
Competitive aggressiveness	•	
Top management support		•
Work discretion		•
Rewards/reinforcements		•
Time availability		•
Flexible organisational boundaries		•

Therefore, from the above table, it is clearly evident that although the study revealed that corporate entrepreneurship exists within organisations in the South African

emerging market context. The study also showed evidence that, within each antecedent of corporate entrepreneurship, all dimensions were identified as areas of development in the field of corporate entrepreneurship.

7.3. Implications and Recommendations for Managers

This study focused on the important business practice of corporate entrepreneurship as a core competency required for business growth and entrepreneurial thinking within organisations in the South African emerging market context. Corporate entrepreneurship was recognised as a strategy to develop core capabilities, required within organisations for business innovation (Morris et al., 2010). Furthermore, it identified entrepreneurial orientation (Anderson et al., 2009; Dess & Lumpkin, 2005; Morris et al., 2010) and corporate innovation (Knight, 1987; Kuratko et al., 2014; Zahra, 1991) as antecedents for corporate entrepreneurship and corporate entrepreneurial strategy.

This study provided a basis for determining the existence of corporate entrepreneurial tendencies of organisations within the South African emerging market context such that it contributed to an extended the body of knowledge to the field of corporate entrepreneurship and corporate entrepreneurial strategy. Morris et al. (2010) explained that managers are leaders within organisations who needed to be aware of the state of the entrepreneurial nature of their organisations. It was articulated further in Morris et al. (2010) that this was essential in the business setting as managers are in positions of strategic decision making.

In an era when markets are becoming increasingly dynamic (Kuratko et al., 2014), competitive strategies are required to navigate through turbulent economic settings and demanding cycles of national and international markets. As decision-makers, it was categorically required that managers understand the complexity of an organisation’s interaction with the external environment. The management role in this process was acknowledged as a critical enabler for adopting entrepreneurial and innovative ways, such that the adaptability and agility of organisations are developed (Platin & Ergun, 2017).

This study population was specifically limited to managers at different levels, within organisations in the South African emerging market context, thus there were conflicting views regarding the entrepreneurial tendencies and corporate innovation propensities of organisations. As statistically significant differences were identified amongst all dimensions of entrepreneurial orientation and corporate innovation, top management must ensure that due consideration and strategic effort is employed to mediate in all dimensional areas of entrepreneurial orientation and corporate innovation. This will ensure that organisations within the South African emerging market context are enabled to become entrepreneurial and innovative, such that they are aligned and equipped to the changing dynamics of the external market environments.

This study substantiated the view of authors Bhardwaj, Sushil, and Momaya (2007), who expressed that managers play an integral role in the cultivation of an entrepreneurial and innovative culture. The fact that top management support was identified as areas of concern amongst specific demographics of the study population authenticated that top management must play a more significant role in supporting corporate innovation activities. In line with Kuratko et al. (2014), it is imperative that senior managers give attention to improved work methods and encourage the extraction of ideas from the employees within the organisation. This is validated by Knight (1987) who suggested that organisations engage their human capital for innovative ideas.

Employee engagement for entrepreneurial orientation and corporate innovation is also a critical driver for organisational success. Rewards and reinforcements is a particular dimension that requires consideration from top management in order to encourage the pursuance of new ideas and engagement with projects to support corporate entrepreneurship. It is therefore important that top managers intervene in this regard. This required intervention is supported by the literary works of Kassa and Raju (2015), who identified rewards and reinforcements as critical to enable employee engagement towards corporate entrepreneurship.

As per the Global Competitiveness Report (2018), it is evident that the South African economy, as an emerging market, is continually challenged due to the countries socio-economic issues. Micro organisations are part of the small, micro and medium enterprises group of business and are the economic driving force of countries, especially those of emerging markets (Alonso & Bressan, 2016). Therefore, much emphasis has been placed on small, medium and micro organisations to raise their potential to produce employment opportunities in order to help overcome the challenges faced by the economy. This study showed that both entrepreneurial orientation and corporate innovation was lacking within small, medium and micro organisations in the South African emerging market context. It is therefore incumbent upon top management in these enterprises to support and foster an entrepreneurial an innovative culture, which will enhance and grow these organisations, thus ultimately contributing to the growth of the economy (Kuratko, 2009).

Hornsby, Kuratko, Shepherd and Bott (2009), also studied the perceptions of managers at different levels within the organisation. It was found that managers at higher levels did not necessarily notice the lack of innovative tendencies within their organisations, as they themselves were decision makers and strategy formulators. This study revealed that middle managers identified the dimensional areas of work discretion, time availability and top management support as disablers for them to act entrepreneurially towards innovation, in the South African emerging market context. This demands that top management pay significant attention to biases and blind spots as alluded to in Hornsby et al. (2009) and give attention to the areas of concern highlighted by middle managers. This will enable top management to carry out and effect decision-making, as well as allow for the development of competitive corporate entrepreneurial strategies to assist their organisations.

7.4. Limitations of this study

There were a few limitations that were associated with this study. The demographics regarding the size of the organisations were unevenly distributed and not particularly representative of organisations within the South African emerging market context. Large organisations were represented by 77% of the respondents, whilst small organisations were represented by 10.3% of the respondents. 12.7% of the

respondents represented medium and micro-organisations. By having such a big representation skewed towards large organisations, the resultant perceptions were not representative of the general South African business environment. Although the respondents typically represented organisations from the majority of industries within the South African emerging market context, a more representative distribution of the respondent set, to embody the approximate percentage distribution of large, small, medium and micro organisations, would have generated more characteristic and accurate results.

Due to time constraints, this study employed a single method of research which was quantitative in nature. A mixed-methodology approach would have given more depth and understanding towards the results of the study. The study was also cross-sectional in nature. Being a cross-sectional study, the investigation could only attain data from participants at a specific period. This study could therefore not give a clear picture on the actual tendencies of the organisational environment over a considerable time-frame (Saunders & Lewis, 2018). To this effect no conclusions can be made about causality (Unger, Rank & Gemunden, 2014). A longitudinal study would have allowed for repeated observations over a longer period of time, thereby, providing further understanding on the differences and variabilities associated with the demographics and its effects on the dimensions of entrepreneurial orientation and corporate entrepreneurship.

Although this study was limited to managers, in organisations doing business in the South African emerging market context, it would have been ideal to single out a specific group of managers (middle management as an example), which could have been used as a control variable (Unger et al., 2014). This was a further limitation in this study. The respondent managers included those in senior and executive management. Senior and executive managers are often the decision-makers. There is a possibility that they may have had specific biases relating to their managerial capacities, when answering the questions for this study.

Furthermore, although the CEAI (Kuratko et al., 2014) and the issues to consider questionnaire from Dess and Lumpkin (2005) were employed as tried and tested research instruments, it has not been extensively tested, previously within the South

African emerging market context. It is therefore a likelihood that some of the questions that tested the responses of managers within organisations of the South African emerging market context, may have been inappropriate and non-applicable for the South African organisational setting.

7.5. Suggestions on theory and future research

This study laid a foundation for the managerial perspective on the practice of corporate entrepreneurship at an organisational level in the South African emerging market context. The lack of research in this field of study, especially within the emerging market context, renders it imperative that follow-on research is conducted.

This study was limited to the empirical testing of the two antecedents identified within the literature, namely; entrepreneurial orientation and corporate innovation as constructs for corporate entrepreneurship. A more in-depth study of the literature could be undertaken. This may result in the identification of additional antecedents for corporate entrepreneurship that could be investigated to further enhance the field of corporate entrepreneurship.

There were moderating factors highlighted within this study that could be identified as opportunities for further exploration and research within the area of corporate entrepreneurship. These identified opportunities represent the dimensional areas of each construct investigated in this study. Further research could focus on specific dimensions, investigating and exploring its contribution to corporate entrepreneurship. Since rewards and reinforcements were identified as a strong moderator in the strength of corporate innovation in this study, it is a strong contender as a dimensional example that could represent a key consideration for future research. This study also recognised and highlighted the importance of top management support as a crucial dimension in creating an entrepreneurial culture for corporate innovation. Further studies focusing on this dimension will also enhance the field of corporate entrepreneurship in the South African emerging market context.

South Africa itself, as a dynamic emerging market with all of its challenges, presents additional opportunities for further research in the field of corporate entrepreneurship.

Future studies could consider the socio-economic challenges that potentially affect organisations in South Africa, in their quest to practise corporate entrepreneurship. In doing so, the effect of corporate entrepreneurship practise towards firm growth and performance in South Africa could also be investigated.

This study was limited to the South African emerging market context. Future studies could explore corporate entrepreneurship in other emerging markets within the African context. A follow-on study could test managerial opinion in other emerging markets identified in Africa, thus allowing for a comparative analysis with the results obtained in this study for South Africa.

7.6. Conclusion

This research was based on the platform of corporate entrepreneurship and focused specifically on corporate entrepreneurship at an organisational level within the South African emerging market context. Corporate entrepreneurship was identified as a relevant area for managers in any organisational setting to strategically enable an organisation's survival amidst the demands and challenges of the harsh realities of changing economic scenarios.

In this study, the presence of corporate entrepreneurship was confirmed through the indication of its antecedents in entrepreneurial orientation and corporate innovation. In doing so, it contributed to the extension of the body of knowledge for corporate entrepreneurship particularly in an emerging market context, with South Africa as the geographical setting and test environment.

The study further established and embedded the ability and competency of organisations within the South African emerging market context to develop corporate entrepreneurial strategies through corporate entrepreneurship practise. The ability to develop corporate entrepreneurial strategy will further enhance an organisation's ability to display resilience through the economic challenges associated with emerging markets.

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Appendices

Appendix A – Quantitative Survey Questionaire

Source: Dess and Lumpkin (2005) ; Kuratko, Hornsby and Covin (2014)

1	**Testing Entrepreneurial Orientation**					
		Strongly Agree	**Agree**	**Not Sure**	**Disagree**	**Strongly Disagree**
		5	**4**	**3**	**2**	**1**
	Testing Autonomy					
1	Does your firm consider developing independent work units such as “skunkworks” to enhance creative thinking?					
2	When using autonomous work units, does your firm ensure adequate coordination to minimize inefficiencies and duplication of efforts?					
3	Does your firm have a proper balance between patience and tolerance for autonomous groups and the forbearance to reduce or eliminate initiatives that are not succeeding?					
3	Does your firm implement necessary structural changes such as small, autonomous groups to stimulate new ideas?					
5	Does your firm foster the necessary culture, rewards, and processes to support product champions?					
		Strongly Agree	**Agree**	**Not Sure**	**Disagree**	**Strongly Disagree**
		5	**4**	**3**	**2**	**1**
	Testing Innovativeness					
6	Does your firm encourage and stimulate technological, product-market, and administrative innovation?					
7	How does your firm stimulate creativity and experimentation?					

8	Does your firm properly invest in new technology, R&D, and continuous improvement?					
9	Are your firm's innovative initiatives hard for competitors to successfully imitate?					
10	Does your firm "safeguard" investments in R&D during difficult economic periods or are they generally the first area where significant cuts are made?					
		Strongly Agree	**Agree**	**Not Sure**	**Disagree**	**Strongly Disagree**
		5	**4**	**3**	**2**	**1**
	Testing Proactiveness					
11	Does your firm continuously monitor trends and identify future needs of customers and/or anticipate future demand conditions?					
12	Does your firm strive to be a "first mover" to capture the benefits of being an industry pioneer?					
13	Is your firm aware of the downside of being a first mover, such as customer resistance to novel ideas and bearing the costs associated with unforeseen technological problems?					
14	Does your firm effectively use the following methods to act proactively: introducing new products and technologies ahead of the competition and continuously seeking out new product or service offerings?					
		Strongly Agree	**Agree**	**Not Sure**	**Disagree**	**Strongly Disagree**
		5	**4**	**3**	**2**	**1**
	Testing Competitive Aggressiveness					
15	Does your firm effectively use an aggressive posture to combat industry trends that may threaten your survival or competitive position?					
16	Does your firm enhance its competitive position by entering markets with drastically lower prices, copying the business practices or techniques of successful competitors, or making timely announcements of new products or technologies?					

17	Does your firm know when it is in danger of acting overly aggressive and avoid such actions which can lead to erosion of firm reputation and retaliation by competitors?					
		Strongly Agree	**Agree**	**Not Sure**	**Disagree**	**Strongly Disagree**
		5	**4**	**3**	**2**	**1**
	Testing Risk-taking					
18	Does your firm foster and encourage a proper level of business, financial, and personal risk-taking?					
19	Does you firm enhance its competitive risk position by researching and assessing risk factors in order to minimize uncertainty?					
20	Does your firm enhance its competitive risk position by applying techniques and processes that have worked in other domains?					
21	Overall, does your firm carefully manage risks and avoid taking actions without sufficient forethought, research, and planning?					

	Testing Corporate Innovation					
		Strongly Agree	**Agree**	**Not sure**	**Disagree**	**Strongly Disagree**
		5	**4**	**3**	**2**	**1**
	Top management support for corporate entrepreneurship					
22	My organization is quick to use improved work methods.					
23	My organization is quick to use improved work methods that are developed by workers.					
24	In my organization, developing one's own ideas is encouraged for the improvement of the corporation.					
25	Upper management is aware and very receptive to my ideas and suggestions.					

26	A promotion usually follows from the development of new and innovative ideas.					
27	Those employees who come up with innovative ideas on their own often receive management encouragement for their activities.					
28	The ‘‘doers on projects’’ are allowed to make decisions without going through elaborate justification and approval procedures.					
29	Senior managers encourage innovators to bend rules and rigid procedures in order to keep promising ideas on track.					
30	Many top managers have been known for their experience with the innovation process.					
31	Money is often available to get new project ideas off the ground.					
32	Individuals with successful innovative projects receive additional rewards and compensation beyond the standard reward system for their ideas and efforts.					
33	There are several options within the organization for individuals to get financial support for their innovative projects and ideas.					
34	People are often encouraged to take calculated risks with ideas around here.					
35	Individual risk takers are often recognized for their willingness to champion new projects, whether eventually successful or not.					
36	The term ‘‘risk taker’’ is considered a positive attribute for people in my work area.					
37	This organization supports many small and experimental projects, realizing that some will undoubtedly fail.					
38	An employee with a good idea is often given free time to develop that idea.					
39	There is considerable desire among people in the organization for generating new ideas without regard for crossing departmental or functional boundaries.					
40	People are encouraged to talk to employees in other departments of this organization about ideas for new projects.					
		Strongly Agree	**Agree**	**Not sure**	**Disagree**	**Strongly Disagree**
		5	**4**	**3**	**2**	**1**

	Work discretion					
41	I feel that I am my own boss and do not have to double check all of my decisions with someone else.					
42	Harsh criticism and punishment result from mistakes made on the job.					
43	This organization provides the chance to be creative and try my own methods of doing the job.					
44	This organization provides the freedom to use my own judgment.					
45	This organization provides the chance to do something that makes use of my abilities.					
46	have the freedom to decide what I do on my job.					
47	It is basically my own responsibility to decide how my job gets done.					
48	I almost always get to decide what I do on my job.					
49	I have much autonomy on my job and am left on my own to do my own work					
50	I seldom have to follow the same work methods or steps for doing my major tasks from day to day.					
		Strongly Agree	**Agree**	**Not sure**	**Disagree**	**Strongly Disagree**
		5	**4**	**3**	**2**	**1**
	Testing rewards and re-inforcement					
51	My manager helps me get my work done by removing obstacles and roadblocks.					
52	The rewards I receive are dependent upon my innovation on the job.					
53	My supervisor will increase my job responsibilities if I am performing well in my job.					
53	My supervisor will give me special recognition if my work performance is especially good.					
55	My manager would tell his/her boss if my work was outstanding.					
56	There is a lot of challenge in my job.					

		Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
		5	4	3	2	1
	Testing time availability					
57	During the past three months, my workload kept me from spending time on developing new ideas.					
58	I always seem to have plenty of time to get everything done.					
59	I have just the right amount of time and workload to do everything well					
60	My job is structured so that I have very little time to think about wider organizational problems.					
61	feel that I am always working with time constraints on my job.					
62	My co-workers and I always find time for long-term problem solving.					
		Strongly Agree	**Agree**	**Not sure**	**Disagree**	**Strongly Disagree**
		5	**4**	**3**	**2**	**1**
	Testing organisational boundaries					
63	In the past three months, I have always followed standard operating procedures or practices to do my major tasks.					
64	There are many written rules and procedures that exist for doing my major tasks.					
65	On my job I have no doubt of what is expected of me.					
66	There is little uncertainty in my job.					
67	During the past year, my immediate supervisor discussed my work performance with me frequently.					
68	My job description clearly specifies the standards of performance on which my job is evaluated.					
69	I clearly know what level of work performance is expected from me in terms of amount, quality, and timelines of output.					

Appendix B – Ethics Approval

Gordon Institute of Business Science
University of Pretoria

06 September 2020

Malini Pillay

Dear Malini

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

You are therefore allowed to continue collecting your data.

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

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

Kind Regards

GIBS MBA Research Ethical Clearance Committee