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Wits Business School

University of the Witwatersrand

Master of Management in Entrepreneurship and New Venture Creation

The empirical relationship between Entrepreneurial Intensity and market share concentration in the South African Life Insurance Industry

By

Dini Nondumo

(1690551)

Supervisor: Dr McEdward Murimbika

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

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ABSTRACT

The market share of the top five companies moved from 73% to 82% over a five year period (Alagidede and Mangenge, 2015; Report Buyer, 2016). This study aimed to investigate South African life insurance companies' corporate entrepreneurship levels and more specifically the relationship between entrepreneurial intensity, entrepreneurial orientation innovation and corporate entrepreneurship. Through empirical research, the study looks to see if these variables are correlated or associated with the life insurance companies' market share.

The empirical research was instigated through quantitative research conducted through survey questionnaires disseminated to the employees of life insurance companies. The quantitative research approach was applied to the study with the intention of focusing on gathering numerical data and generalizing it across a wide spectrum of relevant participants and stakeholders within the South African life insurance industry, in an attempt to explain the phenomenon of entrepreneurial intensity in relation to market share concentration

The research projected that the reason for this high concentration may be attributed to low levels of entrepreneurial intensity within life insurance companies and affirm that there was an association between entrepreneurial intensity and the market share. The research sought to confirm these assumptions by conducting empirical research into the entrepreneurial orientation innovation and corporate entrepreneurship levels within South African life insurance companies. The results from this empirical research conclude that companies are not necessarily embracing or applying the principles of entrepreneurial intensity to the extent one may expect them to.

Literature has indicated that the determinants for market demand could play a significant role in understanding the fundamentals of how the South African life insurance market share may be grown. Further research should look into the possible correlation between disruptive innovations and market share growth and diversification in the South African life insurance industry.

Keywords: Entrepreneurial Intensity, Entrepreneurial Orientation, Innovation, Corporate entrepreneurship, Entrepreneurship, Life Insurance, Market Share Concentration.

DECLARATION

I declare that this research report is my unaided own work except where indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management in Entrepreneurship and New Venture Creation at the Wits Business School, Faculty of Commerce, Law and Management, University of the Witwatersrand, Johannesburg. This research report has not been submitted before for any degree or examination in this or any other university.



Mr. Dinilesizwe Nondumo

On this 20th day of February 2018

DEDICATION

To my beautiful loving powerhouse of a wife Karabo, you are my unremitting inspiration to being the best version of me I can be. Thank you for your love and support through the long nights and “single parenting” weekends. Without you, this paper would have been an impossible task. To my two sons Avumile and Leungo, you guys are my real-life superheroes. I hope you never stop dreaming big. Through you, I can see that anything is conquerable, including this Masters.

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To my many fellow industry insurance executive colleagues and friends who took time out of their extremely busy schedules to assist me with establishing contacts with your human resource executives. To all the HR executives who assisted me with my continuous requests and urgent time-frames, thank you for your support and patience. Without you the research would have never been possible.

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CHAPTER 1. INTRODUCTION

1.1 Purpose of the study

The purpose of this research is to ascertain the level of entrepreneurial intensity within South African life insurance companies. The study also seeks to learn the level of entrepreneurial orientation within the South African Life insurance industry. Subsequently, the study will determine the association between the entrepreneurial intensity, entrepreneurial orientation, corporate entrepreneurship and market share.

1.2 Context of the study

In South Africa (SA) the regulatory and oversight body providing the regulatory framework for all insurance companies is the Financial Services Board or FSB (Financial Services Board, 2015). There are two pieces of legislation that govern insurers, dictating their license parameters; namely the Short-Term Insurance Act No. 53 of 1998 and the Long Term Insurance Act No. 52 of 1998 (Short Term Insurance Act 1998, 1998; Long Term Insurance Act 1998, 2014). Life insurers fall under the Long Term Insurance Act (Long Term Insurance Act 1998, 2014).

South Africa has the highest insurance penetration rate in Africa sitting at 14% of the population, immediately followed by Namibia at 7% (KPMG SA, 2016). The life insurance market in South Africa has a premium value of R485 610 581 000 (FSB, 2016). Financial markets development has a positive effect on life insurance demand and life insurance penetration in Sub-Sahara Africa as a region (Iyawe and Osomwonyi, 2017). “The majority of end-users in South Africa are (Living Standards Measure) LSM 9 and 10, which explains the high revenue per head for this industry” (The South African life insurance industry, 2016, p. 1).

The 2016 Report Buyer survey report found that 82.8% market share resided amongst the top five (5) life insurance companies, out of 84 registered life insurers (Report Buyer, 2016). Alagidede and Mangenge in their 2015 article found that out of a total of 78 registered long term insurers in South Africa in 2013, the top five (5) companies accounted for 73% of the total market share by assets under management (Alagidede and Mangenge, 2015).

Globally managers of large organisations instinctively know that innovation is an assured way of separating their organisation from the competition (Kim and Mauborgne, 1999; Kuratko, Hornsby and Hayton, 2015). John Cusano, a Senior Managing Director of Global Insurance at Accenture, in his June 2016 article emphasised how huge a market the global insurance market was with $5 trillion in gross written premium (GWP) and assets under management moving towards $15 trillion (Cusano, 2016). Cusano also noted that insurance lagged other sectors such as banking, in adopting digital technology (Cusano, 2016). He also states that insurance companies around the world will have to increase their investment in innovation if they want to lure a wider customer base and ward off competition (Cusano, 2016).

Some of the arguments for life insurers having not made radical innovation inroads are due to them not receiving too much pressure from the lower-end markets they service, for whom they are still developing models and approaches (Oudinot, 2017). For the higher-end market however, which is where the highest penetration is in the South African context, the high quality of life insurance products is no longer sufficient for growth and life insurance product acquisition (Oudinot, 2017). The market is actively demanding elements such as the interface between the life insurers and customers be more interactive and dynamic (Oudinot, 2017). Insurers have to make it easier for people to buy and interact with life insurance products and provider, opening a gap in the market for disruptors to come in and service the market in the manner they wish to be serviced (Oudinot, 2017).

1.3 Problem statement

1.3.1 *Main problem*

Ascertain the levels Entrepreneurial Orientation and Entrepreneurial Intensity in the South African Life Insurance sector in relation to the insurers' market share sizes, measured by annual Gross Written Premium.

1.3.2 *Sub-problems*

The **first sub-problem** is to determine the levels of entrepreneurial intensity and more specifically innovation within the life insurance sector as a whole.

In order to achieve certain levels of growth, businesses are required by their shareholders and stakeholders to be innovative, proactive and to act with an increased risk propensity due to the hypercompetitive economic environment demands within which they operate (Covin and Slevin, 1991). These are the three dimensions of entrepreneurial orientation (EO), which stimulate entrepreneurial intensity (Wales, 2015). Sustainability and higher earnings or wealth growth ability are the primary objectives of EO (Covin and Slevin, 1991). This reaffirms Oudinot's findings that without pro-active innovation, key dimensions of EO, the ability for life insurers to grow effectively and sustainably, is limited (Oudinot, 2017).

The **second sub-problem** is to establish the levels of corporate entrepreneurship within life insurance companies, placing particular attention on the domain of Strategic Corporate Entrepreneurship focusing on internal organization processes, capabilities and structures.

Large businesses need to promote an internal culture of new ideas identification and incubation in order to motivate and enable their employees to create a competitive advantage within the industry within which they operate (Murimbika, 2011).

1.4 Significance of the study

According to Joseph Alois Schumpeter and cited in Sledzik's article "…carrying out innovations is the only function which is fundamental in history." (Śledzik, 2013, p. 89).

This research hopes to further argue innovation as being one of the key agents leading to successful entrepreneurship within a corporate context. Innovation is the creative disruption of an existing equilibrium within the economy of specific sectors (Śledzik, 2013). If innovation is the outcome or birth-child of entrepreneurial intensity, then corporate entrepreneurship has to be seen as the womb within which this innovation is conceived and eventually birthed from. Utilizing this analogy, this research will also assess the levels of corporate entrepreneurship within SA life insurance companies. South Africa has a very advanced financial services sector and revered globally for its level of sophistication (Alagidede and Mangenge, 2015; KPMG, 2016). Additional insight into what companies, specifically in the long term insurance sector can do to increase market share and grow the sector further, will

be useful to the industry at large. The research findings will contribute to macroeconomic literature on financial development in the insurance sector (Asongu, 2014).

This study should therefore be of invaluable use to South African life insurance companies, and all practitioners or stakeholders within the life insurance sector.

1.5 Delimitations of the study

The research will focus on the South African life insurance industry. Data will be collected and analysed from professionals within the life insurance industry through questionnaires.

1.6 Definition of terms

The Long term insurance act defines a life insurance policy provided by life Insurers as a contract in terms of which a person, in return for a premium, undertakes to;

a) provide policy benefits upon, and exclusively as a result of a life event; or
b) pay an annuity for a period; and
c) includes a reinsurance policy in respect of such a contract (Long Term Insurance Act 1998, 2014)

GWP – Gross Written Premium;

- The Rand value of insurance premium received by an insurer, directly or through an intermediary agent such as a broker. This Rand value is inclusive of all service fees, acquisition costs and commission (Long Term Insurance Act 1998, 2014)

Fintech;

- Fintech is financial technology in the digital age that enables innovation in financial services and markets through technology (Peat, Kelly and Broby, 2017).

InsureTech;

- InsureTech or Insurance Tech is a significant subset of 'Fintech' and covers not only changes to the business of underwriting risk, including providing distribution solutions through the engagement of technology (Peat, Kelly & Broby, 2017).

1.7 Assumptions

The focus of the research is on life insurance providers and their life insurance products supplier businesses only. This means the following insurance sub-sectors and products are excluded from this research:

- Short term insurance products and insurers
- Pension Funds
- Hedge Funds
- Bonds
- Securities and
- Instruments

1.8 Structure of the report

The report is divided into six chapters. Chapter one contains an introduction and a brief reason for the study with the study's aims, objectives and expected outcomes of the study. Chapter two contains a detailed literature review of the main contributors to the debate and an outline of their main findings. At the end of the chapter, the study will summarise the main points of the debate and make brief input on this debate: that is, how my thesis will fit into the existing contributions and how I problematize existing theories and methodologies. Chapter three will focus on the research methodology applied, articulating reasons for choosing the selected methodologies. Chapter four will present the empirical statistical research findings presented in statistical tables format, with appropriate definitions explained where necessary. Chapter five will then provide an interpretation of the results from chapter four, providing linkages to the hypotheses and how their testing resulted. The fifth chapter will then discuss the findings in relation to the literature researched and reviewed for the study, providing either support or falsification of the hypotheses. The final chapter will provide a brief summary of the findings and provide suggestions for any future studies that may shed better light or enhance the topic researched

CHAPTER 2. LITERATURE REVIEW

2.1 Introduction

The word entrepreneur finds its origins in French and means to ‘undertake’ (Venter et al, 2016). Richard Cantillion is credited with having coined the term entrepreneur in the 17th century (Urban, Barreira, Dhliwayo, Luiz and Naudé, 2008). Entrepreneurship as an area of academic interest, emerged in the 1940’s and only in the early 1970’s did it become a literature focus for academics (Urban et al, 2008). The concept of corporate entrepreneurship (CE) has evolved through various scholarly work over the past 40 years (Wales, 2015; Kuratko, Hornsby and Hayton, 2015).

This research will ascertain the levels entrepreneurial intensity, entrepreneurial orientation and strategic corporate entrepreneurship in the South African Life Insurance sector in relation to market share by GWP Written Premium. There are certain critical themes and definitions that need to be expanded on in the research, namely innovation, entrepreneurial orientation and corporate entrepreneurship. This chapter will review and synthesize literature available on these topics.

2.2 Definition of topic

2.2.1 *Entrepreneurial intensity*

As previously stated entrepreneurial intensity (EI) is the extent to which both the degree and amount of entrepreneurship is evidenced within an organization (Ireland, Kuratko and Morris, 2006). When looking at the measurement of EI the contributing constructs are found to be innovativeness, risk taking, frequency of entrepreneurial activities and proactiveness (Chauhan, Prakash and Jain, 2015). For the purposes of this research the constructs of frequency and degree are combined to form our variable called entrepreneurial intensity.

Baoshan and Haohan go further to articulate that the number of times would refer directly to the degree of practical applications of elements such as development of new products, services, processes or businesses (Baoshan and Haohan, 2008). This research is to

researching entrepreneurial intensity by looking at levels of innovation, corporate entrepreneurship and entrepreneurial orientation.

A company's growth performance is directly linked to its levels of EI (Ireland, Kuratko and Morris, 2006). When entrepreneurial intensity within organisations is higher than its industry average, performance is enhanced at both individual and company level (Chauhan, Prakash and Jain, 2015). .

Based on the above researched arguments this study therefore proposes its first hypothesis.

Hypothesis 1:

There is a positive association between South African life insurance companies' market share and entrepreneurial intensity.

2.2.2 *Innovation*

Schumpeter argued that entrepreneurship inherently encompasses the need to derive profits and affect the micro and macro-economic environment within which the entrepreneur plies their trade (Shane and Venkataraman, 2000). Joseph Schumpeter's definition of entrepreneurship focused on the most common theme around entrepreneurship being the role of innovation (Śledzik, 2013). Innovation is the creative disruption of an existing equilibrium within the economy of specific sectors within the economy (Śledzik, 2013).

In William Baumol's 1993 article titled The Entrepreneur in Economic Theory: Entrepreneurship, Management, and the Structure of Payoffs, he cites Schumpeter as having defined the entrepreneur as an innovator (Baumol, 1993). Shane supports Schumpeter's definition of an entrepreneur and entrepreneurship further as being the existence of opportunities exploited through carefully thought out new means in order to achieve a profit (Moroz and Hindle, 2011).

According to the 2015 Bain and Company Inc. Global Digital Insurance Benchmark Report, life insurers had less than an 11% consumer penetration through digital platforms (Bain & Company, 2015). From a survey conducted with 158,000 respondents in 18 countries 79% of all life insurance consumers had indicated they would be willing, were it made available by their insurer, to utilize digital technology platforms to interact with their insurance needs

(Bain & Company, 2015). A growing number of insurance consumers expect a seamless and convenient interaction with their insurance provider from product uptake through to the servicing of the policy (Bain & Company, 2015). The reality on the ground globally in 2015 however, was that only 8% of new life premiums flowed through online or mobile sales channels (Bain & Company, 2015).

Globally life insurers expect their IT/digital spend to increase from 3.8% of revenue in 2014 to 5.5% of revenue by 2019 (Bain & Company, 2015). The SA insurance market is severely lagging behind in investing in insuretech (Cusano, 2016). The global trend of an upswing in investment in insuretech firms is already being seen as having a major impact on the international insurance market (Cusano, 2016).

2.2.3 *Corporate Entrepreneurship*

Within the realm of corporate entrepreneurship the research will only be looking at the domain of strategic corporate entrepreneurship and the processes, capabilities and structure within life insurance organisations.

In seeking growth and market advantage a company is better placed at achieving these if there is a clear strategy in place on how to achieve this (Kuratko, Hornsby & Hayton, 2015). Further to a strategy being in place, a company must deliberately leverage entrepreneurial opportunities through the existence of a corporate entrepreneurship strategy (Kuratko et al, 2015). Corporate entrepreneurship is a process undertaken by a company where they actively leverage the skills and capabilities of their employees to improve the company, through tapping into their innovative skills, also referred to as intrapreneurship (Venter et al, 2016).

In the 1980's corporate entrepreneurship was simply defined as a company's process of organizational renewal (Sathe, 1989). More recent literature has found that organisational renewal can take place in the form of strategic renewal or strategic corporate entrepreneurship (Hornsby, Kuratko, Holt and Wales, 2013). Corporate entrepreneurship is vital for any organisation to be able to gain a strategic competitive advantage within its particular industry (Javalgi et al, 2014). By utilizing innovative skills and capabilities it already possesses through its employees, it fosters an enabling environment for those employees to provide input and contribute (Javalgi et al, 2014).

Corporate entrepreneurship can be achieved through strategic entrepreneurship, which looks to increase an organisation's competitive advantage through a broad assortment of entrepreneurial activities and innovations that are internally adopted by the company (Wales, 2015). Strategic corporate entrepreneurship refers to a broad array of internal entrepreneurial activities that seek to leverage adoption of innovative ideas, in pursuit of competitive advantage, that do not involve the creation of new businesses for the company (Kuratko et al, 2015). With strategic corporate entrepreneurship innovation is driven by the identification of new ideas through an internal organizational review of structure, processes and capabilities (Hornsby et al, 2013). Key to the success of strategic corporate entrepreneurship is assessing a company's readiness for corporate entrepreneurship (Sarooghi, Libaers and Burkemper, 2015; Hornsby et al, 2013). Then thereafter making sure that the strategy is driven from top management down, in order to gain successful adoption from all levels within the company (Sarooghi, Libaers & Burkemper, 2015; Hornsby et al, 2013). Increased and encouraged employee participation leads to an improved record of turning ideas into successful innovative initiatives (Sarooghi et al, 2015). Globally large corporates have understood the need to incorporate their employees in responding to market needs and demands (Bain & Company, 2015).

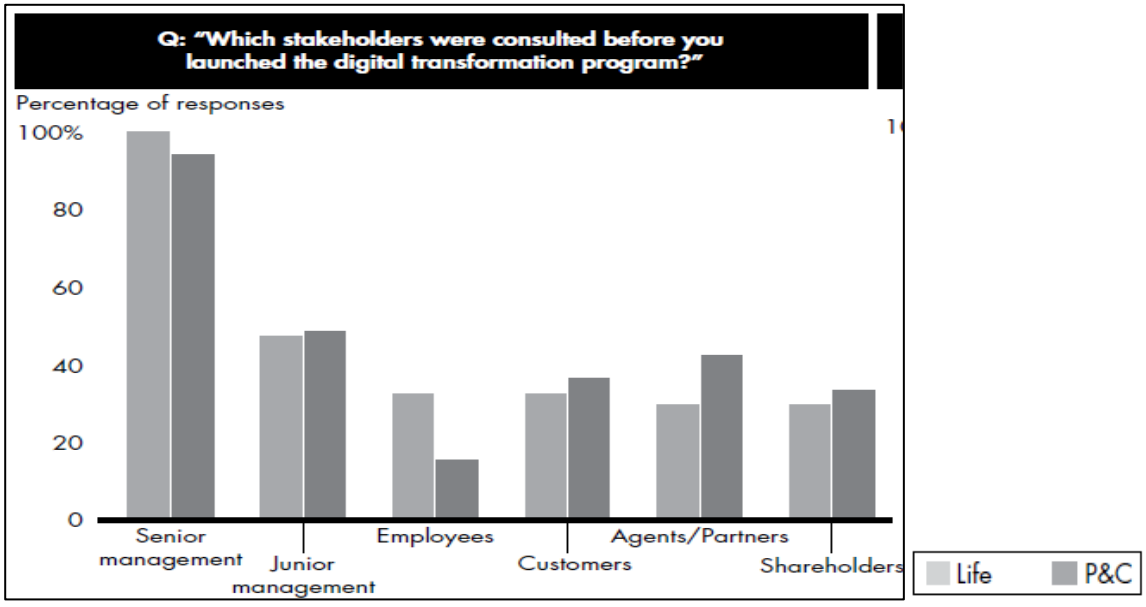


Figure 1: Stakeholder consultation levels before execution of digital transformation programs (Bain & Company, 2015).

The 2016 Report Buyer survey report found that 82.8% market share was spread only amongst the top five (5) life insurance companies out of 84 registered insurers (Report Buyer,

2016). Alagidede and Mangenge in their 2015 article finding that out of a total of 78 registered long term insurers in South Africa in 2013 the top five (5) companies accounted for 73% of the total market share by assets under management (Alagidede and Mangenge, 2015).

Globally managers of large organisations instinctively know that innovation is an assured way of separating their organisation from the competition (Kim and Mauborgne, 1999). The top five (5) insurers would appear to have cemented their market share over a long period. This study seeks to hypothesise, based on previous research that within these top five (5) companies, strategic corporate entrepreneurship innovation has been driven by the identification of new ideas through an internal organizational review of structure, processes and capabilities (Hornsby et al, 2013).

Hypothesis 2:

There is a positive association between the top five (5) South African life insurance company's market share and Corporate Entrepreneurship.

2.2.4 *Entrepreneurial Orientation*

Entrepreneurial orientation (EO) is a company's decision-making practices, internal managerial attitudes and strategic behaviours that are entrepreneurial in nature (Wales, 2015). EO consists of structures, processes and behaviours that are aggressive, innovative, proactive, risk taking or autonomous (Lyon, Limpkin and Dess, 2000). These have come to be known as the dimensions of EO with innovativeness, risk-taking and pro-activeness being accepted as the main three dimensions of EO (Wales, 2015).

When it comes to how best to measure EO there have been several competing views by scholars, with research on the relationship between entrepreneurial behaviour and performance indicating that contingent rather than direct relationships may provide better explanations for a company's outcomes (Lyons et al, 2000). Three common operationalisations of EO are managerial perceptions, entrepreneurial firm behaviour and resource allocations to operationalize strategy concepts (Lyons et al, 2000). Entrepreneurship research uses strategy, structure, decision-making processes and firm performance as variables, which can be obtained from interviews or surveys using questionnaires, in order to assess management perceptions (Lyons et al, 2000). Figure 2

below illustrates how these three operationalisation tools of EO juxtapose with organisational and environmental factors, ultimately impacting on a company's performance.

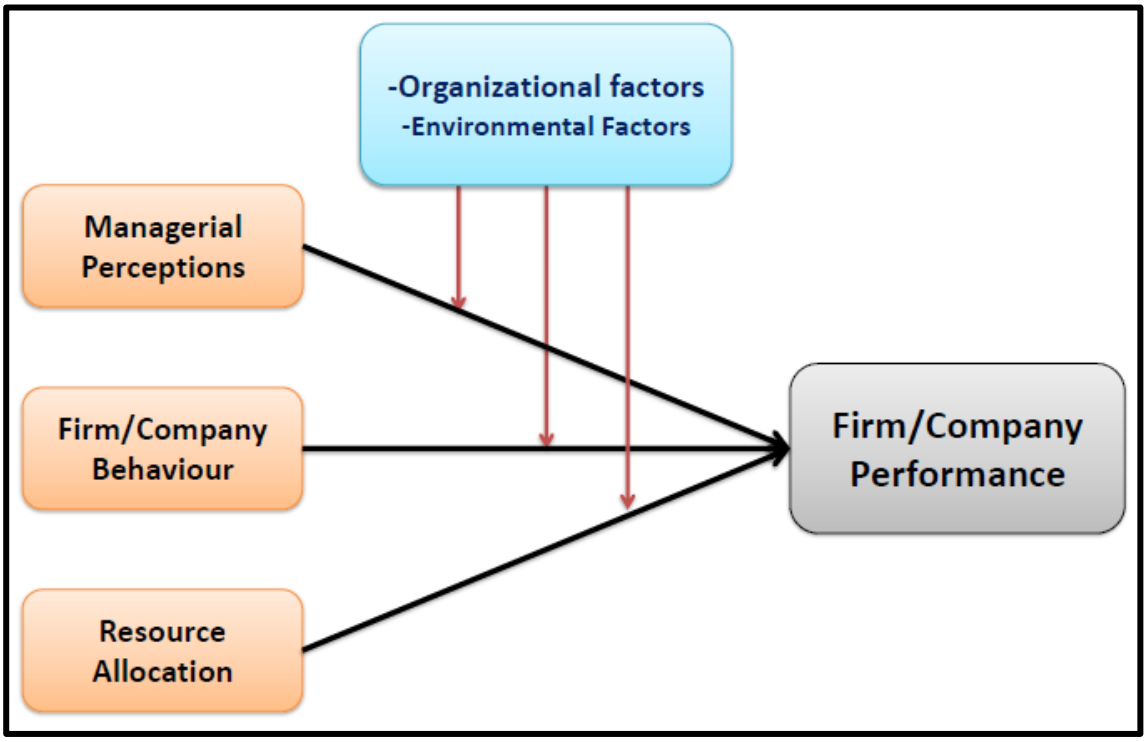


Figure 2: Measurement of Entrepreneurial Orientation Via Contingency Modelling (Lyons et al, 2000)

Creating an environment where employees are encouraged to innovate in their functions is the cornerstone of an effective corporate entrepreneurial strategy (Ireland, Kuratko and Morris, 2006). Developing and implementing a corporate entrepreneurial strategy is undoubtedly an important step companies take in actively creating an environment for employees to engage in entrepreneurial behaviour that will in return actively rejuvenate the organisation (Ireland, Kuratko and Morris, 2006).

EO is part of corporate entrepreneurship and manifests in companies as an organisational state through continuous entrepreneurial processes and behaviours (Ireland, Covin and Kuratko, 2009). Therefore, EO should always be viewed as part of a company's identifiable entrepreneurial strategy evidences through recurring entrepreneurial behaviour (Wales, 2015).

Two broad factors have been used by researchers to describe the types of factors that may influence the EO-to-performance relationship; namely organizational and environmental

factors (Wales, 2015). A company must couple its continued entrepreneurial behaviour with an encouraged managerial disposition toward engaging in indeterminate, entrepreneurial activities over time in order for it to have EO (Wales, 2015).

This research will focus solely on organizational factors being internal contingencies, organization size, structure, strategy and management characteristics, having described the prevailing environmental industry trends in the global and South African insurance market.

Within the South African life insurance (LI) context, this study has looked at the market share movement of life insurers over a period, particularly those falling outside of the top five (5) by market share. Between the 2014 financial year and 2016 year end results Discovery Life grew its revenue, or GWP, from R 2 013 000 000 to R 2 347 000 000 (Discovery, 2016). Discovery has a long-standing annual internal competition called Inspiring Excellence, from which each year an innovation is born (Discovery, 2016). This continued encouragement of employees to come up with innovations is an indicator of an environment with very high levels of EO. Discovery has continued to grow its market share since inception of Discovery Life in 2001, rapidly moving from a start-up business into the top 7 life insurers in 2016 (FSB, 2016).

This study therefore also hypothesises that the key reason for a life insurer's market share growth can be attributed the level of entrepreneurial orientation innovation.

Hypothesis 3:

There is a positive association between the South African life insurance company's market share and Innovation.

2.2.5 *Determinants of life insurance demand*

Before one can fully understand what the life insurance industry market share looks like and translates to in South Africa we need to paint a clear picture of what the key determinants for market demand are. On the basis of their research Li, Moshirian, Nguyen and Wee found eight socioeconomic characteristics and market conditions that could affect the demand for life insurance in Organisation for Economic Co-operation and Development (OECD) countries (Li, Moshirian, Nguyen & Wee, 2007). Although South Africa is not an official OECD

member country, in May 2007 the OECD Ministerial Council strengthened OECD's co-operation with South Africa (OECD, 2007). Adopting a resolution, through a process of heightened interaction, officially making South Africa one of five key partners contributing to their work (OECD, 2007).

The factors that could affect demand are identified as disposable income, life expectancy, number of dependents, level of education, social security expenditure, financial development, foreign market share, anticipated inflation, and real interest rates (Li et al, 2007). The factors below are those that need to be highlighted for the purposes of this research.

- Disposable income - A higher income results in a greater loss of efficacy for the dependents in the event of the income earner's death (Li et al, 2007). Increasing the value of life insurance cover and therefore contributing to the positive relationship between income and life insurance acquisition (Li et al, 2007).
- Level of education – A higher level of education is argued to result in a greater awareness and appreciation of life's uncertainties therefore highlighting the benefits of life insurance (Li et al, 2007). The level of education is also closely associated with the duration of children's dependency, resulting in an increased need to protect those beneficiaries through life insurance (Li et al, 2007).
- Number of dependants – The demand for life insurance increases with the expected value of the dependents' lifetime consumption (Lewis, 1989). Which then increases with the number of dependents, creating a greater need to safeguard these dependents against the premature death of the breadwinner (Lewis, 1989).
- Social security expenditure – The higher a countries social security expenditure the lower the demand for life insurance, as this is seen to replace the need for life insurance resulting in a negative relationship (Li et al, 2007).
- Financial development – Financial development is associated with an increased cash flow security, leading to greater financial security and a need to secure future financial assets of which a life insurance policy is one of (Outreville, 1996).

Data findings from research conducted in China has shown that the main factors influencing people's purchase life insurance products in China are directly concomitant with economic reform, leading the population progressing to higher levels of economic security, an increase in their levels of education and a change in social structure (Hwang and Gao, 2003).

In the South African context the same deductions can be made with regard to the relationship between demand for life insurance and the above mentioned socio-economic factors. According to Statistics South Africa's annually published population and economics statistics, the unemployment rate in South Africa has been steadily rising over the past 10 years with unemployment sitting at 27.7% in June 2017 (see Figure 5; Statistics South Africa [StatsSA], 2017). The high level of unemployment therefore speaks to a lack of disposable income availability to a large part of the population. In South Africa there is a potential labour force of 32.7 million employable people between the ages of 15 and 64 (StatsSA, 2017). There is only 43.3% of the population that's employed and economically active, therefore having the potential to generate disposable income (StatsSA, 2017). The unemployment trend is visually displayed in the below figure (StatsSA, 2017). The insurance industry can only draw market participants from these economically active members of society, which explains the low market penetration rate of 14% (KPMG, 2016).

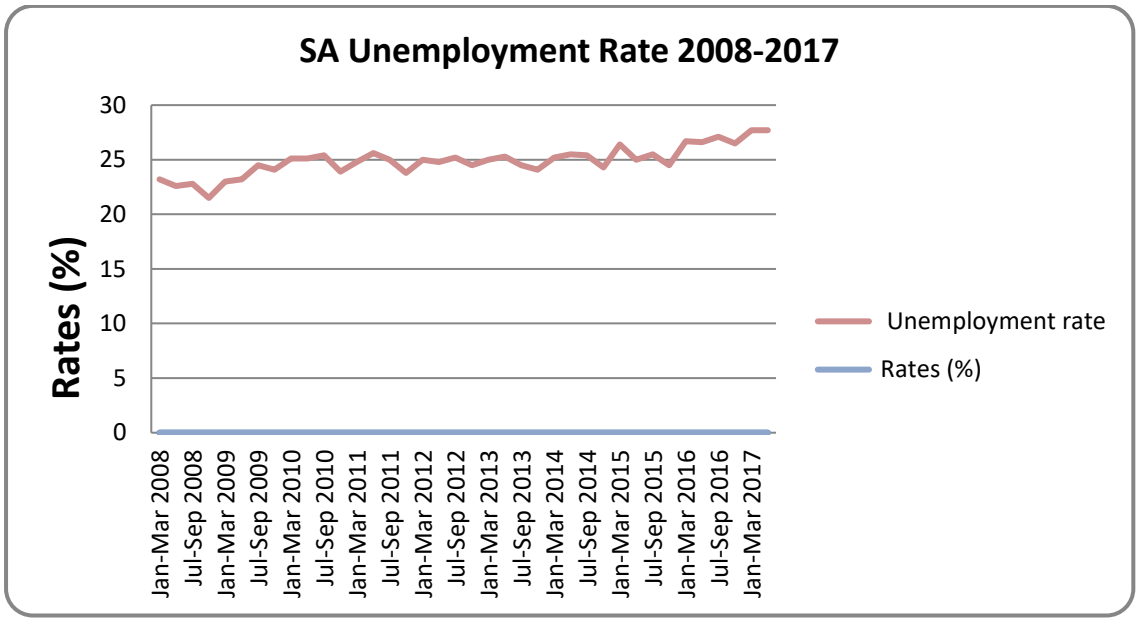


Figure 3: South Africa Unemployment Rate (StatsSA, 2017)

Dependency on social security has been increasing steadily over the past 5 years, as demonstrated in the below figures four (4) and five (5) from the South African Social Security Agency, with social grant recipients totalling 17.3 million in July 2017 (South African Social Security Agency, 2017). This figure of 17.3 million translates to 31% of the population depending on social security support in a country that has an estimated total population of 56.5 million people according to StatsSA data to end June 2017 (StatsSA, 2017).

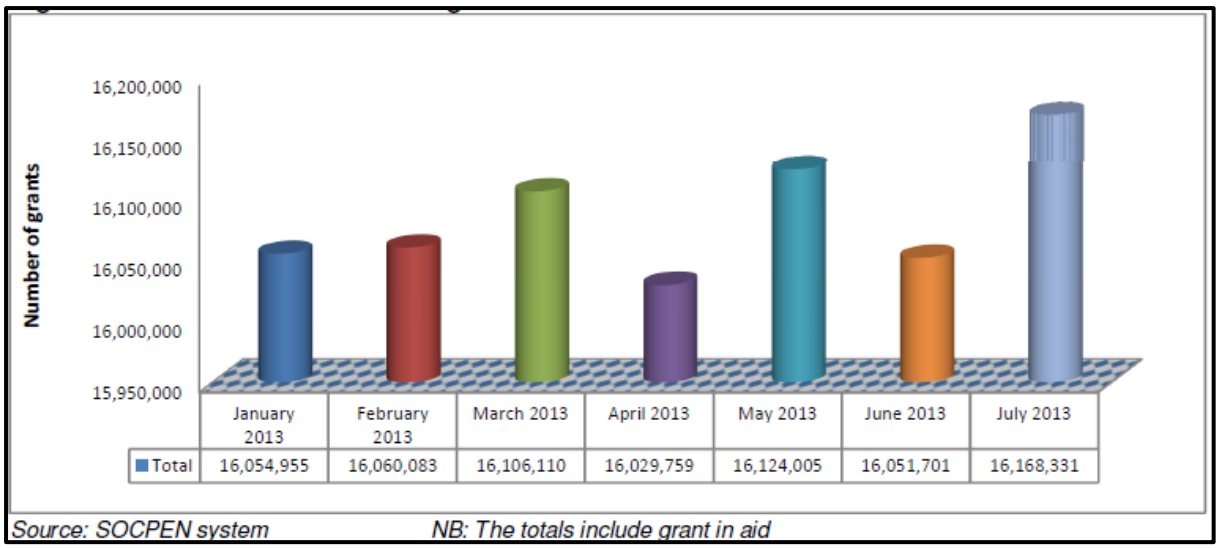


Figure 4: Trend of social grants from January to July 2013 (SASSA, 2017).

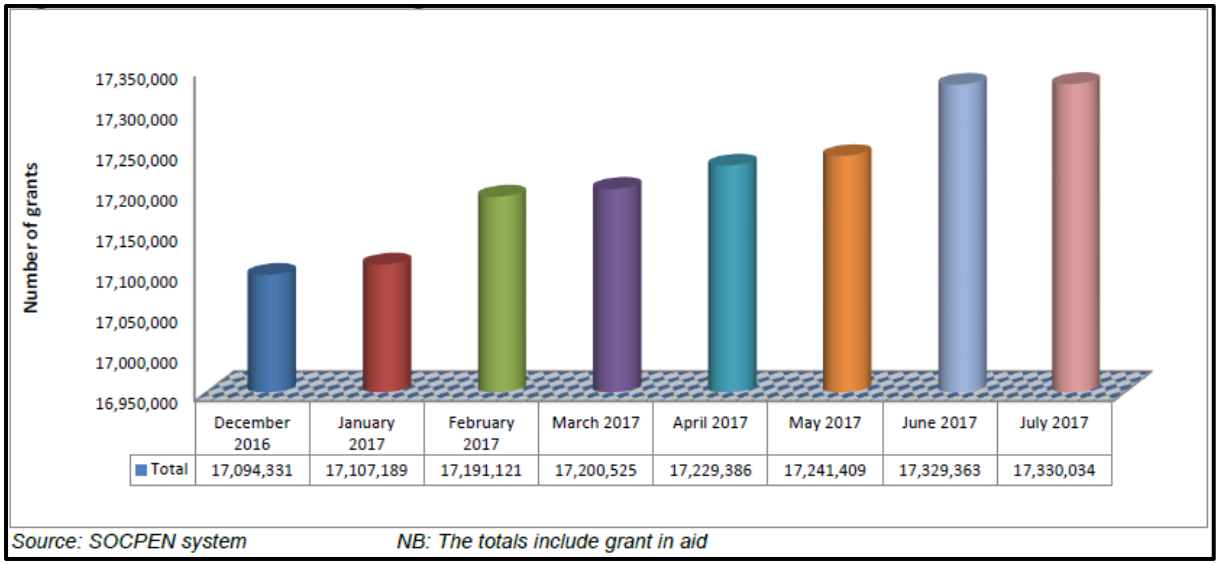


Figure 5: Trend of social grants from January to July 2017 (SASSA, 2017)

The only real movement in market share in the life insurance industry has come from non-organic growth or mergers and acquisitions due to the highlighted data above (KPMG, 2016). Therefore, one could conclude that the only prospects of growing market share would have to come from innovation, strategic corporate entrepreneurship and increased levels of entrepreneurial intensity within the life insurance industry organisations.

2.3 Conclusion of Literature Review

The concept of an entrepreneur also applies to companies and large organisations that seek to derive economic benefit from trading (Shane and Venkataraman, 2000). Companies that strive to better their offerings (Baumol, 1993) and enhance their market share, both as individual companies and as a sector/industry, need to apply the theories of corporate entrepreneurship and innovation within their organisations in order to grow market share (Javalgi et al, 2014). A company's EO is an important and fundamental driver of organizational change (Wales, 2015). Companies have to be cognisant of EO consisting of processes, structures and behaviours that are innovative (Wales, 2015). Innovativeness refers to attempts by a company to embrace creativity, experimentation, novelty and technological leadership, to name a few, in both products and processes (Wales, 2015).

The market share concentration of the industry moved from 73% to 82% over a 5-year period (Alagidede and Mangenge, 2015; Report Buyer, 2016). The 2016 PWC insurance report highlights that as a result of the prevailing market conditions, life insurers in South Africa are going to have to move away from conducting business in the same ways as before and find new ways to achieve growth through disruptive innovations such as Fintech (PWC, 2016). Internationally life insurers who continue to stay at the forefront of innovation appear to be applying the fundamental principles of corporate entrepreneurship at critical stages of their evolution, in a global economic community that's increasingly becoming technologically driven due to consumer demands and consumption patterns (Bain Report, 2015; Cusano, 2016).

The PWC 19th Insurance CEO's survey found that projections placed South African insurers losing up to 20% market share to Fintech start-ups by 2020 (PWC, 2016). Many disruptors of the international life insurance market have focused their energies on distribution, with it being labelled a battle over the interface by the New York Times (Oudinot, 2017). These market disruptors are more nimble than your older insurance companies and are looking to make the consumer interaction easier for the customer to buy insurance (Oudinot, 2017). The distribution of life insurance is highly skewed toward the higher end of the market due to traditional access to insurance remaining the prevalent way in which to access it in South Africa, which is a limiting factor for growth of the overall market (Hawkins, 2009).

Life insurers in SA need to start thinking of themselves as individual entrepreneurs to affect any economic and profit growth (Shane and Venkataraman, 2000). “The existence of profit based (objective) opportunities that may be exploited through the application of new means end relationships…” (Moroz and Hindle, 2011, p. 806). One such new mean. which could be explored and developed internally in insurance companies, is the potential of premiums being paid in crypto currencies such as Bitcoin (KPMG, 2016). Bitcoin is one of the world’s first crypto currencies which allow transactions, such as premium deductions or debit orders, to take place on a non-banking platform independent of any banking institution (KPMG, 2016). South Africa is characterised by a large unbanked market, especially among the youth, who in recent years respond to alternative ways of transacting such as mobile money (Lawack, 2013).

Therefore based on the research conducted by scholars before, this study aims to investigate life insurance companies’ corporate entrepreneurship levels and more specifically the relationship between entrepreneurial intensity, entrepreneurial orientation innovation and corporate entrepreneurship. Through empirical research, the study will look to see if these variables are correlated or associated with the LI companies’ market share. The following hypotheses are to be tested.

Hypothesis 1 – H_1:

There is a positive association between South African life insurance companies’ market share and entrepreneurial intensity.

Null Hypothesis H_10: *There is no positive association between South African life insurance companies’ market share and entrepreneurial intensity.*

Hypothesis 2 – H_2:

There is a positive association between the top five (5) South African life insurance company’s market share and Corporate Entrepreneurship.

Null Hypothesis H_20: *There is no positive association between the top five (5) South African life insurance company’s market and Corporate Entrepreneurship.*

Hypothesis 3 – H_3:

There is a positive association between the South African life insurance company's market share and Innovation.

Null Hypothesis H_30: *There is no positive association between the South African life insurance company's market share and Innovation.*

CHAPTER 3. RESEARCH METHODOLGY

3.1 Research methodology

A quantitative research approach was applied to the study with the intention of focusing on gathering numerical data and generalizing it across a wide spectrum of relevant participants and stakeholders within the SA life insurance industry, in an attempt to explain the phenomenon of entrepreneurial intensity in relation to market share concentration (Muijs, 2010). It is a process of mathematically analysing numerical data collected and interpreting it statistically (Muijs, 2010).

A large number of respondents were asked to respond through a questionnaire therefore quantitative analysis was the appropriate research method to achieve the above at a macroeconomic level in the SA life insurance industry.

3.2 Research Design

A cross-sectional research approach was used to represent looking at a point in time (Cooper and Schindler, 2014). This study was therefore based on a quantitative research design, with primary data collected through questionnaires for analysis (Cooper and Schindler, 2014). This study was a quantitative research design and used a cross-sectional design aimed at finding out the prevalence of EOI and EI within the Life Insurance sector in South Africa as it stood at the time of this study. The unit of analysis was the LI firms. Employees of the LI firms were the respondents to the survey questionnaire. The questionnaire was distributed through electronic mail, online and digital social media platforms.

The study also sought to measure the market share concentration (MSC) levels within the LI sector. Secondary data from the insurance regulatory body, the FSB, was applied to measure the MSC in the LI sector.

The study looked to support or falsify the hypotheses by requesting employees from within the units, being life insurance companies in SA, to answer questionnaires and ascertain the independent variables. These variables being how they observe and experience the levels of corporate entrepreneurship and entrepreneurial orientation innovation within the companies they work for. This was assessing entrepreneurial intensity levels or independent

variables in relation to the dependent variable, the market share size of the insurance companies.

In order to achieve a substantive result from the research one has to have a sizeable sample of respondents in order to validate the data coming out of the study, with a limited amount of time.

3.2.1 *Population frame*

The population frame is the 84 registered life insurance companies in South Africa from which the research randomly selected the respondents, them being the employees of the 84 companies. The respondents were anonymously surveyed through a specifically designed questionnaire; i.e. questionnaire respondents. A total of 255 respondents who work for registered LI companies making up the population frame were targeted to participate.

3.2.2 *Sample respondents and sampling method*

The sample of respondents, selected based on Convenience Sampling method (Muktak, 2015) and Homogenous Sampling (Henning, 2016), consisted of professionals employed by life insurance companies in SA. The list of life insurance companies was selected from the FSB's published list of registered and licensed life insurers during the 2016 calendar year. 255 questionnaires were sent out to respondents, through official company channels, to be considered for analysis.

Variable	Description
The unit	Life insurance company employees
Population size	84 Insurance companies
Geographical survey	South Africa
Respondents	Permanent employees of the 84 Life insurance companies
Sample respondents	255
Sampling error (Confidence level)	90%

Table 1: Summary of the survey

3.2.3 *Demographic profile of respondents*

The demographic profile of the respondents targeted professionals employed in these companies in positions ranging from executive management down to lower than junior management within the life insurance companies. The respondents include all levels of management, administration staff, claims assessors, valuators, underwriters, actuaries, risk management, sales, finance, legal and compliance personnel. Therefore only professional employees and administrators.

Key demographic profile data:

- Gender
- Employment level in company
- Number of years working in the life insurance industry
- Level of employment

The demographic profiles received allowed the study to confirm the demographic profile of the respondents who participated as well as their position within the companies they work for.

3.3 The research instrument

The respondents responded to a set of questions set out in a 7-Likert scale questionnaire, making it easy for the respondents to participate. An indicative example of what the design and structure of the questionnaire looked like is in Figure 6 below.

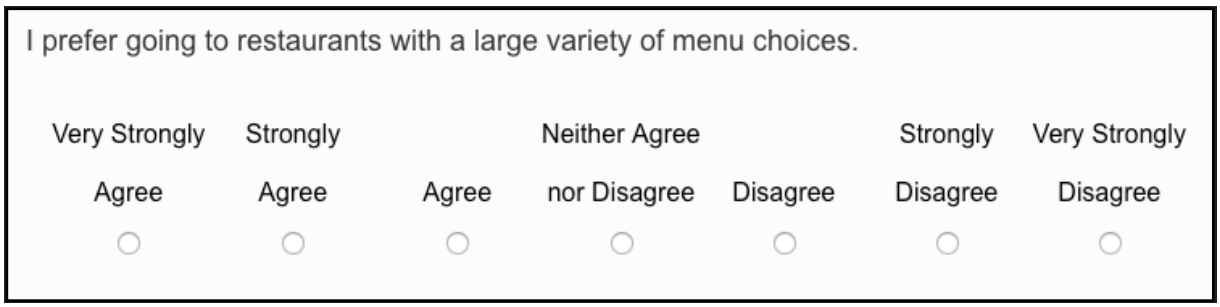


Figure 6: Sample of a 7-Likert scale Questionnaire (DataGame, 2017).

3.4 Procedure for data collection

Primary data was collected through a series of questions in a formal questionnaire. The questionnaire was built and generated through the Qualtrics survey tool. The questionnaires were electronically disseminated to the respondents through Qualtrics via an email link. Contact was made with the human resource (HR) departments of the life insurance companies, seeking permission to conduct the research through questionnaires to be electronically completed by their employees. All necessary approvals were sort before proceeding. The HR departments were requested to provide a random list of email addresses of employees who fell within the sample respondent profiles being surveyed. The respondents submitted their answers through the Qualtrics online survey tool, by following the link included in the email sent.

All the data was collected between the months of September to December. The data cleaning process commenced in late November, allowing the process to run in parallel with the final sets of data coming through end-December. This overlap allowed for more questionnaires to be circulated to more respondents, in case the initial responses were not sufficient in numbers. The data was collected through Qualtrics, converted into an XLS (excel) format and then exported into SPSS for analysis and interpretation through consultation with a qualified statistician.

3.5 Data analysis and interpretation

Collected data from the closed-ended questions contained in the questionnaire was organised and analysed utilizing the SPSS statistical tool.

Descriptive and correlational analysis was used to analyse the data (Field, 2009). The research is looking to understand the association between entrepreneurial intensity, EOI, innovation and corporate entrepreneurship levels, and market share. The correlation analysis tested for the relationship between these variables. The most appropriate frequency tables were drawn. The data is presented in statistical tables, bar graphs, pie charts, analysis models and scales that are accompanied by comprehensive explanations.

3.5.1 *Descriptive Analysis*

Descriptive statistics provide basic summaries of demographic attributes through the use of frequency tables. Additionally, measures of central tendency and dispersion for selected variables are presented (Gliem and Gliem, 2003; Field, 2013).

3.5.2 *Correlation Analysis*

The study aims to understand the association between entrepreneurial orientation intensity, innovation and corporate entrepreneurship. It furthermore wants to check the relationship between these independent variables and the dependent variable, market share concentration. Tests need to therefore be conducted to understand the correlation between all the variables, be it a positive or negative relationship (Field, 2009).

3.5.3 *Exploratory Factor Analysis*

Entrepreneurial orientation, innovation and corporate entrepreneurship were analysed using exploratory factor analysis (EFA). This EFA testing should also allow for interpretation of entrepreneurial intensity.

Factor analysis is a statistical technique that was first discovered by Pearson and Spearman in 1901, but not used extensively due to lengthy computational requirements demands until many years later (Goldberg and Velicer, 2006). Today however due to the advanced state of mathematical computing and programming advancements the analysis is commonly available in factor programs such as the one utilized for this study; SPSS (Goldberg and Velicer, 2006).

The key objective of factor analysis in scientific research is to understand the relations between variables, where numerous variables are reduced to a few factors that summarize the relations (Goldberg and Velicer, 2006). It is used to see whether different measures are tapping aspects of a common dimension (Field, 2009).

When there's a hypothesis or theory on the basic structure of a set of variables the extent to which the hypothesis or theory explains the relation amongst those variables can be tested through factor analysis (Goldberg and Velicer, 2006; Field, 2009). Summary constructs are

then discovered through exploratory factor procedures when their nature is still unknown (Goldberg and Velicer, 2006).

The EFA analysis was used to clearly identify the three variables EI, I and CE. Then the EFA tested the relationship between these variables and levels of the highest association between the three variables. These variables were then tested against the dependent variable, being market share (MS) and whether there is an association between each of the three and MS. This tests whether the different measures are tapping aspects of a common dimension (Field, 2009).

3.5.4 *Reliability Analysis*

A reliability analysis is a measure of internal consistency that is predominantly used in instances where a questionnaire with multiple Likert questions that form a scale is utilised to collect data and where the ability of the scale to consistently reflect the construct that it is measuring is required to be determined (Field, 2013).

Cronbach's alpha is a test reliability technique that provides a unique estimate of the reliability for a given test (Gliem and Gliem, 2003). Cronbach's alpha indicates the average value of the reliability coefficients and only requires a single test run to provide a unique approximation of the reliability for a given analysis (Gliem and Gliem, 2003). The range is normally between 0 and 1, with the closer it is to 1.0 the greater the internal consistency of the items being tested (Gliem and Gliem, 2003). A widely used statistical standard of a Cronbach Alpha acceptable reliability is 0.7 or higher (Field, 2009).

3.6 Limitations of the study

A disadvantage could be that the research was unable to get to the fine details of why and how the research falsifies or supports the hypotheses. This would require in-depth analysis, which would only be effectively achievable through a longitudinal qualitative study, requiring direct access to the most senior executives within life insurance companies. Accessibility to these executives can often be a challenge for the requirements of cross-sectional research.

In addition to the above, other limitations could be;

- Possible low levels of response from employees of approached life insurance companies.
- Results of descriptive analysis needing to be re-analysed for clear determination of outcome.
- It won't be possible to approach the exact same sample of responded respondents due to the anonymity of participation.

3.6.1 *Research ethical issues*

The study was conducted on a voluntary basis with the privacy of the participants guaranteed. All identification information is confidential and will not be made available to any third party, making it impossible to single out any single respondent. Each request to participate was sent with an accompanying letter from Wits Business School confirming that the research being conducted was solely for academic purposes.

3.7 Validity and reliability

3.7.1 *External validity*

The size of the sample respondents was 255, all of whom are professionals employed within life insurance companies in SA, allowing the study/research outcome to provide a generalist view of the entire life insurance industry's level of entrepreneurial intensity. The make-up of the sample respondents is from a homogenous group; i.e. they all have to be professionals in not only the insurance industry but also very specifically the life insurance industry. The generalization of research findings from a sample to a larger or to settings and units other than those being studied in this research should provide the sufficient external validity required (Lucas, 2003).

3.7.2 *Internal validity*

The way the questions on the questionnaire are framed was consistent throughout the questionnaire, forcing the respondent to remain within the scope of the research problem and sub-problems being investigated.

The research topic is looking for the justification or falsifiability of there being a relationship between the levels of entrepreneurial intensity and the SA life insurance industry market share concentration. This inadvertently hypothesizes X being able to justify Y in the true sense of internal validity theory (Laerd Dissertations, 2012). In specific relation to this research the levels of EI being able to justify the size of market share. The research is looking to justify or falsify that if a LI company that displays higher levels of EI enjoys a larger portion of market share. Therefore implying that should a company want to increase its market share it must increase its levels of CE, innovation and EI.

3.7.3 *Reliability*

Key to the success of the study was the careful construction of the questionnaire used to gather the data. A research instrument is considered reliable as a result of the extent to which its results are accurate and consistent over time in representing the population frame being studied as well as the extent to which those results are replicable under similar methodology (Golafshani, 2003). There was a single uniformed questionnaire completed by all respondents making the research reproducible under similar methodology, which should demonstrate either a high positive correlation, low correlation or none at all (Golafshani, 2003).

CHAPTER 4. EMPIRICAL RESULTS FROM THE STUDY

4.1 Introduction

This chapter will present the empirical findings of the study based on the data collected through Qualtrics. The data was analysed through IBM SPSS Statistics 24 software by an actuarial statistician, using the methods stipulated in the previous chapter. There will be a statistical analysis of the descriptive data to begin with. This will then be followed by a presentation of the results for the various analyses outlined in the previous chapter, namely;

- Descriptive Analysis,
- Correlation Analysis
- Reliability, and
- Exploratory Factor Analysis

4.2 Descriptive Profile of the Respondents

The collected data set used for the analysis was collected through questionnaires developed through Qualtrics. The developed questionnaires were then distributed to the sample of respondents via email and social media (LinkedIn and WhatsApp). The initial targeted sample of respondents was 500, to come from all or as many as possible of the 84 registered insurers. However due to limited support from HR department heads of the companies the respondents work for, only 255 contact details were received and could be sent the survey.

255 surveys were successful sent out to respondents via the three alternative platforms described above. Of the 255 surveys sent out a total final sample of 185 respondents elected to voluntarily start the survey and begin answering the questionnaire. This makes it a total participation rate of 72.5%. The final sample after cleaning of the data was a total of 165 completed and valid questionnaires, making it a final response rate of 64.7%.

4.2.1 *Respondents Gender*

The figure below illustrates the gender make-up of the respondents who selected to provide a response to the gender question, where there were three options to select from.

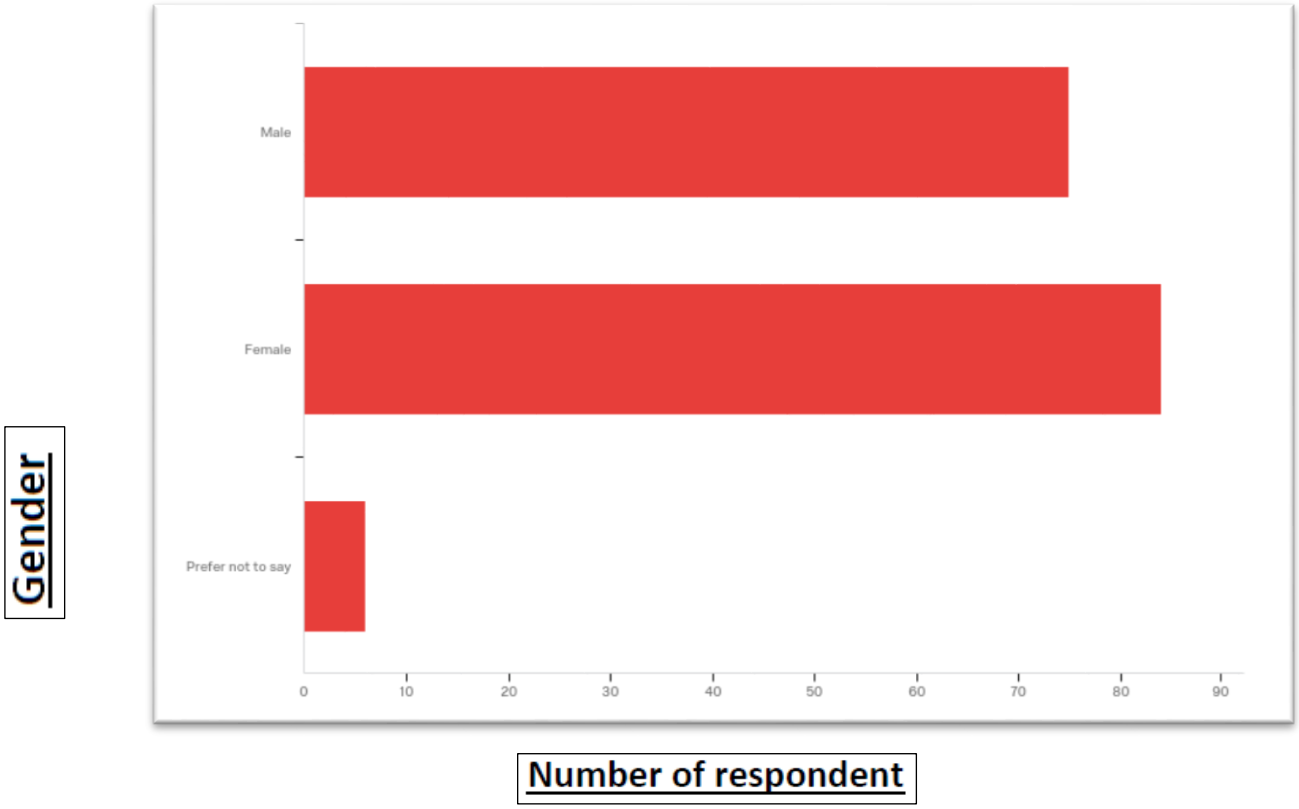


***Figure 7**: Gender of respondents*

The data showed that there were 45.5% male respondents, 50.91% female respondents as well as 3.64% of respondents who preferred not to say which gender they were.

4.2.2 *Employment level within the LI Company*

Figure 9 below illustrates how many years the respondents had been working within the LI industry. They were grouped into those that had been in the LI industry for less than 6 years or more. The data found that 30.77% of the respondents had only worked in the LI industry for up to 5 years and 69.23% had worked in the LI industry for longer than 6 years. The results show a much higher representation of respondents who have worked for longer than 6 years in the LI industry.

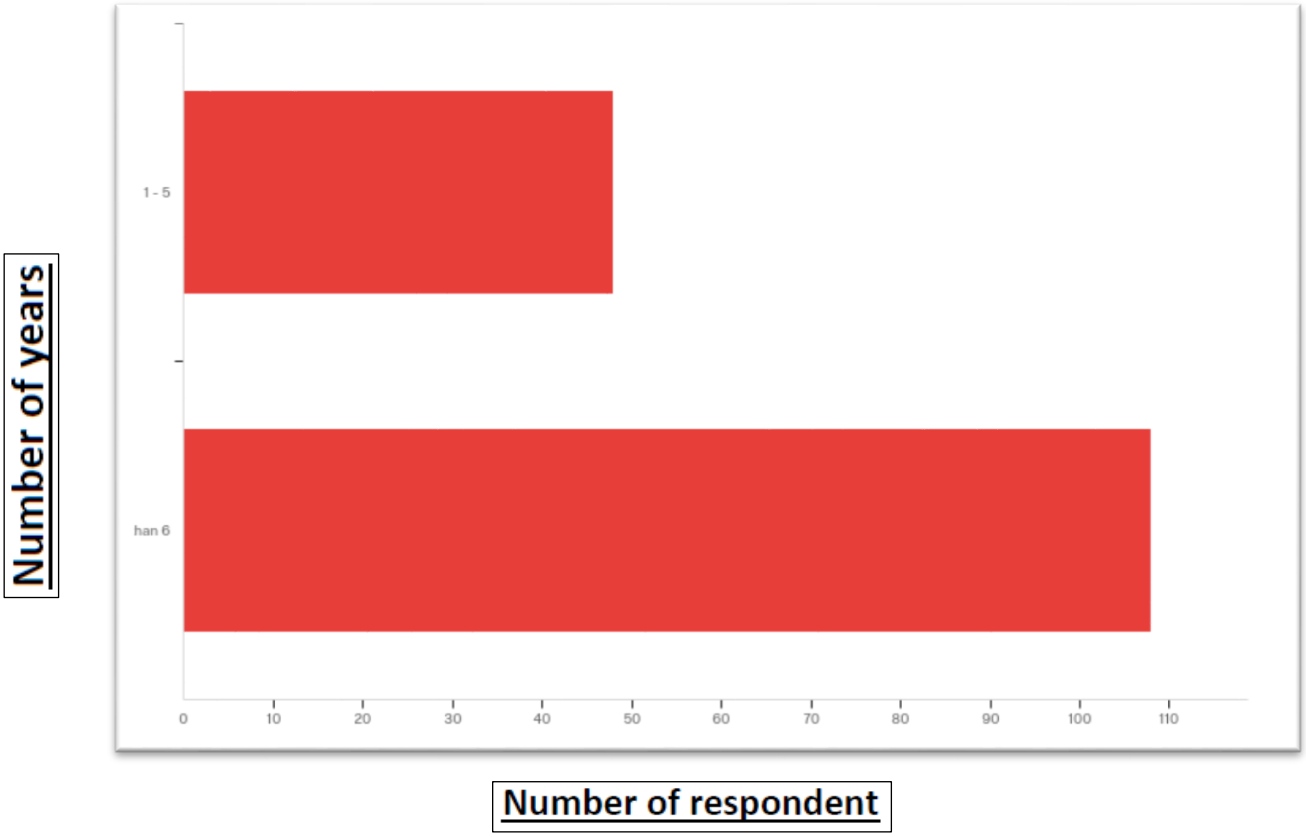


***Figure 8**: Number of years in LI Industry*

4.2.3 *Current level of employment*

The respondents were requested to indicate which employment level within their organisation they fell into. This was based on the required demographic make-up of the targeted group of respondents. Of those who participated in the study 50.91% were classified as junior management or below, 26.06% as middle management, 13.3% senior management and only 9.7% representing executive management.

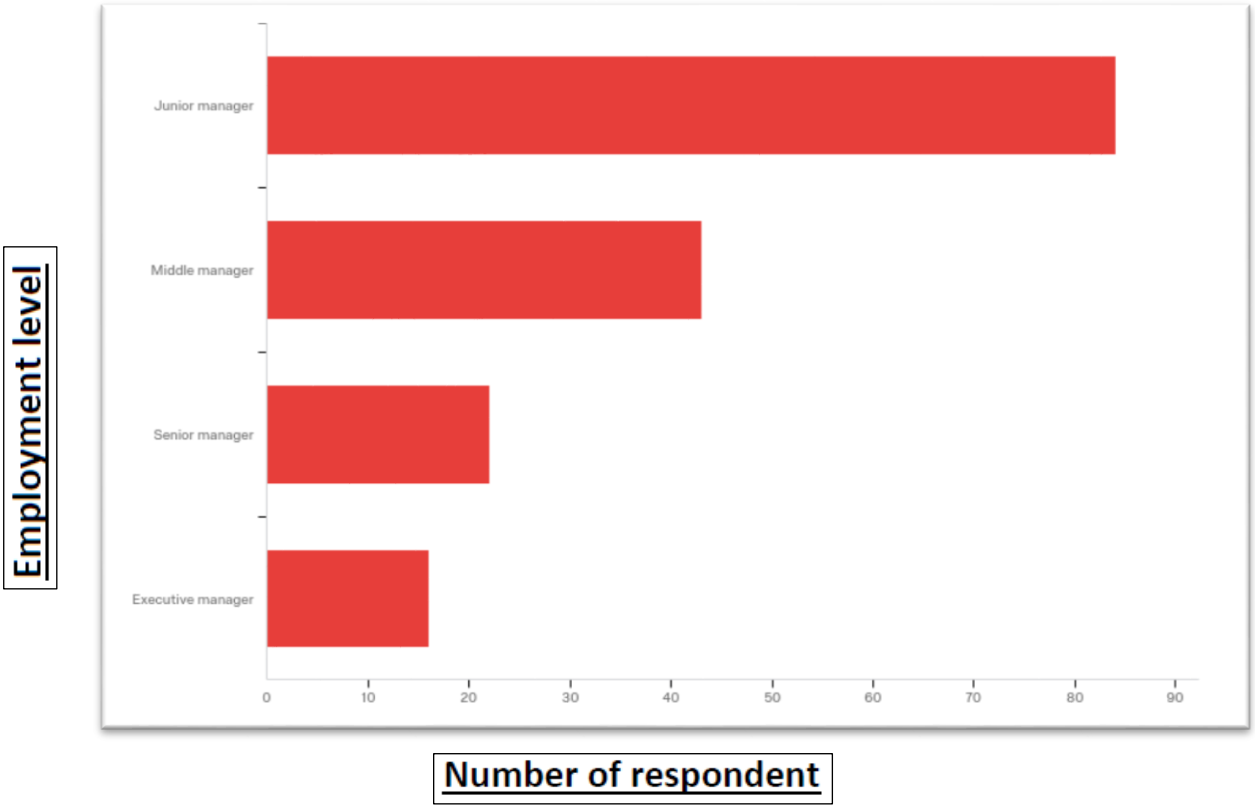


***Figure 9**: Employment level of respondents*

4.2.4 *How many direct reports or subordinates*

A few of the questions in the questionnaire ask questions relating to how managers and subordinates interact within the LI companies. These questions are geared toward getting insight into how the respondents perceive the corporate culture of the various companies they work for to be. This is their perception either as a manager or a subordinate. The figure and table below illustrate the respondent's views on this relationship.

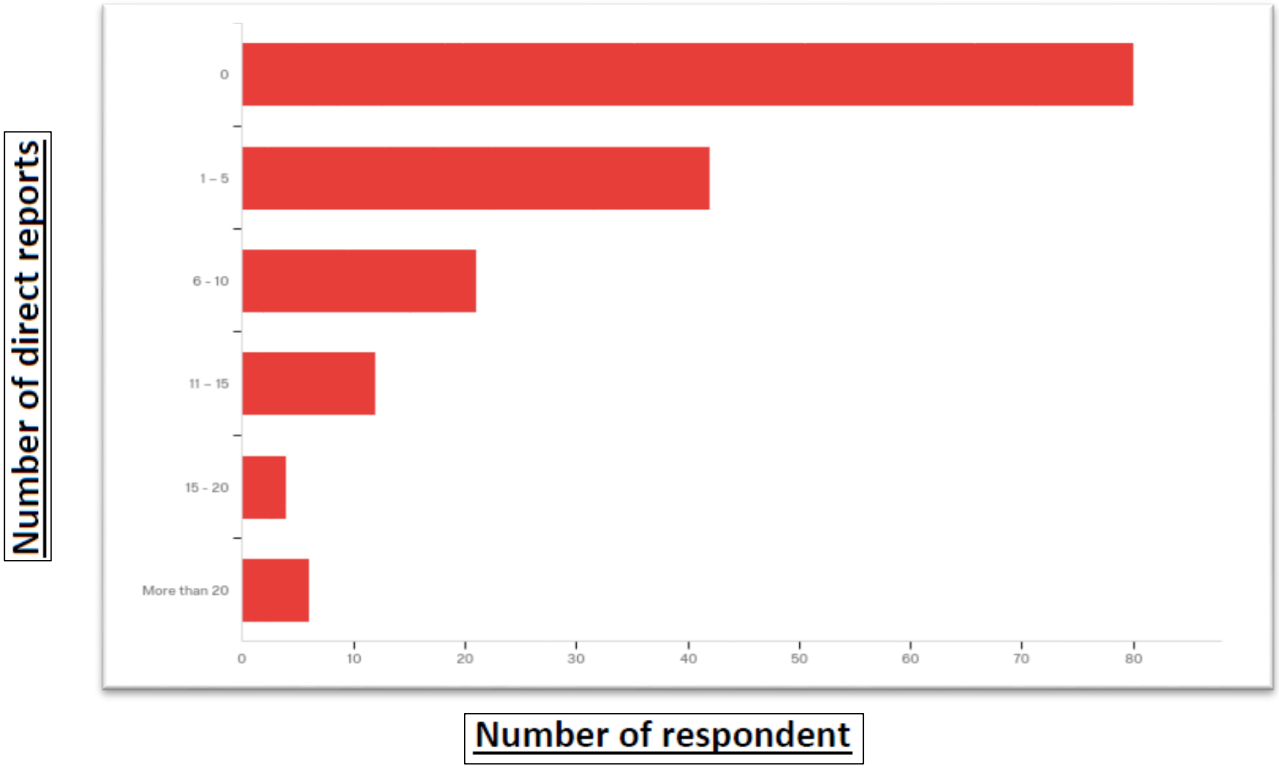


***Figure 10**: Number of direct reports*

Based on the data collected 165 respondents answered the question in the questionnaire. Table 2 below provides the same data, however better demonstrating the splits in percentages.

#	Number of Direct Reports / Subordinates	%	Count
1	0	48.48%	80
2	1 – 5	25.45%	42
4	6 - 10	12.73%	21
5	11 – 15	7.27%	12
6	15 - 20	2.42%	4
7	More than 20	3.64%	6
	Total	100%	165

***Table 2:** Number of subordinates*

4.2.5 *SA Life insurers market share 2016*

	2016 Calendar Year	Gross Premium '000	Market Share	Market Position	MS Position Movement from 2015
1	Alex Forbes	44 338 281	9.1%	5	-
2	Allan Gray	15 076 213	3.1%	10	2 ↓
3	Coronation Life	17 428 972	3.6%	8	1 ↑
4	Discovery Life	20 966 685	4.3%	7	-
5	Investec	38 772 162	8.0%	6	-
6	Liberty	54 298 901	11.2%	4	-
7	MMI Group	55 785 516	11.5%	3	1 ↓
8	Old Mutual	88 850 517	18.3%	1	-
9	Sanlam	58 040 007	12.0%	2	1 ↑
10	Sygnia Life	16 145 798	3.3%	9	1 ↑
11	ABSA Life	10 455 251	2.2%		
12	BOE Life / Nedgroup Life	9 213 214	1.9%		
13	PSG Life	6 792 057	1.4%		
14	Hollard Life	6 015 240	1.2%		
15	SIS Life Company	4 160 252	0.9%		
16	Land Bank Life Insurance Company	5 130	0.001%		
	Total LI Industry GWP	**485 610 581**	**84.4%**	**← Top 10**	

Table 3: *SA Life Insurance industry market share by GWP (FSB, 2016)*

The above table provides an illustration of how the market share of the life insurance industry in South Africa is, by gross written premium. The table also demonstrates the movement and changes in market share from 2015 to 2016. This further enforces Alagidede and Mangenge point that 73% of the market share remained amongst the top five companies, with another 11% then making up the rest of the top 10 companies, but market share (Alagidede and Mangenge, 2015).

4.3 Descriptive Analysis of the Scales

The descriptive analyses results for the entrepreneurial intensity, entrepreneurial orientation innovation and corporate entrepreneurship scales are presented below. Descriptive statistics

provide basic summaries of demographic attributes through the use of frequency tables. Additionally, measures of central tendency and dispersion for selected variables are presented. Results for skewness and kurtosis as well as normality tests of distributions for selected variables under study will also be presented.

4.3.1 *Innovation scale*

The results in table 4 below reflect the frequencies relating respondents to the innovation questions. For the majority of the questions, there is a cumulative frequency of over 50% of respondents who agree (Likert scale 5, 6 and 7). There outliers are question 2.1, and 2.2, 2.7 which had a cumulative frequencies of over 72% compared to the rest of the questions.

		1	2	3	4	5	6	7	
		Strongly Disagree	**Disagree**	**Somewhat Disagree**	**Neither agree nor disagree**	**Somewhat Agree**	**Agree**	**Strongly Agree**	**Total**
2.1	I joined the company because the corporate culture attracted me	3.52%	4.23%	2.82%	16.90%	13.38%	31.69%	27.46%	**100%**
2.2	The general interaction with staff at all levels is informal	2.82%	9.86%	5.63%	7.04%	27.46%	30.99%	16.20%	**100%**
2.4	I interact with EXCO members regularly	9.8%	20.9%	6.5%	3.3%	12.4%	21.6%	25.5%	**100%**
2.5	There is an open door philosophy in my division/department	3.3%	5.3%	3.9%	1.3%	19.7%	28.9%	37.5%	**100%**
2.6	There is an open door philosophy throughout the company	1.3%	8.5%	11.1%	9.2%	26.1%	26.8%	17.0%	**100%**
2.7	Management encourages interaction between departments	1.3%	9.1%	5.8%	5.8%	22.1%	31.8%	24.0%	**100%**
2.8	I and other staff have been able to transfer relatively easily from one department to another	11.1%	11.1%	7.8%	24.2%	17.6%	23.5%	4.6%	**100%**
2.9	I have successfully implemented more than 2 ideas proposed by my immediate reports in the past 3 years	7.1%	12.3%	3.9%	24.7%	11.0%	29.9%	11.0%	**100%**
3.5	Compared to our competitors, profits have continued to grow over the past 3 years	5.4%	15.5%	15.5%	12.8%	16.2%	25.0%	9.5%	**100%**

Table 4: Scale item frequencies for innovation

The mean values in table 4 below are averaging 3.2 which is the strongly disagree response in the Likert scale and a standard deviation of approximately 1.7. The empirical distribution is positively skewed for all variables.

		Descriptive Stats		
		Mean	**Standard Deviation**	**Skewness**
2.1	I joined the company because the corporate culture attracted me	2.79	1.665	.866
2.2	The general interaction with staff at all levels is informal	3.14	1.715	.710
2.4	I interact with EXCO members regularly	3.46	2.191	.347
2.5	There is an open door philosophy in my division/department	2.34	1.595	1.468
2.6	There is an open door philosophy throughout the company	3.01	1.573	.626
2.7	Management encourages interaction between departments	2.70	1.589	.978
2.8	I and other staff have been able to transfer relatively easily from one department to another	3.85	1.746	.391
2.9	I have successfully implemented more than 2 ideas proposed by my immediate reports in the past 3 years	3.46	1.790	.494
3.5	Compared to our competitors, profits have continued to grow over the past 3 years	3.68	1.788	.214

Table 5: Descriptive statistics for Innovation

4.3.2 *Entrepreneurial orientation scale*

The results in table 6 below reflect the frequencies relating respondents to entrepreneurial orientation questions. There is almost a 50% split between the respondents who agreed (Likert scale 5, 6 and 7) and those who disagreed (Likert scale 1, 2 and 3). There outliers is question 3.8 (41.9% respondents neither agree nor disagree)

		1	2	3	4	5	6	7	
		Strongly Disagree	**Disagree**	**Somewhat Disagree**	**Neither agree nor disagree**	**Somewh at Agree**	**Agree**	**Strongly Agree**	**Total**
3.1	Compared with our competitors, we have a dynamic innovations department	4.7	18.2	18.9	16.2	15.5	18.9	7.4	**100%**
3.2	The company launches new products annually	6.1	25.7	13.5	16.2	9.5	19.6	9.5	**100%**
3.4	The company has a new ideas competition with rewards	6.8	22.3	19.6	12.2	10.8	21.6	6.8	**100%**
3.6	Over the past year the company has introduced new product/process innovations	12.8	27.7	20.9	14.9	10.1	8.1	5.4	**100%**
3.8	The most successful products of the last 3 years were innovations that came from ideas presented by lower level employees/managers	2	11.5	13.5	41.9	8.8	16.9	5.4	**100%**

Table 6: Scale item frequencies for entrepreneurial orientation

The mean values in table 7 below are around 3.9 which is the neither strongly agree nor disagree response in the Likert scale, and a standard deviation of approximately 1.7 this is as a result of the influence of question 3.8. The variables are also positively skewed but question 3.6 has a longer tail compared to the rest.

		Descriptive Stats		
		Mean	**Standard Deviation**	**Skewness**
3.1	Compared with our competitors, we have a dynamic innovations department	4.06	1.715	.044
3.2	The company launches new products annually	3.94	1.860	.161
3.4	The company has a new ideas competition with rewards	3.90	1.814	.146
3.6	Over the past year the company has introduced new product/process innovations	3.28	1.698	.606
3.8	The most successful products of the last 3 years were innovations that came from ideas presented by lower level employees/managers	4.16	1.419	.114

Table 7: Descriptive stats for entrepreneurial orientation

4.3.3 *Corporate entrepreneurship scale*

The results in table 8 below reflect the frequencies relating respondents to the innovation questions. The frequencies vary from question to question; there is no clear pattern of answers from the respondents. Question 4.4 seems to be an outlier or reflects very different frequencies from the rest of the questions.

		1	2	3	4	5	6	7	
		Never	**Rarely** >10% of the time	**Occasionally** 30% of the time	**Sometimes** 50% of the time	**Frequently** 70% of the time	**Usually <**90% of the time	**Always**	**Total**
4.1	I have been encouraged by my immediate boss to develop new processes/products for the company	15.2	15.9	15.2	17.4	21	8	7.2	100%
4.2	My manager/s encourage me to come up with new ideas for my division	5.1	17.4	13.8	21	21.7	9.4	11.6	100%
4.3	The company continuously encourages me to come up with new ideas for the company	12.3	18.8	17.4	22.5	14.5	8.	6.5	100%
4.4	As a manager I encourage my immediate reports to come up with new ideas	21	10.1	8	16.7	21.7	3.6	18.8	100%
4.5	The company has frequent company/departmental workshops to review and improve processes	8.7	21	21	15.2	20.3	8	5.8	100%
4.6	Compared to our competitors, we have a rapid adjustment rate to customer demands	6.5	23.2	16.7	21	13	11.6	8	100%

Table 8: Scale item frequencies for corporate entrepreneurship

The mean values in the table are around 3.8 and a standard deviation of approximately 1.8. All variables are positively skewed with question 4.4 being the only negatively skewed variable.

		Descriptive Stats		
		Mean	**Standard Deviation**	**Skewness**
4.1	I have been encouraged by my immediate boss to develop new processes/products for the company	3.66	1.802	.105
4.2	My manager/s encourage me to come up with new ideas for my division	4.12	1.713	.038
4.3	The company continuously encourages me to come up with new ideas for the company	3.58	1.712	.261
4.4	As a manager I encourage my immediate reports to come up with new ideas	3.94	2.113	-.022
4.5	The company has frequent company/departmental workshops to review and improve processes	3.64	1.665	.253
4.6	Compared to our competitors, we have a rapid adjustment rate to customer demands	3.78	1.722	.285

Table 9: Descriptive statistics for corporate entrepreneurship

4.4 Testing Reliability of the Scales

Reliability is measured using the Cronbach's alpha which can be written as a function of the number of test items and the average inter-correlation among the items (Field, 2009). Below, for conceptual purposes, we show the formula for the standardized Cronbach's alpha:

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N-1) \cdot \bar{c}}$$

Here N is equal to the number of items, c-bar is the average inter-item covariance among the items and v-bar equals the average variance (Field, 2009).

All the results from the reliability analysis are included and reflected in the tables below.

Case Processing Summary			
		N	%
Cases	Valid	151	81.6
	Excluded[a]	34	18.4
	Total	185	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	No of Items
.764	3

4.5 Exploratory Factor Analysis of the Scales

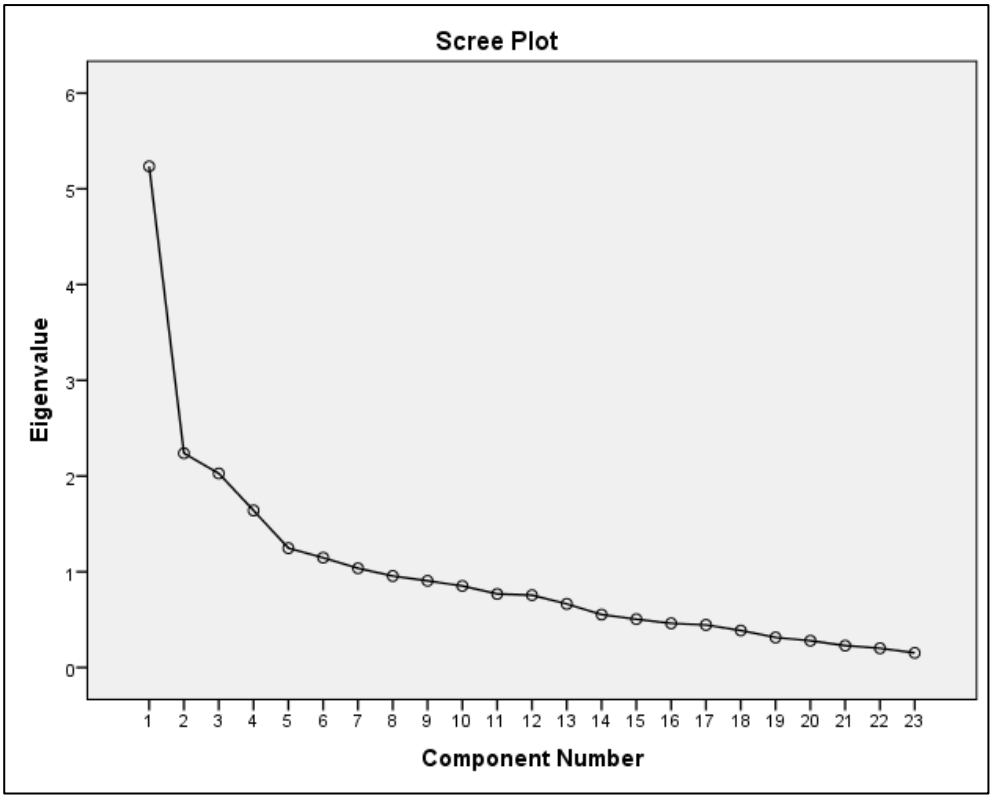
The first item that was tested was whether the sample size used was sufficient. The Kaiser-Meyer-Olkin (KMO) measures sampling adequacy (Field, 2009). The minimum value for confirmation of adequate size is 0.5 (Field, 2009). From our KMO test results we see that the value is .709 meaning our sample size was sufficient, as illustrated in the table below.

The Bartlett's Test of Sphericity is significant, which means that there are at least 2 questions that are correlated from our set of questions (Field, 2009). Significance should be at $p < .05$, the results are at 253 (Field, 2009).

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.709
Bartlett's Test of Sphericity	Approx. Chi-Square	1012.031
	df	253
	Sig.	.000

Total Variance Explained						
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.235	22.759	22.759	5.235	22.759	22.759
2	2.238	9.730	32.490	2.238	9.730	32.490
3	2.027	8.813	41.302	2.027	8.813	41.302
4	1.641	7.133	48.435	1.641	7.133	48.435
5	1.247	5.421	53.856	1.247	5.421	53.856
6	1.147	4.987	58.844	1.147	4.987	58.844
7	1.037	4.507	**63.351**	1.037	4.507	63.351
8	.956	4.156	67.507			
9	.905	3.936	71.443			
10	.852	3.704	75.147			
11	.769	3.341	78.488			
12	.756	3.285	81.774			
13	.664	2.888	84.662			
14	.553	2.405	87.067			
15	.505	2.195	89.262			
16	.462	2.007	91.269			
17	.445	1.934	93.203			
18	.387	1.681	94.884			
19	.313	1.363	96.247			
20	.280	1.218	97.465			
21	.229	.996	98.461			
22	.201	.875	99.336			
23	.153	.664	100.000			
Extraction Method: Principal Component Analysis.						

Using the Principal Component Analysis, there are 7 components with an eigenvalue greater than 1, meaning these 7 new factors can explain at least 63% of the variance (Field, 2009). This is also reflected in the Scree plot below.



The component matrix shows how well each question loads up against the 7 new components or factors (Field, 2009). The table below shows the unrefined results of the component matrix, which will be further refined later in the results analysis.

Component Matrix[a]							
	Component						
	1	2	3	4	5	6	7
2.1 I joined the company because the corporate culture attracted me	.248	.108	-.118	-.215	.520	.310	-.396
2.2 The general interaction with staff at all levels is informal	.307	.302	.141	-.072	.270	-.040	-.622
2.3 The management culture is top-down	-.061	-.072	-.410	.657	-.131	.005	-.176
2.4 I interact with EXCO members regularly	.550	.546	.016	.110	-.088	.017	-.061
2.5 There is an open door philosophy in my division/department	.455	.512	-.187	.420	-.012	-.030	.087

2.6 There is an open door philosophy throughout the company	.628	.390	.110	.240	.093	-.373	.018
2.7 Management encourages interaction between departments	.515	.330	.087	-.009	.033	-.118	.188
2.8 I and other staff have been able to transfer relatively easily from one department to another	.477	.222	-.198	-.135	.174	-.186	.391
2.9 I have successfully implemented more than 2 ideas proposed by my immediate reports in the past 3 years.	.515	.235	-.324	.141	-.074	.212	.091
3.1 Compared with our competitors, we have a dynamic innovations department	.617	-.188	.186	.378	.075	-.040	-.093
3.2 The company launches new products annually	.394	-.609	-.095	.219	.307	-.175	.020
3.3 The corporate culture is a very hierarchical one	-.160	-.427	-.414	.445	-.064	-.047	-.080
3.4 The company has a new ideas competition with rewards	.328	-.303	.504	.056	.148	.084	.016
3.5 Compared to our competitors, profits have continued to grow over the past 3 years	.344	.196	.508	-.016	-.182	.272	.004
3.6 Over the past year the company has introduced new product/process innovations	.584	-.356	.126	.254	.203	.112	.014
3.7 Problem solving takes place within separate departments	.079	.066	-.314	.022	.400	.582	.386
3.8 The most successful products of the last 3 years were innovations that came from ideas presented by lower level employees/managers	.305	-.322	.311	-.027	.329	-.067	.220

4.1 I have been encouraged by my immediate boss to develop new processes/products for the company	-.616	.186	.326	.441	.048	.201	-.046
4.2 My manager/s encourage me to come up with new ideas for my division	-.681	.154	.238	.312	.066	.292	.038
4.3 The company continuously encourages me to come up with new ideas for the company	-.707	.340	.168	.228	.213	.015	.131
4.4 As a manager I encourage my immediate reports to come up with new ideas	-.472	.055	.579	.224	.164	-.302	.139
4.5 The company has frequent company/departmental workshops to review and improve processes	-.505	.248	-.216	.057	.456	-.261	-.019
4.6 Compared to our competitors, we have a rapid adjustment rate to customer demands	-.603	.111	-.337	-.142	.278	-.245	-.003
Extraction Method: Principal Component Analysis.							
a. 7 components extracted.							

The next step in the EFA analysis is to rotate the factors to better fit the data (Field, 2009). The table below illustrates how questions 2.1 and 2.2 load to Factor 6, question 2.3 load to Factor 5, questions 2.4 ,2.5, 2.6 load to Factor 1, questions 3.2 and 3.6 load to Factor 3, questions 3.3, 4.6, 4.5 load to Factor 4, questions 4.1 ,4.2, 4.3, 4.4 load to Factor 2.

Rotated Component Matrix[a]							
	Component						
	1	2	3	4	5	6	7
2.1 I joined the company because the corporate culture attracted me						.714	.317
2.2 The general interaction with staff at all levels is informal						.748	
2.3 The management culture is top-down					.791		
2.4 I interact with EXCO members regularly	.693						
2.5 There is an open door philosophy in my division/department	.779						
2.6 There is an open door philosophy throughout the company	.796						
2.7 Management encourages interaction between departments	.576						
2.8 I and other staff have been able to transfer relatively easily from one department to another	.519	-.346					
2.9 I have successfully implemented more than 2 ideas proposed by my immediate reports in the past 3 years.	.475						.332
3.1 Compared with our competitors, we have a dynamic innovations department	.335		.549	-.328			
3.2 The company launches new products annually		-.305	.721				
3.3 The corporate culture is a very hierarchical one					.695		
3.4 The company has a new ideas competition with rewards			.566	-.345			

3.5 Compared to our competitors, profits have continued to grow over the past 3 years				-.598			
3.6 Over the past year the company has introduced new product/process innovations			.641				
3.7 Problem solving takes place within separate departments							.862
3.8 The most successful products of the last 3 years were innovations that came from ideas presented by lower level employees/managers			.628				
4.1 I have been encouraged by my immediate boss to develop new processes/products for the company		.834					
4.2 My manager/s encourage me to come up with new ideas for my division		.775					
4.3 The company continuously encourages me to come up with new ideas for the company		.757		.335			
4.4 As a manager I encourage my immediate reports to come up with new ideas		.687					-.352
4.5 The company has frequent company/departmental workshops to review and improve processes		.328		.707			
4.6 Compared to our competitors, we have a rapid adjustment rate to customer demands				.704			
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.							
a. Rotation converged in 8 iterations.							

The next step was to run a reliability analysis on all the questions as they are set up into the 7 factors, which is required with EFA (Field, 2009). The table below illustrates the results.

The reliability analysis is done by calculating the Cronbach Alpha. The Cronbach Alpha values will ranges from 0, which is no reliability, to 1 which indicates complete reliability (Field, 2009). The Alpha value greater than .7 indicating an acceptable data reliability. The Factor 1 results came out at .764, Factor 2 at .813 and Factor 3 at .722 indicating a significantly high level of reliability for these questions within the factors, as these questions are correlated enough to be reliable (Field, 2009). For Factors 4 to 7 the Cronbach values came in below .7 indicating that all the questions in these factors do not produce a significantly level of consistency “reliability”.

Factor 1

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.764	.778	3

Factor 2

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.813	.823	4

Factor 3

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.722	.723	3

Therefore, the above tests confirm that Factors 1, 2 and 3's reliabilities are acceptable. These are essentially the 3 independent variables the questionnaire has been reduced to. Below they are represented in a rotated component matrix table.

Rotated Component Matrix[a]			
	Component		
	1: CE	2: EI	3: EO Innovation
I have been encouraged by my immediate boss to develop new processes/products for the company	.856		
The company continuously encourages me to come up with new ideas for the company	.763		
My manager/s encourage me to come up with new ideas for my division	.760		
As a manager I encourage my immediate reports to come up with new ideas	.731		
There is an open door philosophy in my division/department		.8147	
I interact with EXCO members regularly		.823	
There is an open door philosophy throughout the company		.777	
The company launches new products annually			.813
Compared with our competitors, we have a dynamic innovations department			.733
Over the past year the company has introduced new product/process innovations			.785
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 5 iterations.			

The below tables illustrate the results when EFA analysis was conducted on only the reliable questions testing the 3 variables of the study.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		..704
Bartlett's Test of Sphericity	Approx. Chi-Square	511.259
	df	45
	Sig.	.000

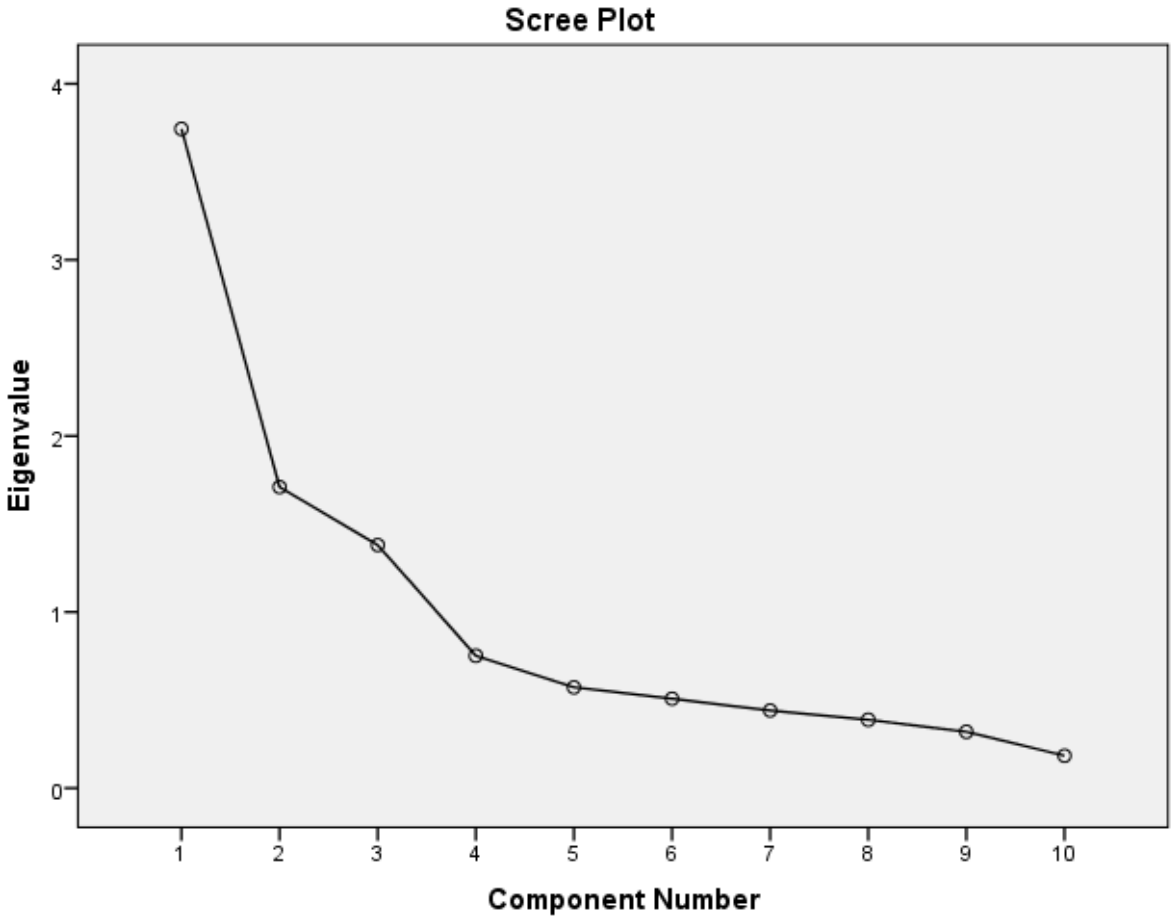
Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.744	37.438	37.438	3.458	38.427	38.427	2.571	25.715	25.715
2	1.710	17.100	54.538	1.706	18.950	57.378	2.168	21.679	47.394
3	1.381	13.806	68.344	1.177	13.077	70.455	2.095	20.950	68.344
4	.752	7.520	75.864						
5	.573	5.726	81.590						
6	.508	5.077	86.668						
7	.441	4.409	91.077						
8	.388	3.882	94.959						
9	.320	3.199	98.158						
10	.184	1.842	100.000						

Extraction Method: Principal Component Analysis.

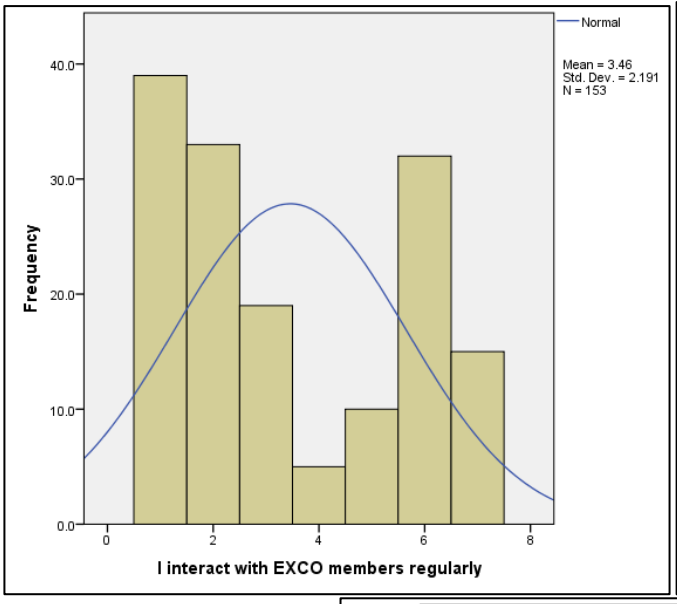
There was initially no significant correlation between the variables, as per the PCA analysis prior to the EFA, because all the correlation coefficients were very close.

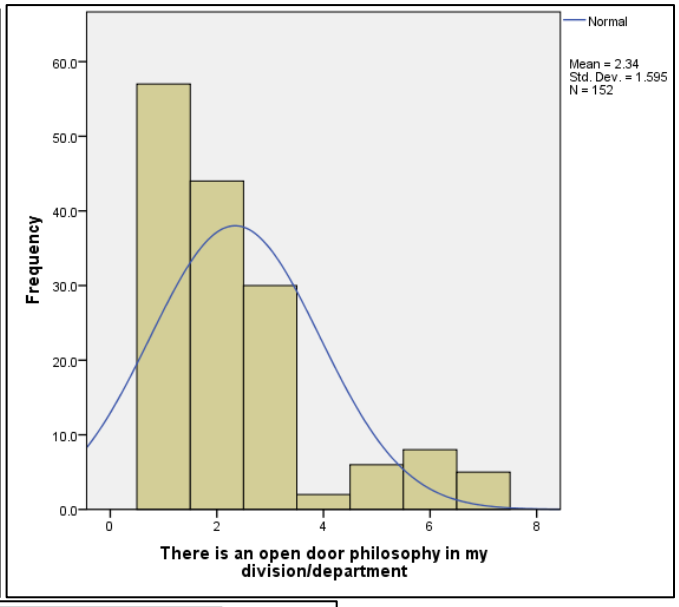
After rotating the table there are 3 components with an eigenvalue greater than 1, meaning these 3 factors can explain at least 70% of the variance (Field, 2009). This is also reflected in the Scree plot below.

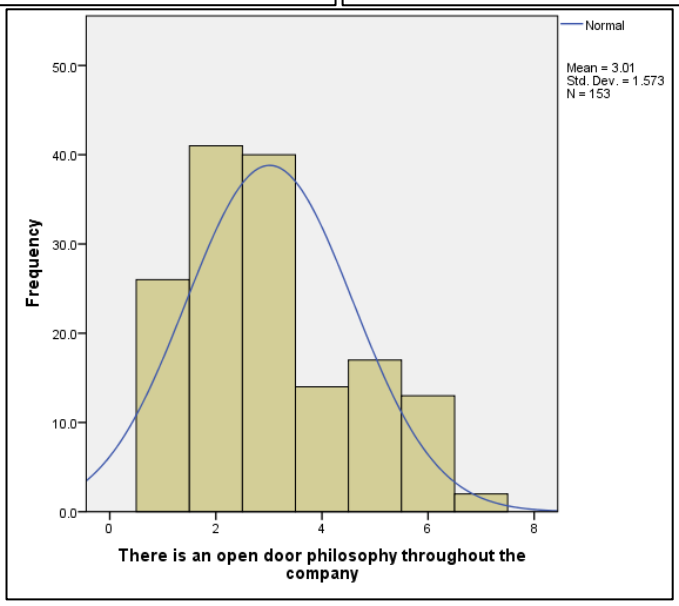


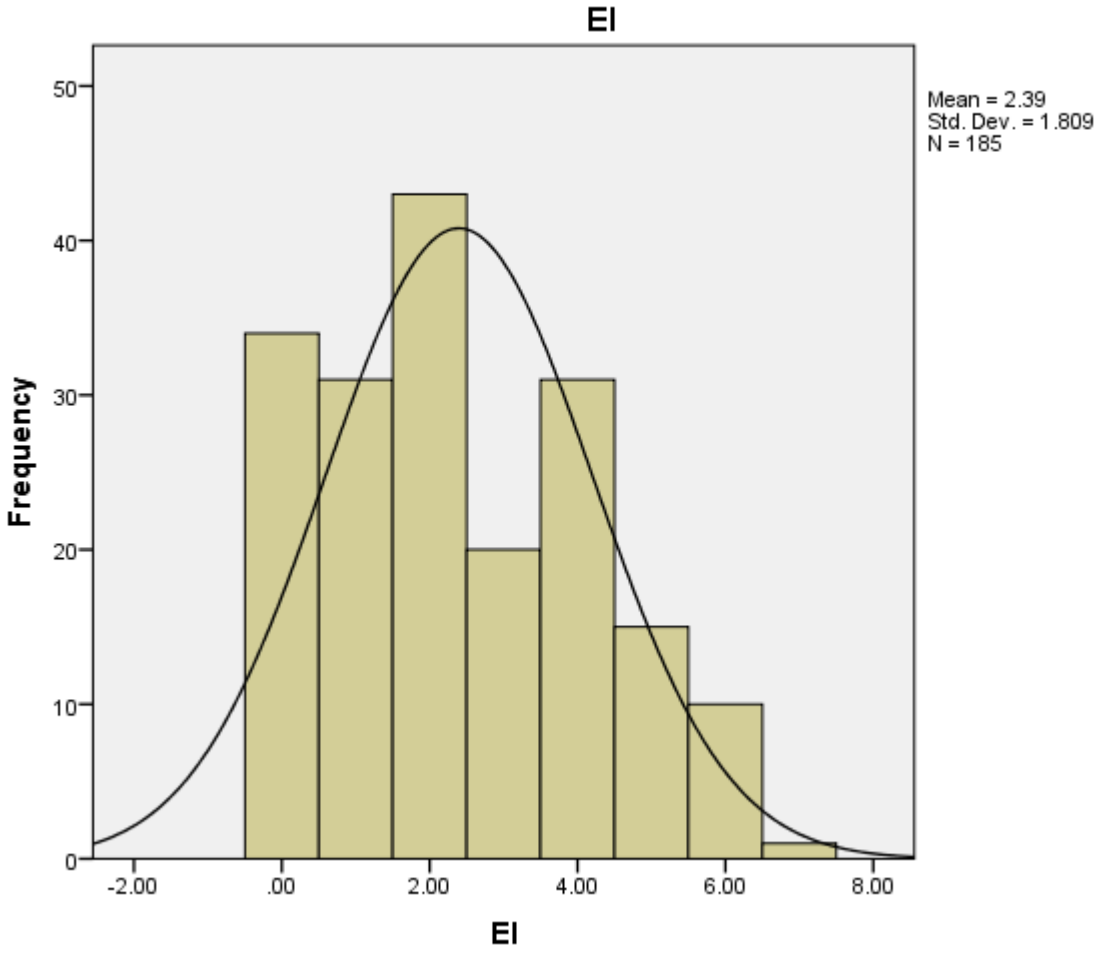
4.6 Results Pertaining to Hypothesis 1

Below are the histogram representations of the respondents' answers to the three questions which related to the levels of entrepreneurial intensity in LI companies. The variable EI is calculated as a mean of the scores of the individual questions that load into it, as determined by the EFA.


Normal
Mean = 3.46
Std. Dev. = 2.191
N = 153
Frequency
I interact with EXCO members regularly


Normal
Mean = 2.34
Std. Dev. = 1.595
N = 152
Frequency
There is an open door philosophy in my division/department


Normal
Mean = 3.01
Std. Dev. = 1.573
N = 153
Frequency
There is an open door philosophy throughout the company



Hypothesis 1 – H_1:

There is a positive association between South African life insurance companies' market share and entrepreneurial intensity.

Null Hypothesis – H_10: *There is no positive association between South African life insurance companies' market share and entrepreneurial intensity.*

Correlations

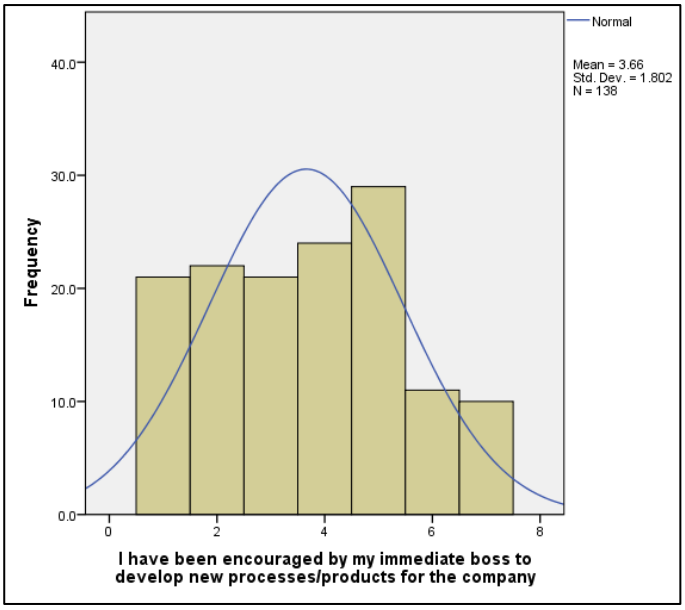
		Indicate which life insurance company you currently work for	EI
Indicate which life insurance company you currently work for	Pearson Correlation	1	.068
	Sig. (1-tailed)		.193
	N	166	166
EI	Pearson Correlation	.068	1
	Sig. (1-tailed)	.193	
	N	166	185

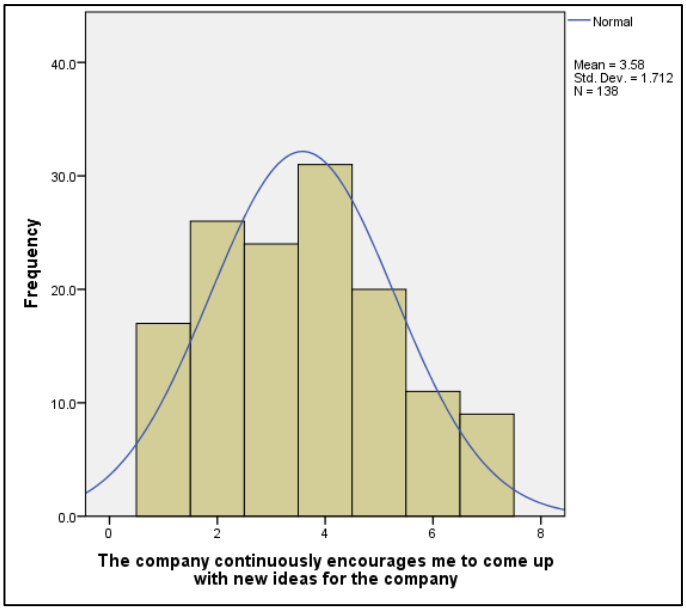
The Pearson correlation results indicate that the correlation between entrepreneurial intensity with the dependent variable is (0.068).

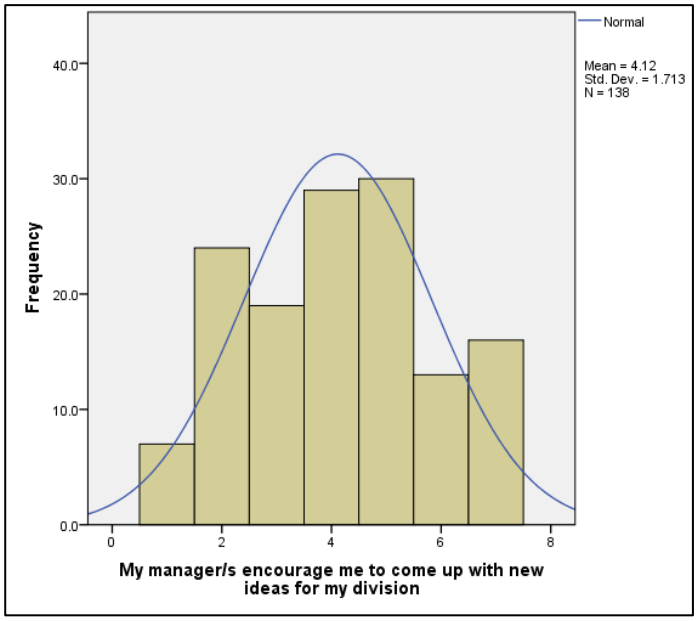
There is no significant linear association between market share and entrepreneurial intensity because the Pearson test statistic has a p-value > 0.05 significant level which means we do not reject H_10

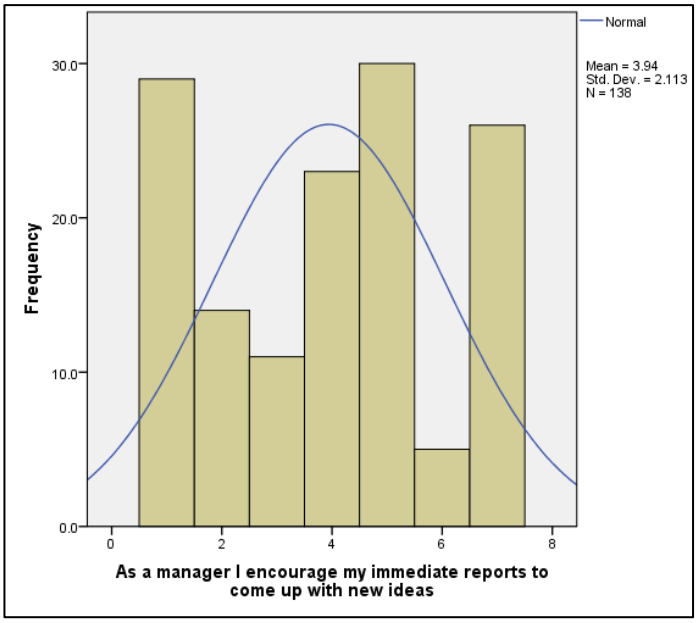
4.7 Results Pertaining to Hypothesis 2

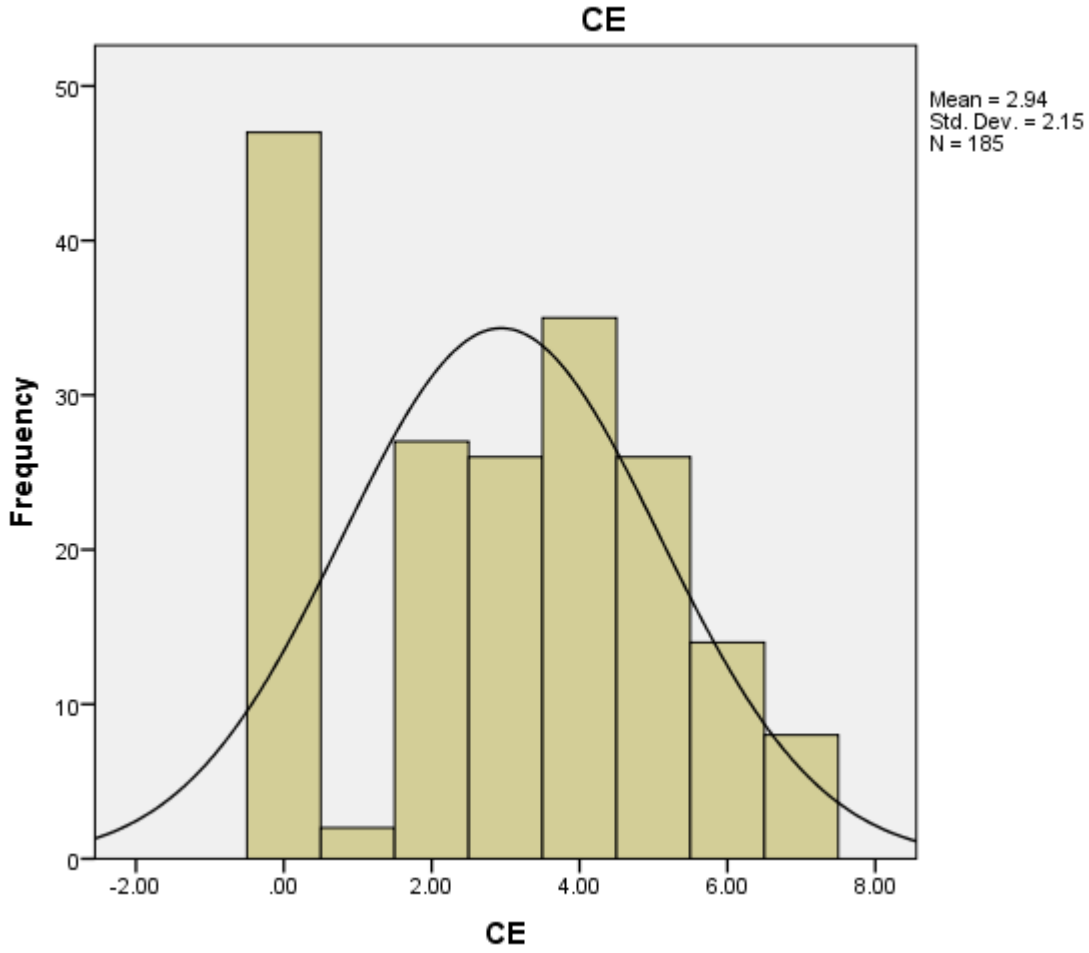
Below are the histogram representations of the respondents' answers to the four questions that related to corporate entrepreneurship within LI companies. The variable CE is calculated as a mean of the scores of the individual questions that load into it as determined by the EFA


Normal
Mean = 3.66
Std. Dev. = 1.802
N = 138
Frequency
I have been encouraged by my immediate boss to develop new processes/products for the company


Normal
Mean = 3.58
Std. Dev. = 1.712
N = 138
Frequency
The company continuously encourages me to come up with new ideas for the company


Normal
Mean = 4.12
Std. Dev. = 1.713
N = 138
Frequency
My manager/s encourage me to come up with new ideas for my division


Normal
Mean = 3.94
Std. Dev. = 2.113
N = 138
Frequency
As a manager I encourage my immediate reports to come up with new ideas



Hypothesis 2 – H_2:

There is a positive association between the top five (5) South African life insurance company's market share and Corporate Entrepreneurship.

Correlations

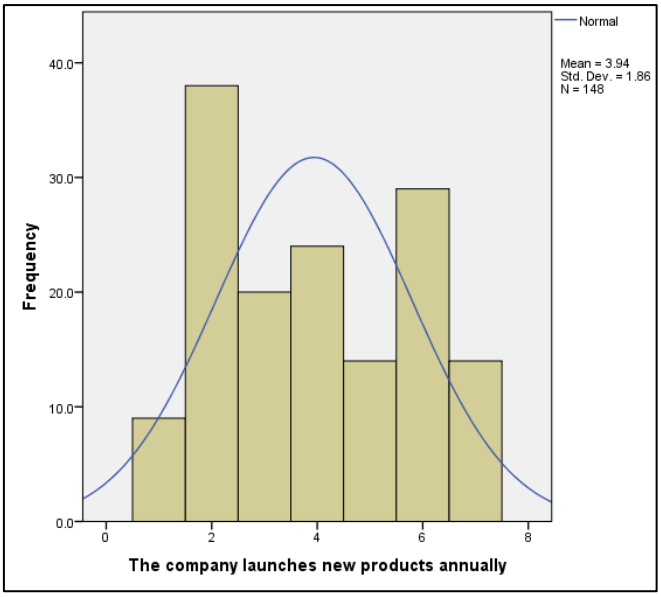
		Indicate which life insurance company you currently work for	CE
Indicate which life insurance company you currently work for	Pearson Correlation	1	.001
	Sig. (1-tailed)		.495
	N	166	166
CE	Pearson Correlation	.001	1
	Sig. (1-tailed)	.495	
	N	166	185

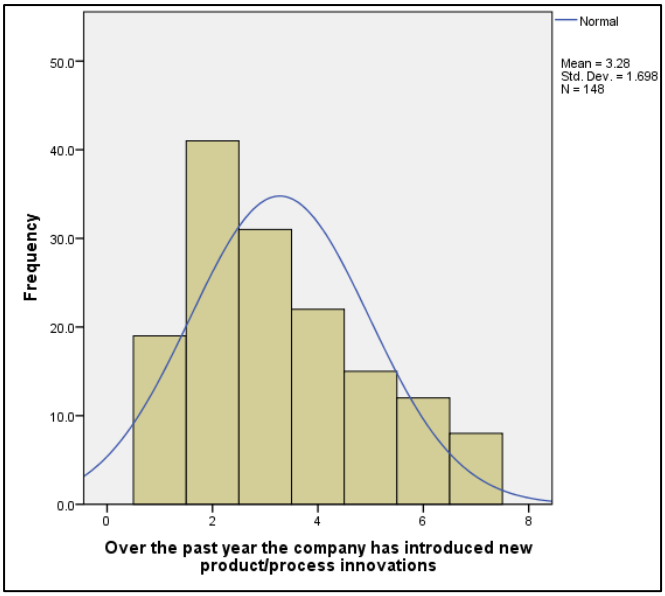
The Pearson correlation results indicate that the correlation between corporate entrepreneurship and the dependent variable is (0.001).

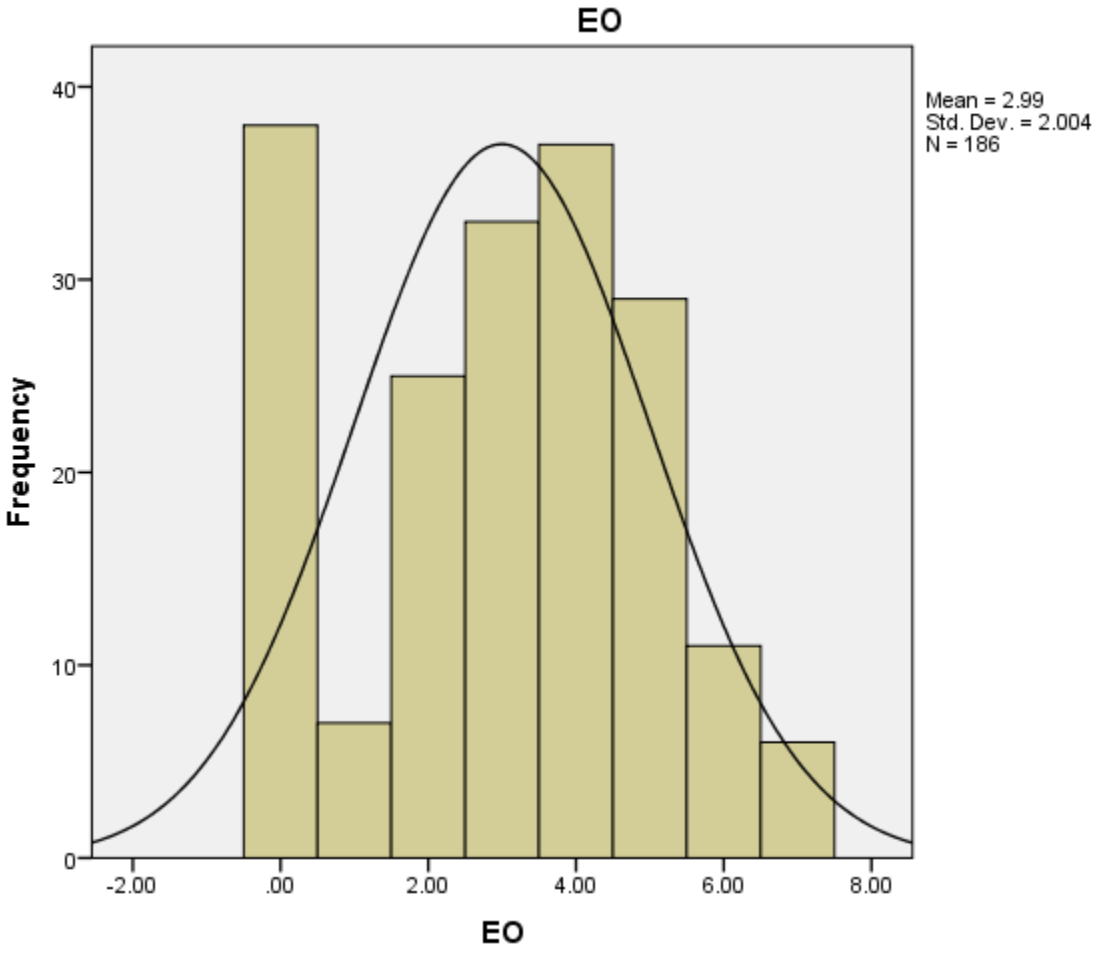
There is no significant linear association between market share and corporate entrepreneurship because the Pearson test statistic has a p-value > 0.05 significant level which means we do not reject H_20

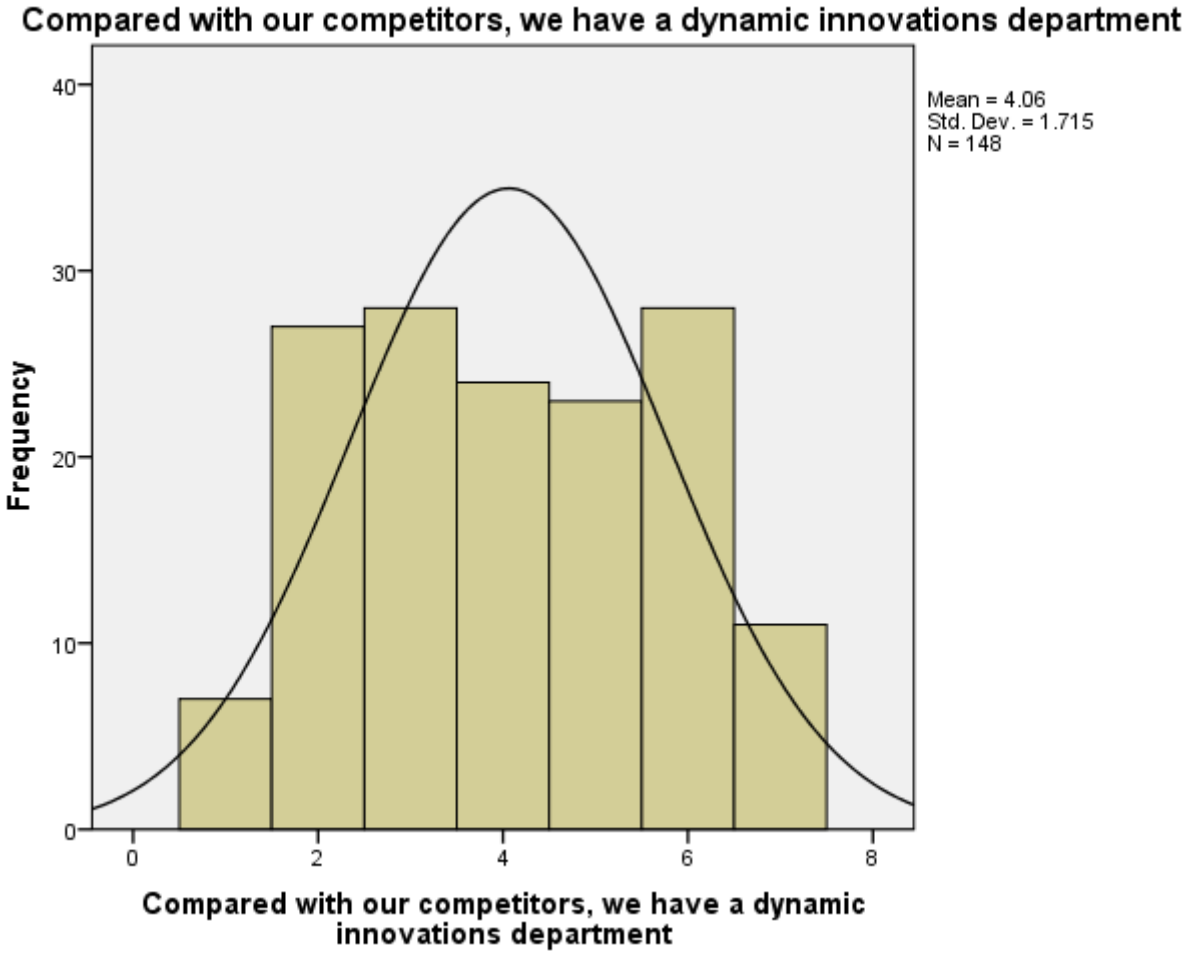
4.8 Results Pertaining to Hypothesis 3

The variable EO is calculated as a mean of the scores of the individual questions that load into it as determined by the EFA


Normal
Mean = 3.94
Std. Dev. = 1.86
N = 148
Frequency
The company launches new products annually


Normal
Mean = 3.28
Std. Dev. = 1.698
N = 148
Frequency
Over the past year the company has introduced new product/process innovations


EO
Mean = 2.99
Std. Dev. = 2.004
N = 186
Frequency
EO



Hypothesis 3 – H_3:

There is a positive association between the South African life insurance company's market share and Entrepreneurial Orientation Innovation.

Null Hypothesis H_30: There is no positive association between the South African life insurance company's market share and Entrepreneurial Orientation Innovation.

Correlations

		Indicate which life insurance company you currently work for	EO
Indicate which life insurance company you currently work for	Pearson Correlation	1	-.112
	Sig. (1-tailed)		.076
	N	166	166
EO	Pearson Correlation	-.112	1
	Sig. (1-tailed)	.076	
	N	166	186

The Pearson correlation results indicate that the correlation between entrepreneurship orientation innovation and the dependent variable is (-0.112)

There is no significant linear association between market share and entrepreneurial orientation innovation because the Pearson test statistic has a p-value > 0.05 significant level which means we do not reject H_30

CHAPTER 5. DISCUSSION OF THE RESULTS

5.1 Introduction

This chapter discusses the results of the empirical finding resulting from the data analysis results presented in chapter 4. The descriptive statistics data will first be discussed and then followed by the reliability scales results. The results from the EFA will then be discussed, including the correlation analysis outcomes resulting from the Bivariate Pearson Correlations Test.

The results from the statistical analyses will then be discussed using the literature reviewed in chapters 2 and compared to some of the viewpoints outlined in the literature.

5.2 Demographic Profile of the Respondents

The collected data set used for the analysis was collected through questionnaires developed through Qualtrics. The developed questionnaires were then distributed to the sample of respondents through three primary channels or platform, namely; email and social media (LinkedIn and WhatsApp). Email distribution was done via email distribution lists provided by HR departments of LI companies. Some LI company HR departments when approached for consent informed the researcher that they were not be able to assist with the research. This was because they had no defined internal policies to respond to requests for student academic research survey requests.

In order to mitigate against not being able to send out enough research questionnaires to return a sufficient number of respondents, questionnaires were then also sent out via social media platforms. Social media distribution was done via LinkedIn social media platform, where the questionnaire was opened up to all life insurance professionals who's LinkedIn profiles are set up to pick up on any LI news feeds and surveys that are loaded onto the LinkedIn platform. The other social media platform used was WhatsApp messaging. A message with a mobile link to the Qualtrics survey tool was sent out to the author of the study's entire LI professional contacts list on WhatsApp, with an option to voluntarily participate in the survey if employed by a LI company employee.

Due to this limited support from various HR departments of LI companies only a total of 255 surveys were successful sent out to respondents via the three alternative platforms described above. Of the 255 surveys sent out a total final sample of 185 respondents elected to voluntarily start the survey and begin answering the questionnaire. This makes it a total participation rate of 72.5%. The final sample after cleaning of the data was a total of 165 completed and valid questionnaires, making it a final response rate of 64.7%.

Previous research has found that a sample of a minimum of 150 respondents or observations is adequate to achieve a reliable solution and confidence level for exploratory factor analysis (Guadagnoli & Velicer, 1988).

5.2.1 *Respondents Gender*

The data showed that there were 45.5% male respondents, 50.91% female respondents as well as 3.64% of respondents who preferred not to say which gender they were. These results indicate that there is a relatively equal gender split within the LI companies from which data was collected. It is estimated that 52% of the total population of South Africa is female (Horwitz and Jain, 2011). Therefore the gender representation of the respondents is a line with the population gender makeup.

5.2.1 *Employment level within the LI Company*

The responses for the empirical data demonstrating the employment levels was grouped into those that had been in the LI industry for less than 6 years or more. The data found that 30.77% of the respondents had only worked in the LI industry for up to 5 years and 69.23% had worked in the LI industry for longer than 6 years. The results show a much higher representation of respondents who have worked for longer than 6 years in the LI industry. This result demonstrates the amount of institutional knowledge that is retained within the LI companies. The large number employees have been working in the sector for a relatively long period of time, which strengthens the possibility of the status quo of how the LI companies operates being maintained as there are fewer new entrants into the sector.

5.2.1 *Current level of employment and number of direct reports*

The respondents were requested to indicate which employment level within their organisation they fell into. Of those who participated in the study 50.91% were classified as junior management or below inclusive of, administration staff, claims assessors, valuators, underwriters, actuaries, risk management, sales, finance, legal and compliance personnel., 26.06% as middle management, 13.3% senior management and only 9.7% representing executive management.

The largest employment level group within the companies was that of junior management and below. This demonstrates that the make of the companies is that of fewer people making up the higher management levels. 48.48% of respondents have zero people reporting to them, 25.45% have 1 to 5 people as direct reports, 12.73% have 6 to 10, 7.27% have 11 to 15 people and 3.6% have more than 20 direct reports or more indicating that they are senior or executive managers.

The above results show what ratio of the respondents has subordinates and how many don't. These results helped in understanding whether those who have subordinates are encouraged to promote entrepreneurial behaviour or encourage innovation. This result shows that almost half (48.48%) of the respondents are those that would be recipients of encouragement to innovate and half would be implementers of encouraging innovation and EO; i.e. managers. This data is important for understanding the corporate culture of the company. It was important to get a perspective from both managers and non-managers. The results show that there should be a balanced view representing both ends of the employee spectrum.

Insurance companies are information based organisations with a lot of data that has to continuously be processed by both information systems and people. The requirements of an information based organisation are that of a much larger lower management level base than that of higher levels of management (Drucker, 1988). These lower levels of management and employment do not have many direct reports, as demonstrated in the data results collect from respondents.

5.3 Descriptive Analysis of the Scales

The descriptive analyses of empirical data for the entrepreneurial intensity, entrepreneurial orientation innovation and corporate entrepreneurship scales measured of central tendency and dispersion for selected variables. The results for skewness, and normality tests of distributions for selected variables were also reviewed through the data analysis. Descriptive statistics provide basic summaries of demographic attributes through the use of frequency tables.

5.3.1 *Innovation scale*

The results indicated the perceived levels of innovation within the LI companies the respondents worked for. The majority of the responses to the questions had a cumulative frequency of over 50% of respondents who agree represented in Likert scale 5, 6 and 7). There outliers are question 2.1, and 2.2, 2.7 which had a cumulative frequencies of over 72% compared to the rest of the questions.

The mean values in the table are averaging 3.2 which is the strongly disagree response in the Likert scale and a standard deviation of approximately 1.7, which means that answers differed significantly from one respondent to the next. In essence there was no conclusive alignment of a common view on the innovation scale from the respondents.

When reviewing the literature in chapter 2 the literature indicated that innovation was a critical factor to a LI company's ability to grow the market share. Innovation is the creative disruption of an existing equilibrium within the economy of specific sectors within the economy (Śledzik, 2013).

5.3.2 *Entrepreneurial orientation scale*

The empirical data reflected the frequencies relating respondents to entrepreneurial orientation questions. There was almost a 50% split between the respondents who agreed (Likert scale 5, 6 and 7) and those who disagreed (Likert scale 1, 2 and 3). There was only one outliers in the form of question 3.8 (41.9% respondents neither agree nor disagree).

The mean values in the table were averaging 3.9 which indicated neither a strongly agree nor disagree response in the Likert scale. There was a standard deviation of approximately 1.7 as

a result of the influence of question 3.8. The variables are also positively skewed, but question 3.6 has a longer tail compared to the rest.

5.3.3 *Corporate entrepreneurship scale*

The results in the table 8 in chapter 4 above reflect the frequencies relating respondents to the innovation questions. The frequencies vary from question to question; there is no clear pattern of answers from the respondents. Question 4.4 seems to be an outlier or reflects very different frequencies from the rest of the questions.

The mean values in the table are around 3.8 and a standard deviation of approximately 1.8. All variables are positively skewed with question 4.4 being the only negatively skewed variable.

5.4 Testing Reliability of the Scales

The reliability of the scales was tested using the Cronbach's alpha coefficient (Field, 2009). Cronbach's alpha indicates the average value of the reliability coefficients and only requires a single test run to provide a unique guesstimate of the reliability for an analysis (Gliem and Gliem, 2003). The range is between 0 and 1, with the closer it is to 1.0 indicating the greater the internal consistency of the items being tested (Gliem and Gliem, 2003). A result of 0.7 or higher is widely used as statistical standard of an acceptable Cronbach Alpha of reliability (Field, 2009).

The alpha coefficient result for the all the questions is 0.764, suggesting that the variables coming out of the data collated has a relatively high internal consistency.

5.5 Exploratory Factor Analysis of the Scales

EFA is used to see whether different measures are tapping aspects of a common dimension (Field, 2009).

The first item tested was whether the sample size used was sufficient using Kaiser-Meyer-Olkin (KMO) measures sampling adequacy (Field, 2009). The minimum value for confirmation of adequate size is 0.5 (Field, 2009). The data's KMO test results gave a value is 0.709 meaning the sample size was more than sufficient.

The Bartlett's Test of Sphericity is significant, which means that there were at least 2 questions that were correlated from the selected set of questions (Field, 2009). Significance should be at $p < .05$ and the results came out at 253 (Field, 2009).

Using the Principal Component Analysis, there were initially 7 components with an eigenvalue greater than 1, meaning the 7 new factors could explain at least 63% of the variance (Field, 2009). The next step was to run a reliability analysis on all 7 questions as they were set up into the 7 factors, followed by a reliability test on the factors (Field, 2009). After rotating the table there are 3 components with an eigenvalue greater than 1, meaning these 3 factors can explain at least 70% of the variance (Field, 2009). The Cronbach Alpha reliability test conducted then gave the result of confirming reliability of 3 of the factors, with the remaining 4 providing too little a reliance coming in at values well below the minimum 0.7 required (Field, 2009).

These 3 factors gave the study confirmation of there being 3 variables which were being tested. It also grouped the relevant questions to each factor. These questions were therefore the most correlated in the independent variable they that they were testing. The variables were entrepreneurial intensity, entrepreneurial orientation innovation and corporate entrepreneurship.

5.6 Discussion Pertaining to Hypothesis 1

Hypothesis 1 – H_1:

There is a positive association between South African life insurance companies' market share and entrepreneurial intensity.

Null Hypothesis H_10*: There is no positive association between South African life insurance companies' market share and entrepreneurial intensity.*

The Pearson correlation results indicate the testing for an association or correlation between the entrepreneurial intensity independent variable and the dependent variable being the market share of the companies the respondents work for. The results indicated correlation levels of (0.068), which falls well below the desired minimum for a strong correlation.

The association/correlation between the dependent (market share) and independent variable (entrepreneurial intensity) is very poor because their correlation coefficients are closer to 0, which indicates a weak relationship. 0.7 is the rule of thumb for a strong correlation between variables (Field, 2009). There is no significant linear association between market share and entrepreneurial intensity because the Pearson test statistic has a p-value > 0.05 significant level.

As much as the results show that there is an association between market share and entrepreneurial intensity, it is a very weak association. Therefore the hypothesised view that the higher the levels of entrepreneurial intensity the greater the prospect of increasing market share is falsified. As much as there is a positive correlation between the independent variables measuring entrepreneurial intensity as all of the results indicate positive numbers, it is not significant enough to impact market share. In the literature review it was highlighted that the market share concentration in the LI sector had not moved much in the past few years. The empirical results show that this can't be attested to a lack of EI, but perhaps another reason.

5.7 Discussion Pertaining to Hypothesis 2

Hypothesis 2 – H_2:

There is a positive association between the top five (5) South African life insurance company's market share and Corporate Entrepreneurship.

Null Hypothesis H_20: ***There is no positive association between the top five (5) South African life insurance company's market and Corporate Entrepreneurship.***

The Pearson correlation results indicates the testing for an association or correlation between the corporate entrepreneurship independent variable and the dependent variable being the

market share of the companies the respondents work for. The results indicate that for the four (4) questions testing the corporate entrepreneurship the correlations with the dependant variable is (0.001).

The association/correlation between the dependent variable (market share) and independent variables (corporate entrepreneurship) is poor because the correlation coefficients are closer to 0, which indicates a weak relationship.

There is a positive relationship between the independent variables measuring corporate entrepreneurship as demonstrated by the positive correlations. However there is no significant linear association between market share and corporate entrepreneurship because the Pearson test statistic has a p-value > 0.05 significant level.

As with the EI variable the empirical results testing for hypothesis 2 show that corporate entrepreneurship levels within LI companies does not impact the size of their market share. Amongst the top five (5) there was not enough evidence of significant levels of corporate entrepreneurship that could lead to making the CE levels responsible for the company's market position. So there appears to be no significant difference or impact CE makes to a company's market standing by GWP.

5.8 Discussion Pertaining to Hypothesis 3

Hypothesis 3 – H_3:

There is a positive association between the South African life insurance company's market share and Entrepreneurial Orientation Innovation.

Null Hypothesis H_30: ***There is no positive association between the South African life insurance company's market share and Entrepreneurial Orientation Innovation.***

The Pearson correlation results indicates the testing for an association or correlation between the entrepreneurial orientation innovation independent variable and the dependent variable,

being the market share of the companies the respondents work for. The results indicate that for the 3 questions testing entrepreneurial orientation innovation the correlations with the dependent variable is (-0.112).

There is no significant linear association between market share and entrepreneurial orientation innovation because the Pearson test statistic has a p-value > 0.05 significant level.

The results show that EOI or the levels of innovation taking place within LI companies is not having a bearing on the company market share. As much as there is evidence of some level of innovation taking place and being encouraged to take place within the LI companies, it is not leading to any direct impact on their market share. In the literature review it was noted that entrepreneurial behaviour has to be encouraged (Wales, 2015). A company must couple this with engaging in indeterminate, entrepreneurial activities over time in order for it to have EO (Wales, 2015). The results show that this is being done by these companies, but not impacting on the company's market share as had been hypothesised.

5.9 Conclusion

The literature review from chapter 2 had provided an indication that there may be a strong association or relationship between the 3 independent variables (CE, EOI and EI) and the dependent variable (market share). The discussions from the literature appeared to support the hypothesis that there should be strong relationship between entrepreneurial intensity and market share concentration.

Literature suggested that a company's growth performance is directly linked to its levels of EI (Ireland, Kuratko and Morris, 2006). The results however show that even though there is a level of association between EI and market share, it is not significant enough to have any kind of significant impact on the market share of life insurers in South Africa. One could therefore investigate in future research whether this is applicable only to the life insurance sector in SA or whether there is an element such as regulatory requirements that influence the low impact EI has on market share. By utilizing innovative skills and capabilities it already possesses through its employees, it fosters an enabling environment for those employees to provide input and contribute (Javalgi et al, 2014). It is evident from the research that the LI companies are

creating an enabling environment to foster innovation, however this is not directly impacting market share growth. As articulated in the literature review, strategic corporate entrepreneurship innovation is driven by the identification of new ideas through an internal organizational review of structure, processes and capabilities (Hornsby et al, 2013). Companies are promoting corporate entrepreneurship, increasing employee participation (Sarooghi et al, 2015).

Despite there being evidence of the three variables taking place within the companies, the results however indicate that the level of entrepreneurial intensity, corporate entrepreneurship and entrepreneurial orientation innovation have no influence on the market share of South African Life Insurance Companies.

CHAPTER 6. CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

6.1 Introduction

In this chapter the conclusions and recommendations for the research will be presented. In the opening chapter of the research the study suggested that there was a very high market share concentration in the South African life insurance industry. The research projected that the reason for this high concentration may be attributed to low levels of entrepreneurial intensity within LI companies. The research also sought to affirm that there was an association between entrepreneurial intensity and the market share.

The research sought to confirm these assumptions by conducting empirical research into the entrepreneurial orientation innovation and corporate entrepreneurship levels within these companies. The empirical research was instigated through quantitative research conducted through survey questionnaires disseminated to the employees of these LI companies.

The conclusions of the research are presented in this chapter as well as recommendations for further research.

6.2 Conclusion of the Study

6.2.1 *A recap main objectives, hypotheses and main findings*

Contributing constructs to EI are found to be innovativeness, risk taking, frequency of entrepreneurial activities and proactiveness (Chauhan, Prakash and Jain, 2015). The literature review also suggested that a company's growth performance is directly linked to its levels of EI (Ireland, Kuratko and Morris, 2006).

The key objective of the research was to establish the levels Entrepreneurial Orientation Innovation, Corporate Entrepreneurship and Entrepreneurial Intensity in South African Life Insurance companies, in relation to their sizes measured by annual gross written premium and market share.

The results empirically supported the that there was definitely evidence of CE, EOI and CE taking place within the life insurance sector. The degree to which these are taking place was shown not have a significant amount of influence over how these companies perform in terms of market share.

The below table represents the three hypotheses formulated to test the main objective outlined above and the findings. The findings were as a result of quantitative statistical analysis of the hypotheses.

Hypothesis	**Statistical Outcome**	**Conclusion**
(Alternative) **Hypothesis 1 - H_1**		
There is a positive association between South African life insurance companies' market share and entrepreneurial intensity.	There is no significant linear association between market share and entrepreneurial intensity.	
***Null Hypothesis* - H_10**		
There is no positive association between South African life insurance companies' market share and entrepreneurial intensity.		**Fail to reject**
(Alternative) **Hypothesis 2 - H_2**		
There is a positive association between the top 5 South African life insurance company's market share and Corporate Entrepreneurship.	There is no significant linear association between market share and corporate entrepreneurship.	
***Null Hypothesis* - H_20**		
There is no positive association between the top 5 South African life insurance company's market and Corporate Entrepreneurship.		**Fail to reject**
(Alternative) **Hypothesis 3 - H_3**		
There is a positive association between the South African life insurance company's market share and Entrepreneurial Orientation Innovation (EOI).	There is no significant linear association between market share and entrepreneurial orientation innovation.	
***Null Hypothesis* - H_30**		
There is no positive association between the South African life insurance company's market share and Entrepreneurial Orientation Innovation.		**Fail to reject**

Table 10: Summary of main conclusion for each hypothesis

The table above summarizes that all three hypotheses were rejected based on the statistical evidence collated through the research.

6.2.1 *An summary of the main findings*

Previous studies affirmed that companies that strive to better their offerings (Baumol, 1993) and enhance their market share, both as individual companies and as a sector/industry, need to apply the theories of corporate entrepreneurship and innovation within their organisations in order to grow market share (Javalgi et al, 2014). Companies have to be cognisant of EO consisting of processes, structures and behaviours that are innovative (Wales, 2015). Innovativeness in the entrepreneurial context refers to attempts by a company to embrace creativity, experimentation, novelty and technological leadership, to name a few, in both products and processes (Wales, 2015). Previous research also went further hypothesize that a company's growth performance is directly linked to its levels of EI (Morris & Sexton, 1996).

The results from this empirical research conclude that within the South African life insurance sector, companies are not necessarily embracing or applying the above principles to the extent one may expect them to. The association between the dependent and independent variables is poor indicating a weak relationship, to the extent where the independent variables do not influence the dependent.

Through this empirical research it can be seen that the level of entrepreneurial intensity, corporate entrepreneurship and entrepreneurial orientation innovation have no influence on the market share of South African life insurance companies. It can therefore be assumed, not based on any empirical research, that there are other factors such as market demand that may impact directly on market share.

6.3 Implications and Recommendations

The study was limited to a snapshot of what is happening within the life insurance industry in as far as entrepreneurial orientation. The implications of a quantitative snapshot look, when researching an industry as big as the life insurance industry in South Africa, is that it may not be possible to sufficiently delve into the longer term strategies of companies in the sector. This then limits the extent to which the research may provide a clearer understanding of the strategic outcomes the sector may have in response to longer-term legacy issues that may exist. Perhaps a more focused level of research approach such as specifically selecting respondents or participants for the study, as opposed to random selection, may yield different results.

An in-depth analysis would require a longitudinal qualitative study, with direct access to the most senior executives within life insurance companies and their long term strategic objectives. These objectives may include strategies targeted at sustainably growing the market share in both the lower and the currently successful higher LSM market base.

6.4 Suggestions for Further Research

Literature has indicated that the determinants for market demand could play a significant role in understanding the fundamentals of how the South African life insurance market share may be grown. Research found eight socioeconomic characteristics and market conditions that could affect the demand for life insurance in Organisation for Economic Co-operation and Development (OECD) countries (Li, Moshirian, Nguyen & Wee, 2007). The factors that could affect demand are identified as disposable income, life expectancy, number of dependents, level of education, social security expenditure, financial development, foreign market share, anticipated inflation, and real interest rates (Li et al, 2007).

In a rapidly evolving global innovative environment, one could never completely ignore research into the potential nuances and influences highly disruptive innovations such as cryptocurrency could have on the South African life insurance sector. Research already suggests that the way of purchasing and administering claims in the not so distant future will be through alternative platforms such as block-chain or cryptocurrency.

The market is actively demanding elements such as the interface between the life insurers and customers be more interactive and dynamic (Oudinot, 2017). Further research should look into the possible correlation between these types of disruptive innovations and market share growth and diversification in the South African life insurance industry.

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Table 11: The Consistency Matrix

Ascertain the levels Entrepreneurial Orientation and Entrepreneurial Intensity in the South African Life Insurance sector in relation to their market share sizes measured by annual Gross Written Premium.							
Sub-problem	**Literature Review**	**Hypotheses or Propositions or Research questions**	**Source of data**	**Independent Variables**	**Dependent Variable**	**Type of data**	**Analysis**
Ascertain the levels of entrepreneurial intensity and entrepreneurial orientation innovation within the life insurance sector as a whole.	(Śledzik, 2013; Moroz & Hindle, 2011; Baumol, 1993; Bain Report, 2015; Baoshan & Haohan, 2008; Murimbika, 2011; Morris and Sexton, 1996; Cusano, 2016)	**H_1:** There is a positive association between South African life insurance companies' market share and entrepreneurial intensity. **H_2:** There is a positive association between the top 5 South African life insurance company's market share and Corporate Entrepreneurship.	Survey Questionnaire Survey Questionnaire	Entrepreneurial Intensity Corporate Entrepreneurship levels	Market Share Concentration and size	Interval	Descriptive statistics, Correlation analysis, Covariance, Reliability Analysis, Exploratory Factor analysis
Ascertain the levels of corporate entrepreneurship within life insurance companies placing, particular attention on the domain of Strategic Corporate Entrepreneurship focusing on internal organization processes, capabilities and structures.	(Shane and Venkataraman, 2000; Venter et al, 2016; Wales, 2015; Javalgi et al, 2014; Bain Report, 2015; Moroz & Hindle, 2011; Kuratko et al, 2015)	**H_3:** There is a positive association between the South African life insurance company's market share and Entrepreneurial Orientation Innovation (EOI).	Survey Questionnaire	EOI Levels	Market Share Concentration and size	Interval	Descriptive statistics, Correlation analysis, Covariance, Reliability Analysis, Exploratory Factor analysis

APPENDIX 1: CONSENT FORM

The empirical relationship between entrepreneurial intensity and market share concentration in the SA life insurance industry

Who am I

Good day my name is Dinilesizwe Nondumo, student number 1690551, and I'm conducting research with the objective to complete my Masters of Management in Entrepreneurship and New Venture Creation at Wits Business School.

What am I doing

I am researching the Empirical Relationship Between Entrepreneurial Intensity and Market Share Concentration in the SA Life Insurance Industry measured by means of conducting a quantitative study to understand the relationship.

Request for your participation

I am humbly requesting you to voluntarily participate in the study through answering questions in a prepared questionnaire. The questionnaire should take no longer than 20 – 25 minutes to complete. You may choose to answer as many or few of the questions as you wish. The decision or choice to participate is entirely yours alone and you will not be prejudiced or affected in any way should you choose not to participate. Should you participate, the decision is also yours to stop at any point, if you wish to do so.

Confidentiality

Should you participate your identity will be kept confidential and all records of your identity will be solely for academic purposes and may be reviewed or analysed by people authorized to validate the research such as my supervisor or data analysts. All of these people are bound by the university's confidentiality rules of academic conduct.

Associated risks to you

There are no known risks associated with conducting this study or being a participant in the study.

Benefits

There are no immediate benefits to participating in the study as all findings will be contributing to the knowledge base of academia at large.

Who to contact with any complaints or concerns

The research being conducted is approved by Wits Business School and should you have any complaints or queries relating to the research, or feel you have been prejudiced in any way due to the study, please contact the Research Office Manager at the Wits Business School, Kedebone Tyeda at kedebone.tyeda@wits.ac.za. You may also feel free to contact my supervisor Dr McEdward Murimbika with any concerns or queries: Email: murimbikam@ftt580.com

Consent

By my signature herein below I consent to participating in the study title "The empirical relationship between entrepreneurial intensity and market share concentration in the SA life insurance industry." I am participating freely out of my own will and understand that research study will not benefit me in any shape or form and that it being conducted solely for academic research purposes.

_____ _____

Full Name: **Signature:**

_____

Date:

APPENDIX 2: COVER LETTER

The empirical relationship between Entrepreneurial Intensity and market share concentration in the SA Life Insurance Industry

Dear Madam/Sir,

My name is Dinilesizwe Nondumo, a Masters of Management in Entrepreneurship candidate at University of Witwatersrand Business School (Wits Business School) in Johannesburg, Gauteng. My Masters Research topic/title is “The empirical relationship between entrepreneurial intensity and market share concentration in the SA life insurance industry.” The aim of my research is to understand the link or correlation between a life insurance company’s level of internal entrepreneurship drive toward innovation and its size of the life insurance market share measured by GWP in South Africa.

I have selected to conduct an information search in the form of a questionnaire from within life insurance companies. As an employee of a life insurance company, I believe I may gain valuable insight on the relationship between innovation, internal corporate entrepreneurship and market share size. The pole sample of participants is drawn from junior, middle and senior managers within life insurance companies. The questionnaire is made up of 30 short questions and should take 15 – 20 minutes to complete.

The questionnaire is made of three sections;

1. Questions requesting information about yourself and your work history within the life insurance sector in South Africa.
2. Questions looking for insight into how you perceive your inputs and personal experience of the culture within your company.
3. Questions looking for insight on your company’s internal innovation philosophy and how it’s applied in your view.

The research is purely for academic purposes only and the responses received will be analyses and reported on my final thesis and academic journal. All responses received will be kept on record for a maximum of five (5) years, after which they will be permanently destroyed.

Should you choose to participate:

- The research does not present any inherent danger or harm to the person or reputation of any participant.
- All results will be treated as confidential only for academic use.
- All questions asked do not have a correct or incorrect answer and a participant may decide not to answer any questions they do not wish to.
- Should a participant require any clarifications or have any specific questions regarding the questions at any point, they may ask for clarification.

Should you choose not to participate:

- There will be no penalty or negative effect to any participant who chooses not to participate.
- All participation in the research is completely voluntary and at the participant's discretion.

The Wits Business School's academic research panel has unconditionally approved the research study.

Should there be any questions or queries related to the research you may contact my supervisor Dr. McEdward Murimbika either on +27 83 613 6530 or email him at murimbikam@ftt580.com. You may request the result of the research directly from me at 1690551@student.wits.ac.za or dini.nondumo@gmail.com

Yours sincerely

Dinilesizwe Nondumo

APPENDIX 3: RESEARCH INSTRUMENT

The following will help me gain an understanding of who you are. Please indicate your selected answer in the most appropriate circle.

Q1.1 Are you...

- ○ Male
- ○ Female
- ○ Prefer not to say

Q1.2 How many years have you worked in the life insurance sector

- ○ 1 - 5
- ○ More than 6

Q1.3 Indicate which life insurance company you currently work for

- ○ ABSA Life
- ○ BOE Life Insurance
- ○ Discovery Life
- ○ Hollard Life Assurance
- ○ Liberty
- ○ Land Bank Life Insurance Company
- ○ Momentum Life

- ○ Nedgroup Life Insurance
- ○ Old Mutual
- ○ Outsurance Life
- ○ Sanlam
- ○ 1Life
- ○ Other: Please name _____

Q1.4 Indicate your current level of management within your current employ

- ○ Junior manager
- ○ Middle manager
- ○ Senior manager
- ○ Executive manager

Q1.5 Indicate how many people are your direct reports / subordinates

- ○ 0
- ○ 1 – 10
- ○ 11 - 20
- ○ More than 20

Q1.6 How long have you been working in your current department

- ○ 1 – 12 months
- ○ 1 – 2 years
- ○ 2 - 5 years
- ○ Longer than 6 years

Please indicate how much you agree or disagree with the below statements by placing an (X) in the box that best articulates your view. The following will help me find out how you as an individual are generally expected to interact with your organization.

		1	2	3	4	5	6	7
		Strongly Disagree	**Slightly Disagree**	**Disagree**	**Neutral**	**Agree**	**Slightly Agree**	**Strongly Agree**
2.1	I joined the company because the corporate culture attracted me							
2.2	The general interaction with staff at all levels is informal							
2.3	The management culture is top-down							
2.4	I interact with EXCO members regularly							
2.5	There is an open door philosophy in my division/department							
2.6	There is an open door philosophy throughout the company							
2.7	Management encourages interaction between departments							
2.8	I and other staff have been able to transfer relatively easily from one department to another							
2.9	I have successfully implemented more than 2 ideas proposed by my immediate reports in the past 3 years							

Please indicate how much you agree or disagree with the below statements by placing an (X) in the box that best articulates your view. The below will help me understand how your organization expects staff to live its values.

		1	2	3	4	5	6	7
		Strongly Disagree	**Slightly Disagree**	**Disagree**	**Neutral**	**Agree**	**Slightly Agree**	**Strongly Agree**
3.1	Compared with our competitors, we have a dynamic innovations department							
3.2	The company launches new products annually							
3.3	The corporate culture is a very hierarchical one							
3.4	The company has a new ideas competition with rewards							
3.5	Compared to our competitors, profits have continued to grow over the past 3 years							
3.6	Over the past year the company has introduced new product/process innovations							
3.7	Problem solving takes place within separate departments							
3.8	The most successful products of the last 3 years were innovations that came from ideas presented by lower level employees/managers							

Please indicate how frequently the below statements take place in your organization by placing an (X) in the box that best articulates your view. The below will help me understand your organization better.

		1	2	3	4	5	6	7
		Never	**Rarely** >10% of the time	**Occasionally** 30% of the time	**Sometimes** 50% of the time	**Frequently** 70% of the time	**Usually** <90% of the time	**Always**
4.1	I have been encouraged by my immediate boss to develop new processes/products for the company							
4.2	My manager/s encourage me to come up with new ideas for my division							
4.3	The company continuously encourages me to come up with new ideas for the company							
4.4	As a manager I encourage my immediate reports to come up with new ideas							
4.5	The company has frequent company/departmental workshops to review and improve processes							
4.6	Compared to our competitors, we have a rapid adjustment rate to customer demands							