

https://dspace.org/

The influence of transformational leadership on the relationship between an entrepreneurial mindset and corporate entrepreneurship

Govender, Thanusha

2016

http://hdl.handle.net/10539/21497

Govender, Thanusha (2016) The influence of transformational leadership on the relationship between an entrepreneurial mindset and corporate entrepreneurship, University of the Witwatersrand, <http://wiredspace.wits.ac.za/handle/10539/21497>

Downloaded from a DSpace repository. https://dspace.org/

The influence of transformational leadership on the relationship between an entrepreneurial mindset and corporate entrepreneurship

Thanusha Govender

Professor Boris Urban

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

Johannesburg, 2016

ABSTRACT

Although corporate entrepreneurship has been examined extensively and alike the antecedents of corporate entrepreneurship, have become a key interest to researchers. The examination of organisational and cognitive factors that drive corporate entrepreneurship is an area of study still in its infancy. This research report, aimed to bridge this knowledge gap, by evaluating the effect of transformational leadership and entrepreneurial mindset in enhancing levels of corporate entrepreneurship.

This cross-sectional, empirical study is composed of 173 independent samples of management employees, taken from within a major African bank, headquartered in South Africa. The research, based on structural equation modelling, demonstrated that an entrepreneurial mindset and transformational leadership is positively related to higher levels of corporate entrepreneurship.

Equally, empirical evidence was discovered, using structural equation modelling and regression analytics, that transformational leadership positively influences the behavioural relationship between the entrepreneurial mindset and corporate entrepreneurship. This occurs through the mediation causal relationship of transformational leadership, between both latent variables, and the bidirectional causal effect between transformational leadership and an entrepreneurial mindset.

DECLARATION

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

Thanusha Govender

Signed at ……

On the …….. day of …… 2016.

DEDICATION

To my husband and daughter, thank you for believing in me and inspiring me to reach new heights of personal growth, but most importantly thank you for being my “true north” as I navigate through life.

ACKNOWLEDGEMENTS

Closing the final chapter of my research thesis has brought the memories of the last 14 months flooding back and has very importantly brought to the fore, the journey of immense growth I have travelled during this time and the amazing people that have positively attributed to my learning.

I would like to thank my supervisor, Professor Boris Urban, for designing the MMENVC programme and for his rigorous guidance and support during my research process.

I would equally like to thank Dr Rob Venter, for his guidance and teachings, in assisting me in becoming familiar with the research process.

I would like to thank Dr Elsamari Botha, for her support in the empirical analysis of this research project.

Lastly, I would like to thank my employer, ABSA Capital, and all the employees of the organisation that have relentlessly assisted me during my studies.

TABLE OF CONTENTS

ABSTRACT ..... **ii**

DECLARATION ..... **iii**

DEDICATION ..... **iv**

ACKNOWLEDGEMENTS ..... **v**

TABLE OF CONTENTS ..... **vi**

LIST OF TABLES ..... **x**

TABLE OF FIGURES ..... **xii**

CHAPTER 1: INTRODUCTION **1**

1.1 THEORETICAL BACKGROUND TO THE STUDY 2

1.1.1 CORPORATE ENTREPRENEURSHIP 2
1.1.2 TRANSFORMATIONAL LEADERSHIP 3
1.1.3 ENTREPRENEURIAL MINDSET (ENTREPRENEURIAL MINDSET) 4

1.2 CONTEXT OF THE STUDY 5

1.3 PROBLEM STATEMENT 6

1.4 RESEARCH OBJECTIVE 7

1.5 RESEARCH PURPOSE, RESEARCH QUESTION AND AIMS OF THE STUDY 7

1.6 CONCEPTUAL/THEORETICAL DEFINITION OF TERMS 7

1.7 CONTRIBUTION OF THE STUDY 8

1.8 DELIMITATIONS OF THE STUDY 9

1.9 ASSUMPTIONS 10

CHAPTER 2: LITERATURE REVIEW **11**

2.1 INTRODUCTION 11

2.2 THEORETICAL BACKGROUND TO THE CONSTRUCTS 12

2.3 CORPORATE ENTREPRENEURSHIP AND ENTREPRENEURIAL MINDSET 16

2.3.1 CONCEPTUALISING ENTREPRENEURSHIP 16
2.3.2 CONCEPTUALISING CORPORATE ENTREPRENEURSHIP 18

2.4 DECONSTRUCTED VARIABLES OF CORPORATE ENTREPRENEURIAL BEHAVIOUR 20

2.4.1 Innovation, a determinant of corporate entrepreneurship 20
2.4.2 Risk-taking, a determinant of corporate entrepreneurship 21
2.4.3 Proactiveness, a determinant of corporate entrepreneurship 22

2.5 Antecedents to entrepreneurial behaviour 23

2.5.1 Conceptualising an entrepreneurial mindset, the cognitive profile of an individual 31
2.5.2 Individual driven, entrepreneurial behaviour 35
2.5.3 Hypothesis 1 42

2.6 The relational influence of transformational leadership within an organisation 43

2.6.1 Conceptualising transformational leadership 43
2.6.2 Organisational driven, entrepreneurial behaviour 45
2.6.3 Hypothesis 2 49
2.6.4 Transformational leadership, indirectly influences corporate entrepreneurship 49
2.6.5 Hypothesis 3 56
2.6.6 The causal behaviour of transformational leadership, in the relationship between an entrepreneurial mindset and corporate entrepreneurship 57
2.6.7 Hypothesis 4 59

2.7 Control variable 59

2.8 Conclusion of literature review 60

CHAPTER 3: RESEARCH METHODOLOGY 65

3.1 Research paradigm 65

3.2 Research design 65

3.3 Population and sample 66

3.3.1 Population 66
3.3.2 Sample and sampling method 66

3.4 The research instrument 67

3.5 Procedure for data collection 69

3.6 Data analysis of the model 69

3.7 Data evaluation of the model 71

3.7.1 Descriptive statistics 71
3.7.2 Outer model analysis 71
3.7.3 Common method bias 73
3.7.4 Ethical Considerations 74
3.7.5 Inner model analysis 74
3.7.6 Mediation analysis 74

3.8 Linear regression 76

3.9 Validity and reliability of the research 76

3.9.1 External validity 76
3.9.2 Internal validity 76
3.9.3 Internal reliability 77

3.10 Limitations of the study 78

3.11 Conclusion 78

CHAPTER 4: EMPIRICAL RESULTS 80

4.1 INTRODUCTION 80
4.2 PROFILE OF RESPONDENTS 80
4.3 SAMPLE ADEQUACY 81
4.4 DESCRIPTIVE STATISTICS 82
4.5 OUTER MODEL ANALYSIS 86
4.5.1 MODEL RELIABILITY 86
4.5.2 MODEL VALIDITY 89
4.5.3 UNIDIMENSIONALITY PROCEDURE 94
4.5.4 COMMON METHOD TESTING 95
4.6 INNER MODEL ANALYSIS 96
4.7 RESULTS PERTAINING TO HYPOTHESIS 1 102
4.8 RESULTS PERTAINING TO HYPOTHESIS 2 103
4.9 RESULTS PERTAINING TO HYPOTHESIS 3A 103
4.10 RESULTS PERTAINING TO HYPOTHESIS 3B 104
4.11 RESULTS PERTAINING TO HYPOTHESIS 4 105
4.12 SUMMARY OF RESULTS 106

CHAPTER 5: DISCUSSION, CONCLUSION AND RECOMMENDATIONS 108

5.1 INTRODUCTION 108
5.2 DEMOGRAPHIC PROFILE OF RESPONDENTS 108
5.3 UNIDIMENSIONAL SCALE CONSTRUCTS 110
5.4 DISCUSSION PERTAINING TO HYPOTHESIS 1 112
5.5 DISCUSSION PERTAINING TO HYPOTHESIS 2 115
5.6 DISCUSSION PERTAINING TO HYPOTHESIS 3 117
5.6.1 DISCUSSION PERTAINING TO HYPOTHESIS 3A 117
5.6.2 DISCUSSION PERTAINING TO HYPOTHESIS 3B 119
5.6.3 SUMMARY DISCUSSION PERTAINING TO HYPOTHESIS 3 121
5.7 DISCUSSION PERTAINING TO HYPOTHESIS 4 121
5.8 DISCUSSION CONCLUSION 122

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS 124

6.1 INTRODUCTION 124
6.2 CONCLUSION OF THE STUDY 124
6.3 LIMITATIONS OF THE STUDY 125
6.4 IMPLICATIONS OF THE STUDY FOR BUSINESS 126

6.5 IMPLICATIONS OF THE STUDY FOR THEORY DEVELOPMENT 128
6.6 SUGGESTIONS FOR FUTURE RESEARCH 128

REFERENCES 130

APPENDIX A: 140

ACTUAL RESEARCH INSTRUMENT 140

APPENDIX B: 145

RESIDUAL PLOTS 145

APPENDIX C: 146

OLS REGRESSION, BOOTSTRAPPING RESULTS 146

APPENDIX D: 147

CATEGORICAL, CONTINUOUS DESCRIPTIVE STATISTICS 147

LIST OF TABLES

Table 1: Model construct key 64

Table 2: Profile of respondents 67

Table 3: Research Instrument 68

Table 4: The corporate grade profile of respondents 80

Table 5: The gender profile of respondents 81

Table 6: Kaiser-Meyer-Olkin statistics 81

Table 7: Descriptive statistics of latent variables 82

Table 8: Data normality statistics 83

Table 9: Pearson correlations 84

Table 10: Linear correlation analysis 85

Table 11: Internal consistency of the measurement model 87

Table 12: Loadings of the measurement model 88

Table 13: Convergent validity of the measurement model 90

Table 14: T-statistics for convergent validity 90

Table 15: Cross-loadings of the measurement model 92

Table 16: Discriminant validity: Fornell-Larcker criterion 93

Table 17: Discriminant validity: HTMT method 93

Table 18: Inner model correlations 96

Table 19: Collinearity of the inner model 96

Table 20: R-square value of the measurement model 97

Table 21: Summary of path coefficient and significance levels of the inner model 97

Table 22: Outer loadings of the outer model 99

Table 23: T-Statistics and significance levels of the outer model 100

Table 24: Effect size of the inner model 101

Table 25: Linear regression model 103

Table 26: Summary of mediation analysis 106

TABLE OF FIGURES

Figure 1: Employee workforce pyramid 10

Figure 2: A conceptual model of entrepreneurship as firm behaviour (Covin & Slevin, 1983:10) 18

Figure 3: A strategic management perspective model of corporate entrepreneurship (Guth & Ginsberg, 1990:5) 26

Figure 4: Entrepreneurship as a multi-dimensional construct 30

Figure 5: The model of an entrepreneurial mindset (Haynie & Shepherd, 2009:698) 33

Figure 6: Model of the entrepreneurial process (Shane et al., 2003:274) 35

Figure 7: Entrepreneurial mindset, an antecedent to corporate entrepreneurship 41

Figure 8: Transformational leadership construct (Avolio et al., 1991:199) 44

Figure 9: Transformational leadership, an antecedent to corporate entrepreneurship 49

Figure 10: Model of entrepreneurial motivation and the entrepreneurial process (Shane et al., 2003:274) 53

Figure 11: Model of strategic management (Ireland et al., 2003:967) 56

Figure 12: Examples of causal relationships between latent variables (Jaccard & Turrisi, 2003:2) 57

Figure 13: Transformational leadership, a mediator variable, between entrepreneurial mindset and corporate entrepreneurship 58

Figure 14: Model construct: Proposed relational influence of transformational leadership on an entrepreneurial mindset and corporate entrepreneurship 63

Figure 15: Mediation analysis (Baron & Kenny, 1986:967) 75

Figure 16: Measurement model 95

Figure 17: Empirical model..... 102

Figure 18: Mediation analysis..... 105

CHAPTER 1: INTRODUCTION

Founding economic theorist, Schumpeter (1934), conceptualised the modern notion of entrepreneurship, and advocated the link between entrepreneurship and economic development that is brought about by creative destruction and the novel combination of innovations to formulate new products, new markets, new processes, or the organisational renewal of enterprises.

Entrepreneurship is a concept that is not only reserved for the domain of start-up companies, but rather it is a broader principal that is applicable to a spectrum of businesses, independent of size, industry or geography. Entrepreneurship pivots around a different paradigm of thinking and behaviour, which transform the internal workings of an organisation to become forward thinking, innovative and competitively resilient (Brown, Davidsson & Wiklund, 2001).

According to Antoncic and Hisrich (2003:518), corporate entrepreneurship is posited as "entrepreneurial activities and orientations in an established organisation, which is one important aspect of organisational and economic development, as well as, wealth creation". Extant research has expanded on the domain of corporate entrepreneurship, the operationalisation of this concept within organisations and the key building blocks that influence the corporate entrepreneurship performance relationship.

Research conducted by Guth and Ginsburg (1990) analyse both the internal and the external factors that influence corporate entrepreneurship; it highlights leadership as a key-driving factor to the levels of entrepreneurship within an organisation. Whereas, Ireland, Covin and Kuratko (2009) theorise that one of the antecedents to corporate entrepreneurship, is individual entrepreneurial cognition, which encompasses the values, beliefs and attitudes of employees. Similarly, present research supports the notion that in their own theoretical capacity, both leadership and corporate entrepreneurship positively influence firm level performance (Howell & Avolio, 1993; Zahra & Covin, 1995).

According to Phan, Wright, Ucbasaran and Tan (2009), the relational impact of the following factors in assessing, directly and indirectly, corporate entrepreneurship performance is not fully understood, namely a) cognitive, b) organisational, and c) environmental. Thus, the full effect of transformational leadership on all entrepreneurial factors influencing corporate entrepreneurship has not been fully understood nor has the causal relationship between the entrepreneurial mindset and leadership been explored.

This research study aimed to add to the body of corporate entrepreneurship knowledge by empirically exploring the influence that leadership, more specifically transformational leadership, has on the performance relationship between corporate entrepreneurship and the entrepreneurial mindset.

1.1 Theoretical background to the study

The study has theoretical roots in the following domains: corporate entrepreneurship, leadership and entrepreneurial mindset, and it evaluates the relational impact the domains have on each other when these three variables intersect.

1.1.1 Corporate entrepreneurship

Business environments are constantly changing and the competitive landscape has become aggressive; therefore, there is a clear need for organisations to evolve and become robust and dynamic to keep abreast with technological innovation and hyper-competition, to ensure organisational survival and relevance. Corporate entrepreneurship has been widely accepted as an effective business practice to a) strategically revitalise organisations, b) enable them to achieve competitive advantage, and c) improve the commercial performance of the organisations (Zahra & Covin, 1995).

According to Barreira, Dhliwayo, Luiz, Naude and Urban (2008:139), corporate entrepreneurship “is an entrepreneurial mind-set and behaviour of an organisation”; similarly, Covin and Slevin (1991:7), termed corporate entrepreneurship the “dimension of strategic posture”, characterised by an

organisation's propensity to take risk, their ability to innovate, their proactive disposition, and their ability to display competitively aggressive industry action.

According to Miller (1983), corporate entrepreneurship is a concept that pivots around three central organisational competencies, namely a) product innovation, b) risk-taking, and c) proactiveness. Corporate entrepreneurship, in essence, refers to a firm level behaviour, brought about by entrepreneurial thinking, similar to those of habitual entrepreneurs (McGrath & MacMillan, 2000).

The notion that firm level entrepreneurial behaviour leads to financial performance has been empirically supported by both longitudinal studies conducted by Zahra and Covin (1995), and cross-sectional studies conducted by Antoncic and Hisrich (2003).

Theoretically, this relationship is equally supported in two ways, first, because innovation leads to competitive advantage, enhanced brand reputation and customer loyalty, which leads to positive company performance (Miller & Friesen, 1982). Second, agility and market responsiveness provide a first mover advantage that leads to boosted firm performance (Zahra, 1993).

1.1.2 Transformational leadership

Bass (1985) was a pioneer in the development and inclusion of the concept of transformational leadership into the research field of leadership, as he was of the opinion that previous schools of thought on leadership were focused on the transactional components of leadership and not on the visionary and motivational components of leadership.

According to Bass (1995:467), "transforming leaders convert followers to disciples and they develop followers into leaders", and he further posited that transformational leaders transform the basic needs of their followers, from "safety and security" into the "needs of achievement and self-actualisation". Equally, they re-enforce an organisational mind-set and purpose among their followers (Bass, 1995).

Similarly, Zaccaro, Kemp and Bader (2003) contributed, by indicating that leadership performances are influenced by the cognitive and metacognitive ability of the individual. Whereas, Sashkin (2004) postulated that transformational leaders help to build and shape the culture of a company, by creating empowering opportunities for employees, enabling in-house collaboration and encouraging organisational shared values. According to the empirical research study conducted by Howell and Avolio (1993), transformational leadership, positively and directly, is a predictor of firm level performance and equally moderates the level of innovation support within the organisation.

1.1.3 Entrepreneurial mindset (entrepreneurial mindset)

The global business environment is laden with hyper-competition, which requires businesses to navigate through uncertainty and complexity to survive. However if uncertainty is exploited effectively, it results in high impact growth to businesses (McGrath & MacMillian, 2000).

According to McGrath and MacMillian (2000:4), the thinking framework required to unlock high business potential is an entrepreneurial mindset, which requires applying a set of “finely honed skills that allows for the forging of opportunity from uncertainty and adaptive business execution”. The theoretical origins of the model for an entrepreneurial mindset, lies within the broader cognitive science domain and more specifically within metacognitive theory, as defined by Haynie, Shepherd, Mosakowski and Earley (2010).

Similarly, Urban (2013) concurred that the theoretical foundation of an entrepreneurial mindset, is cognitive science and more narrowly, cognitive adaptability, as a key construct, which is defined as the ability to be robust, agile and regulate one’s cognitive thinking in uncertain business climates.

1.2 Context of the study

The financial and services sector contributes 21.1 percent to the Gross Domestic Product (GDP) in South Africa (Young, 2013). Even though this is a sizeable contribution, by no means, does it fully explain the role that the banking segment, plays in the economy (Herring & Santomero, 1991). Financial service companies provide the payment infrastructure and financial instruments that enable organisations and households to partake in the broader world economy (Frei, Harker & Hunter, 1998).

According to the results from the South African Banking Sector Survey of 2015 conducted by PriceWaterhouseCoopers (PWC, 2015), the global banking sector is evolving at a rapid pace and change has become the norm. Retailers and mobile service providers are participating in banking services, which has resulted in the introduction of non-traditional competitors into the market, which is disrupting the domain. Equally, the evolution of customer preferences and customer buying patterns has made convenience banking or anytime, anywhere banking, the ticket to the banking game.

The need for the banking sector to innovate and become intrapreneurial has not been more prevalent than now, with the move to technology enabled banking solutions and value added services that drive up customer loyalty (Thulo, 2015). Financial services company, First National Bank has spearheaded the corporate entrepreneurship journey within the banking sector and the rest of the banks are playing catch up (Thulo, 2015). ABSA Bank Ltd. is one of the big five banks within South Africa and the biggest retail bank in South Africa, with 12 million customers and a deep market penetration after the 2012 acquisition of the Edcon credit book (Young, 2013). With non-traditional competitors entering the market, all banks are in need of organisation renewal to maintain competitiveness in the market.

According to the global entrepreneurship monitor special report on entrepreneurial employee activity, South Africa has low levels of entrepreneurial employee activity, which is due largely to minimal corporate support for inventions and traditional corporate cultures. In this study, the levels of

corporate entrepreneurship, within the chosen bank, were analysed and the influential relationship that transformational leadership has on entrepreneurial employee activity was explored, as leadership effects the levels of new idea development, the culture and the performance within an organisation.

1.3 Problem statement

The business landscape for corporates has evolved substantially in the new millennium and been disrupted by continuous change, which has added complexity to the landscape and resultant uncertainty. According to Hitt (2001:13), businesses need to infuse and attract “new forms of managerial thinking”, which are equipped to deal with the constant flux of transformation, and are comfortable and competent to navigate uncertainty and ambiguity. The study added that the mindset of a manager must be able to proactively respond and react to environmental conditions in order to gain and maintain an edge over the competition.

According to Bantel and Jackson (1989), internal innovation, within companies, is a key source of competitive survival and is seen as a mechanism for organisations to outperform in global markets. Their research empirically investigated the antecedent variables that influence innovative performance within the banking sector and, placed reliance on the role that leadership plays in the realisation of a company’s, innovative performance. However, even though Geyery and Steyrer (1998) agreed with the linkage between leadership and bank performance, their study narrowed down the leadership traits to that of transformational leadership in particular, as a pivotal factor in the performance linkage.

Thus, given the disruptive changes that the banking sector, is facing globally (Thulo, 2015), the degree of influence that transformational leadership plays in relation to the intrapreneurial or innovative performance of banks, needs examination.

1.4 Research objective

To determine the influence that transformational leadership had on the relationship between an entrepreneurial mindset, and higher levels of corporate entrepreneurship within the banking environment.

1.5 Research purpose, research question and aims of the study

The purpose of the study was to understand the relative importance of internal organisational factors of leadership and individual metacognitions, in promoting and advancing corporate entrepreneurship levels within a financial services company in an emerging economy.

This research study aimed to add to corporate entrepreneurship knowledge by utilising the empirical knowledge gained from this research as a precursor to understanding the relational influence of organisational and cognitive factors in driving corporate entrepreneurship. According to Phan et al. (2009), this has been identified as a research gap and highlighted as an area of potential future research.

Equally, the study aimed to the bridge the knowledge gap with regard to the mediating properties of transformational leadership, which Boerner, Eisenbeiss and Griesser (2007) have posited is an area of research that has limited existing literature.

What influence does transformational leadership have on the relationship between an entrepreneurial mindset and corporate entrepreneurship performance within a global bank?

1.6 Conceptual/theoretical definition of terms

- Entrepreneurial orientation “refers to the, strategy-making practices that businesses use to identify and launch corporate ventures” (Dess & Lumpkin, 2005:147).

- Entrepreneurial posture refers to the organisational level behaviour of risk-taking, frequency of product innovation and a propensity to engage in proactive opportunity seeking behaviour (Covin & Slevin, 1991).
- Social capital refers to "the goodwill available to entrepreneurs, or entrepreneurial teams. Its source lies in the structure and content of the entrepreneurs social relations" (Adler & Kwon, 2002:23).
- Human capital refers to the knowledge, skills and abilities of individuals that lead to an increase in their cognitive horsepower and more productive output (Venter, Urban & Rwigema, 2010).
- Intellectual capital refers to the knowledge, skills and expertise, which attributes to the cognitive complexity of an individual and their capacity to learn (Barreira, Botha, Oosthuizen & Urban, 2013).
- Reflective variables refer to manifest variables that are empirically observed and highly correlated to a unidimensional latent variable and 'reflect' the latent variable (Gefen, Straub & Boudreau, 2000).
- Endogenous construct refers to a latent construct that is the outcome or dependent variable within a causal relationship (Gefen et al., 2000).
- Exogenous construct refers to a latent construct that performs as a predictor of other latent constructs within a model (Gefen et al., 2000).
- Formative variables refer to manifest variables that are empirically observed and 'cause' the latent variable, i.e. they are variables that represent varying dimensions of the latent variable (Gefen et al., 2000).

1.7 Contribution of the study

This research study will theoretically enrich the leadership knowledge domain, by ascertaining the mediating and bidirectional properties of transformational leadership, a research area that has not been fully explored to date (Boerner et al., 2007).

Equally, the study will enrich the corporate entrepreneurship literature by localising the impact that transformational leadership plays in influencing both individual and organisational level entrepreneurial behaviour, thus providing

theoretical and empirical context for the nexus between transformational leadership and entrepreneurship.

The empirical findings from the research can assist the human resource department within the bank, to define a recruitment and training framework for their top-level management and wider employee base. Similarly, other financial services companies can utilise the findings as input and consideration, when developing their human resource framework.

Theoretical inferences from this research study can be utilised to base global financial services research testing, to validate the consistency of findings across companies within the sector and across different economy types.

1.8 Delimitations of the study

This research was a focused study within the banking arm of the financial services sector in South Africa. South Africa is classified as an emerging economy (Venter et al., 2010), is one of the BRICS (Brazil, Russia, India, China and South Africa) countries and is often categorised as the gateway to Africa (Economist, 2012).

The research narrowed the focus of study from the broader banking sector to a single bank, with a regional African footprint. Even though the employee grading system is specific to the respective bank, the cross-linkage to the respective managerial grading was normalised to industry practice.

The employee workforce sampled was restricted to the managerial structure of the bank and was inclusive of top-management, senior-management, middle management and junior-management across the banking value chain, and thus excluded the banking analyst employee workforce (Figure 1).

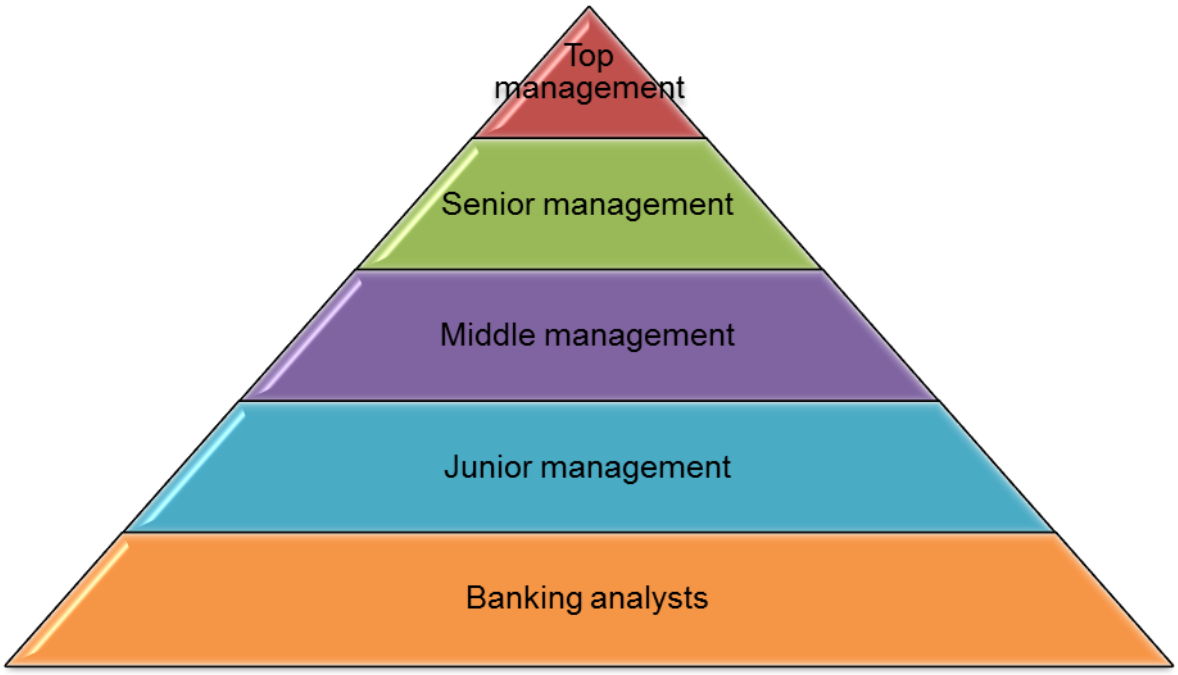


Figure 1: Employee workforce pyramid

The functional disciplines within the bank, included in the research, were information technology, operations, product control group, client relationship, corporate product, finance, human resource, strategy, risk, marketing, trading, compliance, executive committee, procurement, credit, and property management.

1.9 Assumptions

The research study adopted several assumptions:

- All respondents were deemed to have a fair degree of self-awareness to be able to sufficiently assess their own capability;
- All respondents engaged sufficiently with their superiors to be able to make a judgment call on their leadership capability; and
- All respondents scanned their organisational environment and were aware of the innovative and financial performance of the company.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

As the vision for the face of businesses and the competitive landscape evolves, in order to future proof organisations, the operating domain must change from that of a traditional corporate to one more entrepreneurial. The viability of corporates will hinge on the ability of organisations to become flexible, agile, innovative and responsive (Herbert & Brazeal, 1998) and organisations need to stay abreast with the changing environment by identifying and exploiting opportunities that are beyond their current set of organisational competencies (Shepherd & Krueger, 2002).

Extant literature and research into the field of intrapreneurship or corporate entrepreneurship, states that corporate entrepreneurship models can be utilised to reform organisational structures, processes and practices. This view is aligned to Burgelman's (1984:154) view, where he defined the construct of corporate entrepreneurship to be "extending the firm's domain of competence and corresponding opportunity set through internally generated new resource combinations". Thereby conferring that corporate entrepreneurship can be regarded as a competitive response to the challenges being faced within the business environment.

Theorists, Covin and Slevin (1991), have been pioneers in the domain of corporate entrepreneurship and their research has shed light onto the behavioural actions or posture of an organisation, which classify companies as entrepreneurial. Their research has discovered that intrapreneurial companies adopt an entrepreneurial posture, or an orientation that first fosters entrepreneurial behaviours of risk taking, proactive opportunity exploration and innovative exploitation; second, this disposition permeates all levels within an organisation; and third the orientation is a reflection of the strategic philosophy of the top management within a company.

In lieu of the environmental necessity for corporations to adopt corporate entrepreneurship, in order to remain relevant and competitive, the drivers of corporate entrepreneurial behaviour have become a key interest for researchers due to the varying business implications or significance that they hold for businesses. According to theories posited by Covin and Slevin (1991), the levels of corporate entrepreneurship within organisations can be stifled or spurred due to the multiplicity effect of factors across three dimensions, namely, a) environmental, b) individual, and c) organisational factors.

Researchers have identified a spectrum of antecedents that become levers for entrepreneurial, firm behaviour. However, this research study zoned into the individual level behaviour of an entrepreneurial mindset and the organisational level behaviour, of the leadership style of management employees and more specifically, the transformational leadership ability of management employees to explore empirical deductions. The effect of environmental conditions that stimulate entrepreneurial action or create the need for entrepreneurial action, were not explored within this research study and hence only a two dimensional view was tested.

2.2 Theoretical background to the constructs

This research study leveraged the theoretical roots of agency theory and social cognitive theory, as theoretical drivers for individually driven entrepreneurial behaviour; and resource-based theory and institutional theory as theoretical drivers for organisationally driven entrepreneurial behaviour.

The role of the entrepreneur is one of the cornerstone building blocks of entrepreneurial theory (Shane & Venkataraman, 2000), which creates the logical link between cognitive theory and entrepreneurship (Urban, 2012). According to Bandura (2001), the entrepreneurial process is realised through the intentions, motivations and capabilities of the entrepreneur and hence human agency is a key theoretical framework for entrepreneurship, as entrepreneurial actions are a direct outcome of individually driven action (Barreira et al., 2013).

Human agency is the ability to exert control over the quality of one's thoughts and actions (Bandura, 2001). Agency theory considers the functioning of the brain across two lines of analysis, namely a) the micro analytic cognitive workings of the mindset; and b) the macro analytic impact of social structures (Barreira et al., 2013).

"Social cognitive theory supports a model of nascent, interactive agency and considers that individuals exist within a total situation described by two pairs of factors: one being cognition and motivation and the other being the person in the situation" (Bandura, 2001 cited in Barreira et al., 2013:4). Cognitions are the thought processes that individuals utilise to interrelate with their surrounding environment and it becomes a distinguishing factor between non-entrepreneurs and entrepreneurs. The foundation for social cognitive theory is the notion that reciprocal interaction among individuals cognition, behaviour and environmental factors, produces causal relationships among the variables.

Human agency, in the form of direct personal agency, embodies the core cognitive functionalities of a) intentionality, b) forethought, c) self-reactiveness, and d) self-reflectiveness (Bandura, 2001).

Agency is concerned with actions that are done deliberately or intentionally to produce desired outcomes; however, the pivotal characteristics of these acts are not the outcomes, but the resultant consequence and intention. These consequential actions are very different components of a functional relationship that is separated in time. Intentions are based on self-motivators, which affect the probability of future dated actions (Bandura, 2001; Bandura, 1991b; Bandura, 1986).

Through the process of forethought, individuals become motivated and navigate their behavioural actions in order to achieve an anticipated future event, as although they are cognitively in the present state, the future desired event becomes a motivational driver and regulates current behaviour, in order to achieve future state outcomes. Thus, individuals are able to transcend the constraints of their current environment by contouring and regulating their

present state to achieve a desired future state (Bandura, 2001; Bandura, 1991b; Locke & Latham, 1990).

Self-regulatory processes therefore become the linkage between a person's thoughts and their subsequent actions and are governed by a series of "self-referent sub-functions", namely a) self-monitoring, b) self-guided performance, and c) self-reactions (Bandura, 2001:8).

Monitoring the cognitive and environmental conditions that reflect a sub-section of an individual's behavioural patterns enables them to affect a different action through their power of self-reactive influence. This is achieved through being able to self-evaluate the performance standards against their personal goals, which are generated through a person's belief system and a sense of purpose. Personal goals become a motivational driver and incentivise individuals to sustain the pursuit of a desired future state (Bandura, 2001; Bandura, 1986).

According to Bandura (2001:10), "The metacognitive capability to reflect upon oneself and the adequacy of one's thoughts and actions is another distinctly core human feature of agency". Thus, the validation of the reliability of an individual's thinking pattern is largely dependent on their self-reflective capability, as individuals evaluate the soundness of their own thinking framework by judging their behavioural outcomes and their achievement of a desired state. A person's self-belief or efficacy in their capability and their ability to control their own actions is a pivotal foundation of agency (Bandura, 2001; Bandura, 1997).

Social cognitive theory equally extends the conceptual model of human agency into collective agency, which is a collective shared-belief in the capability of a group of people to achieve a desired outcome, driven through the collective intentions, knowledge, skills, abilities and behaviours of the group (Bandura, 2001; Maddux, 1995).

Resource-based theory, views the impact of a firm's resources on organisational performance and the manner in which a company leverages their

capital and organisational capabilities as a source of strategic advantage (Grant, 1991).

Conceptually, the resource-based theory of a firm naturally extends into the knowledge-based theory of a firm, which views the asymmetries in a company's knowledge, competencies and capabilities, as resource vehicles that differentiates an organisation's performance relative to their competitors (Grant, 1991).

According to Alvarez and Busenitz (2001), resource-based theory extends to include the cognitive capability of individuals as an organisation specific resource. The cognitive mindset of employees assists firms first, in identifying and exploring new opportunities, and second, in assembling the firms' resources in order to produce heterogeneous outputs that out-compete the market expectation (Alvarez & Busenitz, 2001).

Therefore, the entrepreneurial mindset of an individual or employee helps them to recognise value in resources that is not apparent to all people. Their ability to learn, process new knowledge, and navigate social complexity and environmental ambiguity, makes the collective cognitive ability of a firm's employees, a difficult resource to imitate. Hence, the human and social capital of an employee workforce, contribute to the ability of an organisation to outperform their competitors (Alvarez & Busenitz, 2001).

Institutional theory suggests that employee behaviour is shaped by the organisational culture, traditions and management fads of the firm (Eisenhardt, 1988), as this moulds a company's dominant logic that incentivises employee behaviour. Thus, institutional theory creates the link between management and organisational level behaviour.

2.3 Corporate entrepreneurship and entrepreneurial mindset

2.3.1 Conceptualising entrepreneurship

Research covering the domain of entrepreneurship, has been largely categorised into three main slipstreams, first the productivity effects of entrepreneurship, mostly driven by an economist viewpoint (Schumpeter, 1934). Second, the psychological makeup of an individual, which motivates entrepreneurial engagement (McClelland, 1965), and third, the action oriented process of entrepreneurship (Ireland, Hill & Simon, 2003; Shane & Venkataraman, 2000; Stevenson & Jarillo, 1990).

Reflecting on the research work of Shane and Venkataraman (2000), entrepreneurship is postulated as a process paradigm whereby opportunities, defined as a "future position which is deemed desirable and feasible" (Stevenson & Jarillo, 1990:23), are recognised, developed and exploited, thus leading to new business generation and wealth creation. The theory posit by Shane and Venkataraman (2000), views entrepreneurship as an individual level behaviour that is a function of the personal profile of the person, the opportunity itself and the environmental influences acting upon the opportunity.

Similarly, many researches share Shane and Venkataraman's (2000) belief, that opportunity recognition is the heartbeat of entrepreneurship and hence individual level behaviour is a core component of entrepreneurship.

Drawing on the Ireland et al. (2003) definition of entrepreneurship expands the concept of entrepreneurship to be inclusive of not only the entrepreneurial process but also the productive gains generated through entrepreneurial behaviour. According to Ireland et al. (2003), opportunity exploration is a consequence of uncertainty created in the external environment and serves as a driver of business change, as businesses generate prosperity by localising opportunities, created in the external environment.

The study deduced that the external environment becomes a source of opportunity due to its shifts in market demand and productive resources, and

companies generate wealth by taking advantage of these opportunities through employing new competitive capability to exploit the opportunity at hand. Hence, the external environment that businesses are exposed to does influence the entrepreneurial activity that an organisation exhibits (Ireland et al., 2003).

Similarly, the research conducted by Eckhardt and Shane (2003) expanded on Schumpeter's (1934) earlier research, by conceptualising entrepreneurship as an organisational level behaviour. Organisations develop the opportunity, by proactively inducing change across the value chain by: a) inventing novel products or services, b) discovering and entering new markets, c) unearthing new raw materials, and d) crafting innovative methods of production.

Integrating the work of Eckhardt and Shane (2003), Ireland et al. (2003), and Shane and Venkataraman (2000), entrepreneurship cannot be conceptualised as a one-dimensional construct, as multiple factors act upon an entrepreneurial ecosystem to drive entrepreneurial behaviour. Research has synthesised that individual level behaviour, organisational level behaviour and the external environment play an active role in achieving entrepreneurial output.

According to the exploratory research study conducted by Covin and Slevin (1991:8), the entrepreneurship paradigm has expanded beyond the entrepreneur and is inclusive of organisational behaviour as, "firm performance is a function of both organisational, as well as individual level behaviour". The study theorises a conceptual model of entrepreneurship as organisational behaviour, and is depicted in Figure 2. It integrates individual level behaviour, organisational level behaviour and external environmental influencers, as variables that positively influence the entrepreneurial posture of a company.

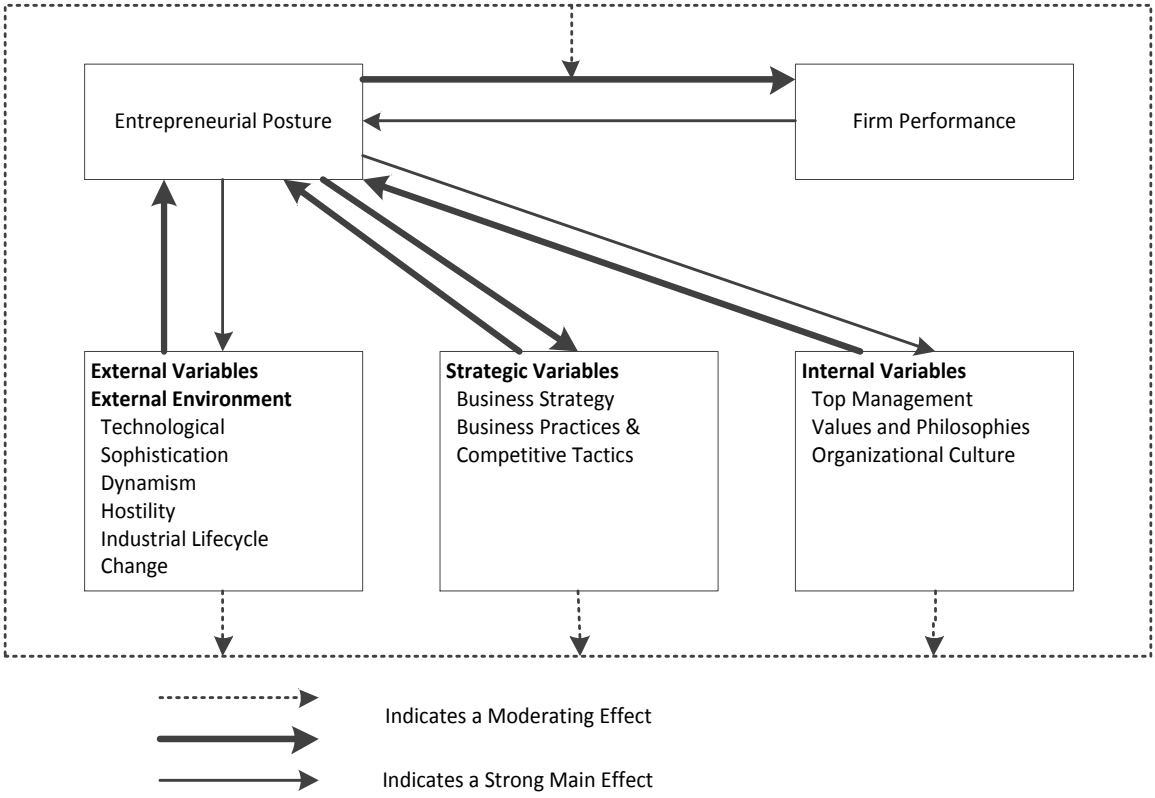


Figure 2: A conceptual model of entrepreneurship as firm behaviour (Covin & Slevin, 1983:10)

The deductions derived from synthesising the entrepreneurial research conducted by Eckhardt & Shane (2003), Ireland et al. (2003), and Shane and Venkataraman (2000) and have converged with the findings obtained from the integrative study of entrepreneurship as a firm behaviour, theorised by Covin and Slevin (1991). Hence, it could be concluded that entrepreneurship is a multi-dimensional occurrence.

2.3.2 Conceptualising corporate entrepreneurship

There are conflicting views on the definition of corporate entrepreneurship, and according to Dess, Ireland, Zahra, Floyd, Janney and Lane (2003:352), corporate entrepreneurship is conceptualised, “as the process through which individual ideas are transformed into collective actions through the management of uncertainties”. This definition interprets corporate entrepreneurship through a

process lens whereby Miller's (1983) definition, conceptualises the core construct of corporate entrepreneurship to constitute the exhibition of behavioural characteristics across three fundamental components, a) proactiveness, b) product innovation, and c) risk-taking.

Building on the foundation that entrepreneurship is a multi-dimensional phenomenon and a demonstration of firm level behaviour (Covin & Slevin, 1991); corporate entrepreneurship could be seen as a demonstration of firm level entrepreneurial behaviour within corporate organisations. Thus for the purpose of this research study, Miller's (1983) corporate entrepreneurship characterisation will be utilised as the working definition.

Similarly, Zahra and Covin (1995) concurred with Miller's (1983) view and posit that corporate entrepreneurship is the propensity of an organisation to engage in business strategies and ventures, which may result in an uncertain outcome. It is a reflection of top-management's propensity to risk-taking, the frequency of product innovation within an organisation, and the company's proactive management of competitive aggressiveness in the marketplace.

Hence, the degree of corporate entrepreneurship is related to the magnitude of risk-taking, innovation and proactiveness actions, which a firm employs, therefore Miller's (1983) description views corporate entrepreneurship as a behavioural ecosystem.

The implicit logic behind the pervasive belief in the value of corporate entrepreneurship seems to be that risk taking, innovation, and aggressive competitive action, the key elements of entrepreneurial corporations, will help in identifying and pursuing lucrative product or market opportunities. Furthermore, they will assist in responding to emerging customer needs effectively and provide new bases for achieving superior competitive positions (Zahra & Covin, 1995).

Corporate entrepreneurship is seen as a mechanism used to revitalise organisational capabilities, within established companies in order to survive and remain relevant, especially companies that find themselves in hostile business

climates. The vehicle for regeneration is the adoption of risk-taking, innovation and proactive competitive behaviours across all organisational levels within a company.

2.4 Deconstructed variables of corporate entrepreneurial behaviour

2.4.1 Innovation, a determinant of corporate entrepreneurship

Corporate entrepreneurship is viewed, as a noteworthy form of corporate innovation (Kuratko, Hornsby & Covin, 2014). Both concepts have enthralled business leaders, since their emergence during the 1980s (Zahra, 1991), as innovative leadership, enables companies to effectively compete globally and transform a firms offering, from traditional products and services to pioneering business models, novel products and compelling customer value propositions.

Innovativeness is a firm's proneness to explore creative tendencies and engage in tinkering to generate new or leading products and services. In some companies, this may be coupled with technological leadership or extensive advancements in research and development (Rauch, Wiklund, Lumpkin & Frese, 2004).

The discovery and exploitation of novel opportunities via innovative efforts by a company, requires an organisation to revisit their state of mind, beyond designing for their current organisational capabilities, to creating strategic capabilities that are a departure from existing competencies in order to create new markets, gain competitive advantage and generate corporate wealth (Dess & Lumpkin, 2005).

However, the pursuit of innovative breakthroughs is coupled with a fair degree of uncertainty and ambiguity between the initial forecast of benefit by an organisation versus the actual benefit generated by an organisation, which is considered a natural navigation of the entrepreneurial process (Barreira et al., 2015). Thus, in order for companies to push the innovative boundaries fully,

they need to be comfortable in bringing to fruition, opportunities under uncertain conditions.

Founding entrepreneurial theorist Schumpeter (1934) conceptualised the relationship between innovation and entrepreneurship and viewed innovation as a vital action, in order for entrepreneurship to occur and for the opportunity to exploit change to be realised.

According to Barreira et al. (2015:7), “entrepreneurship and innovation are positively related to each other and interact to help an organisation to flourish”. Innovation and entrepreneurship are viewed as complementary concepts and quantities of both are required for business success, under the current evolving business climate.

It stands to reason that neither Schumpeter’s (1934) nor Barreira’s et al. (2015) view, truly encapsulates the influence of innovation on entrepreneurship and in fact innovation and entrepreneurship share a mutualistic relationship. Therefore, the higher the entrepreneurial inclination of a company is, the greater is the company’s ability and willingness to pursue innovation as a core competency. Similarly, the higher the innovation success rate achieved by the company, the greater is the company’s appetite to engage in entrepreneurial activity.

2.4.2 Risk-taking, a determinant of corporate entrepreneurship

Corporate entrepreneurship entails the creation of new markets, which means that companies that engage incorporate entrepreneurship activities, lead from the front and explore uncharted territory. Coupled with the positivism that comes with pursuing corporate entrepreneurship, is the hard reality that in order to become a pioneer in corporate entrepreneurship, companies have to engage in higher, levels of business and financial risk. As such, companies need to be committed to exploring risky decision-making and in the same light, accept the probability of failure (Dess & Lumpkin, 2005).

According to Dess and Lumpkin (2005), risk-taking refers to an organisation's appetite to grab hold of ventures, whereby the outcome of the venture is not fully diagnosed and understood. Companies that effectively engage in corporate entrepreneurship, view the risk element of corporate entrepreneurship to be more about, scenario planning of potential eventualities and taking calculated risks, rather than pure gambling; more like 'counting cards' in gambling, thereby reducing the element of chance and increasing the likelihood of success.

There is no doubt that risk-taking, is a core characteristic of corporate entrepreneurship and a company must display risk-taking behaviour (Miller, 1983), to be classified as an intrapreneurial firm.

2.4.3 Proactiveness, a determinant of corporate entrepreneurship

The ability to outperform the market, by seizing novel opportunities is a demonstration of entrepreneurial behaviour, in the form of proactive thought leadership and action. These opportunities are crafted through the monitoring of emergent trends, successful response to emerging customer demands, introduction of new products or services into the market that satisfy the customer need; ahead of the competition or industry rivals,. Thus, proactive firm behaviour leads to aggressive company growth and market development (Crant, 2000).

Corporate entrepreneurship pioneers, like Dess and Lumpkin (2005) and Miller (1983), have theorised the effect of proactiveness as a vital behaviour, within the corporate entrepreneurship construct. According to Rauch et al. (2004:7), proactiveness "is an opportunity-seeking, forward-looking perspective characterised by the introduction of new products and services ahead of the competition and acting in anticipation of future demand".

Proactiveness enables companies to gain competitive advantage and potentially become industry leaders, which is crucial to commercial vitality of the business and profit generation in the global economic landscape.

2.5 Antecedents to entrepreneurial behaviour

Consequently, to obtain a full understanding of the entrepreneurial ecosystem, research must extend to the exploration of the antecedents to both individual and organisational level drivers of entrepreneurial behaviour, as these two dimensions are deemed as firm controllable (Covin & Slevin, 1991), versus the environmental level drivers that are shaped by a country's macro landscape.

Researchers have discovered, through the synthesis of other theoretical research, that the antecedents to individual level behaviour are driven via five main components:

a) The personality profile of a person;
b) The cognitive profile of a person;
c) The cultural inclination of a person;
d) The demographic profile of a person; and
e) The social network of a person (Barreira et al, 2013; Venter et al., 2010).

Social networks, influence entrepreneurship by assisting individuals in generating social capital or goodwill (Adler & Kwon, 2002), which can be leveraged to access information or leads about new opportunities coupled with providing them with access to resources that enables the capitalisation of an opportunity (Barreira et al, 2013).

The personality traits of being achievement oriented (McClelland, 1965), having an appetite for risk-taking, displaying a tolerance towards ambiguity, and maintaining a high internal locus of control (McShane & Von Glinow, 2003) are considered to be vital traits of entrepreneurs, which directionally promote entrepreneurial behaviour among individuals (Venter et al., 2010).

According to the empirical study conducted by McGrath, MacMillan and Scheinberg (1992), cultural values shape entrepreneurial behaviour and form a differentiating factor between entrepreneurs and non-entrepreneurs. According to the cultural research conducted by Hofstede (1980), cultural values are informed and fortified by the cultural framework of a collective grouping.

The four dimensions within Hofstede's (1980) cultural framework are a) power distance, which is the philosophy of human inequality, b) individualism, which is the stance taken on collective needs versus individual needs, c) uncertainty avoidance, which is the level of acceptance of the unknown, and d) masculinity, which is the orientation towards role division among sexes.

The cultural values of higher power distance, higher individualist beliefs, lower uncertainty avoidance, and higher orientation towards masculinity, are empirically deemed to being more conducive towards entrepreneurial action, and influences both individual level and consequently, national level entrepreneurial activity (McGrath et al., 1992).

The Global Entrepreneurship Monitor, Sub-Saharan African Regional Report, 2012 (Kelley, Singer & Herrington, 2012), highlighted that entrepreneurial activity levels differ between sexes and among race groups. The study made inferences to the cultural biases and ethnic values among the racial and gender groupings across the African continent, and formed a plausible explanation to the entrepreneurial differences observed among countries.

The cognitive profile of a person has its theoretical roots in the domain of cognitive psychology, which is a study of an individual's thinking or operating model. The studies conducted by Mitchell, Busenitz, Lant, McDougal, Morse and Smith (2002) posited that the entrepreneurial cognition of a person can be classified as the eureka antecedent of entrepreneurship, and more importantly the defining construct that explains the nexus between a person and the levels of entrepreneurial behaviour attained by that person.

Entrepreneurial cognitions are theorised as the, "knowledge structures that people use to make assessments, judgments, or decisions involving opportunity evaluation, venture creation, and growth" (Mitchell et al., 2002:97). These are seen to be the mental mechanisms that enable one to map together, previously fragmented information into a cohesive opportunity to enable business growth.

Based on the research conducted in the field of organisational level entrepreneurial behaviour by Covin and Slevin (1991), Guth and Ginsberg

(1990), and Kuratko and Hornsby (1998), the antecedents to organisational level behaviour, which influence entrepreneurial activity within corporates, are classified into seven broad dimensions:

(1) Reward mechanisms (Kuratko & Hornsby, 1998);
(2) Management (Covin & Slevin, 1991; Guth & Ginsberg, 1990; Kuratko & Hornsby, 1998);
(3) Availability of resources (Covin & Slevin, 1991; Kuratko & Hornsby, 1998);
(4) Organisational structure (Covin & Slevin, 1991; Guth & Ginsberg ,1990; Kuratko & Hornsby, 1998);
(5) Work autonomy (Kuratko & Hornsby, 1998);
(6) Business strategy (Covin & Slevin, 1991; Guth & Ginsberg, 1990); and
(7) Business culture (Covin & Slevin, 1991; Guth & Ginsberg, 1990).

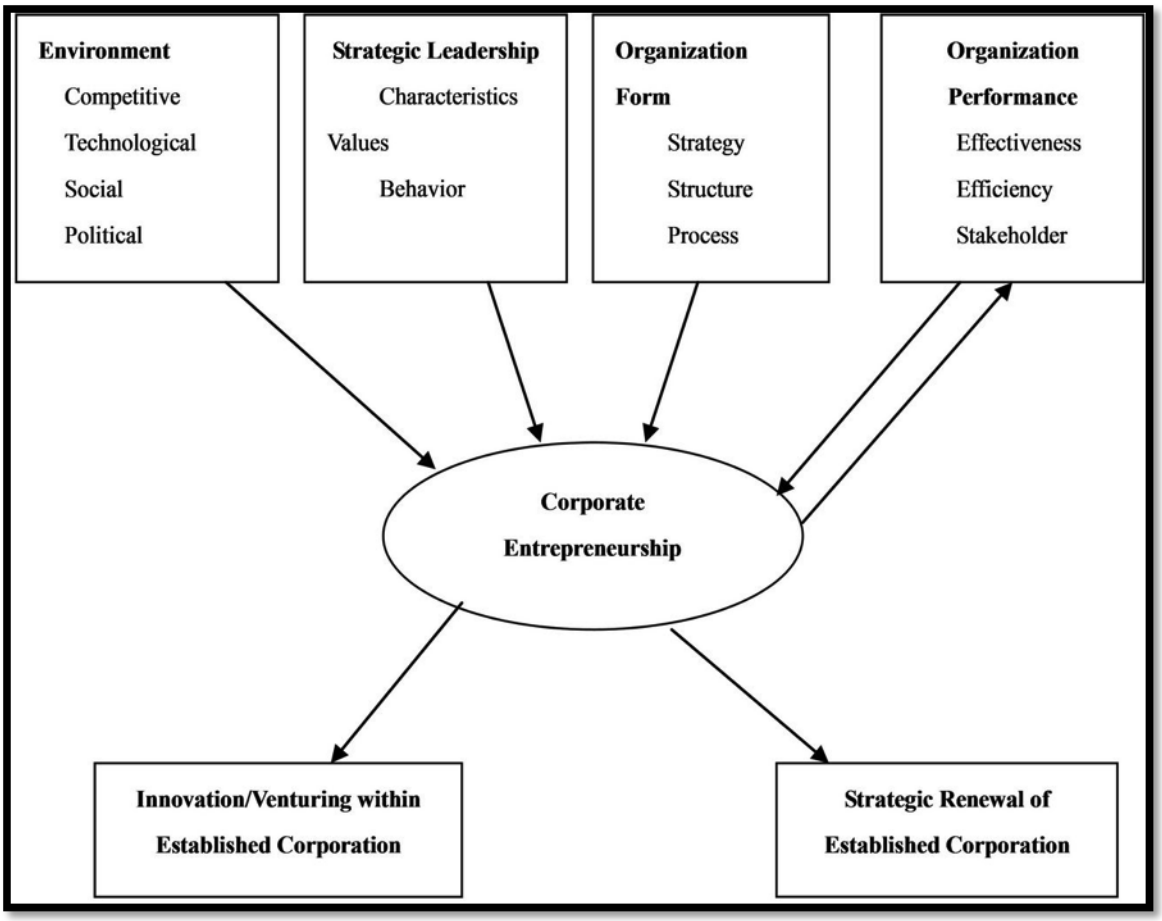


Figure 3: A strategic management perspective model of corporate entrepreneurship (Guth & Ginsberg, 1990:5)

The study conducted by Kuratko et al. (2014) found that both, junior and middle managers shared the view that the primary determinant for corporate entrepreneurial action is the design and implementation of an effective performance reward system that promotes and incentivises entrepreneurial behaviour. Performance evaluation should be based on delivery over both a short-term and a long-term perspective, while rewarding innovative breakthroughs and risk-taking behaviour (Kuratko et al., 2014). Figure 3 provides a model of corporate entrepreneurship.

Management plays a pivotal role in shaping the internal environment and influencing entrepreneurial, corporate behaviour. This influence is not restricted to top-level management; Kuratko's et al., (2014) research has discovered that all management levels act as corporate entrepreneurship champions by

endorsing new ideas and prioritising resource allocation to support entrepreneurial action within the firm.

The availability of resources is an important component to driving corporate entrepreneurial behaviour in two respects. First, the provision of slack resources within a company, encourages tinkering and risk-taking among employees; and second, designing employee work schedules, inclusive of 'thinking time', enables employees to engage in quality thinking and environmental scanning, to foster new idea creation (Kuratko & Hornsby, 1998).

The provision of decision-making latitude by an organisation and the acceptance of risk-taking behaviour, acknowledged via the tolerance of failure, provide employees with an autonomous platform to take part in experimentation and engage in entrepreneurial action, which is supported by the organisation (Kuratko et al., 2014).

Another demonstration of organisational level entrepreneurial support is the creation of innovation functions within an organisation, which have the necessary infrastructure and resources in place, to incubate idea development until exploitation. This provides companies with the necessary structure to enable the productive usage of entrepreneurial resources across the firm (Kuratko & Hornsby, 1998; Kuratko et al., 2014).

According to Ireland et al. (2009:21), a corporate entrepreneurship strategy is "a vision directed organisation-wide reliance on entrepreneurial behaviour that purposefully and continuously rejuvenates the organisation and shapes the scope of its operations through the recognition and exploitation of entrepreneurial opportunity".

The successful infusion of corporate entrepreneurship into an organisation's operating model requires an application of entrepreneurial thinking into the development of a firm's strategy. This establishes an organisation's intent to deliberately and incessantly search and exploit entrepreneurial opportunities, because the vision statement of a company is a vehicle that top management utilises, to describe the future state of the organisation, which they desire to

achieve and equally what they want employees to aspire to achieve. This inevitably sets the tone or drumbeat of the organisation, which is understood by all (Ireland et al., 2009).

This approach focuses on building capability within a company, which enables and encourages sustained innovativeness, risk-taking, and proactive organisational behaviour. The outcome of implementing a corporate entrepreneurship strategy is the achievement of strategic repositioning and the gaining of competitive advantage within the global market (Ireland et al., 2009).

Based on the theoretical inferences made by Ireland et al. (2009), the pre-cursor to effective corporate entrepreneurship within any organisation, lies in the development and execution of a well thought through entrepreneurial strategy.

Viewing entrepreneurship through an intrapreneurship lens, Shepherd, Patzelt and Haynie (2010) indicated that corporates, who behave in a more entrepreneurial manner, have in fact an internal entrepreneurial culture. According to Zhao (2005), an entrepreneurial culture is a prelude to innovation and subsequently entrepreneurship within an organisation. In addition, Zhao (2005) viewed culture as the primary cause of corporate entrepreneurship.

Organisational culture is referred to as an organisation’s dominant logic and is reflective of the shared purpose and belief system of the employees. The culture of an organisation shapes employee action and informs decision-making within a company (Sarros, Cooper & Santora, 2008).

Equally, an entrepreneurial culture reinforces the expectation and acceptance of calculated risk-taking from employees, encourages tinkering and experimentation and motivates employees to step up their performance through the acceptance of challenging and uncertain tasks (Jung, Chow & Wu, 2003). Research conducted by Bain, Mann & Pirola-Merlo (2001) among R&D specialists, across four Australian companies, revealed that there is a positive correlation between the innovative climate of a firm and the core innovation indicators within the respective companies.

Therefore, based on the primary importance given to the culture of an organisation and the role that entrepreneurial culture plays in influencing innovative performance levels in a company, the view that building and sustaining an entrepreneurial or innovative culture is considered a company's competitive advantage, could be supported.

Collectively and individually, extant research has proved that the various antecedents depicted in Figure 4, positively influences higher levels of entrepreneurship within organisations, through a model of firm behaviour, driven by either influencing individual level behaviour or organisational level behaviour.

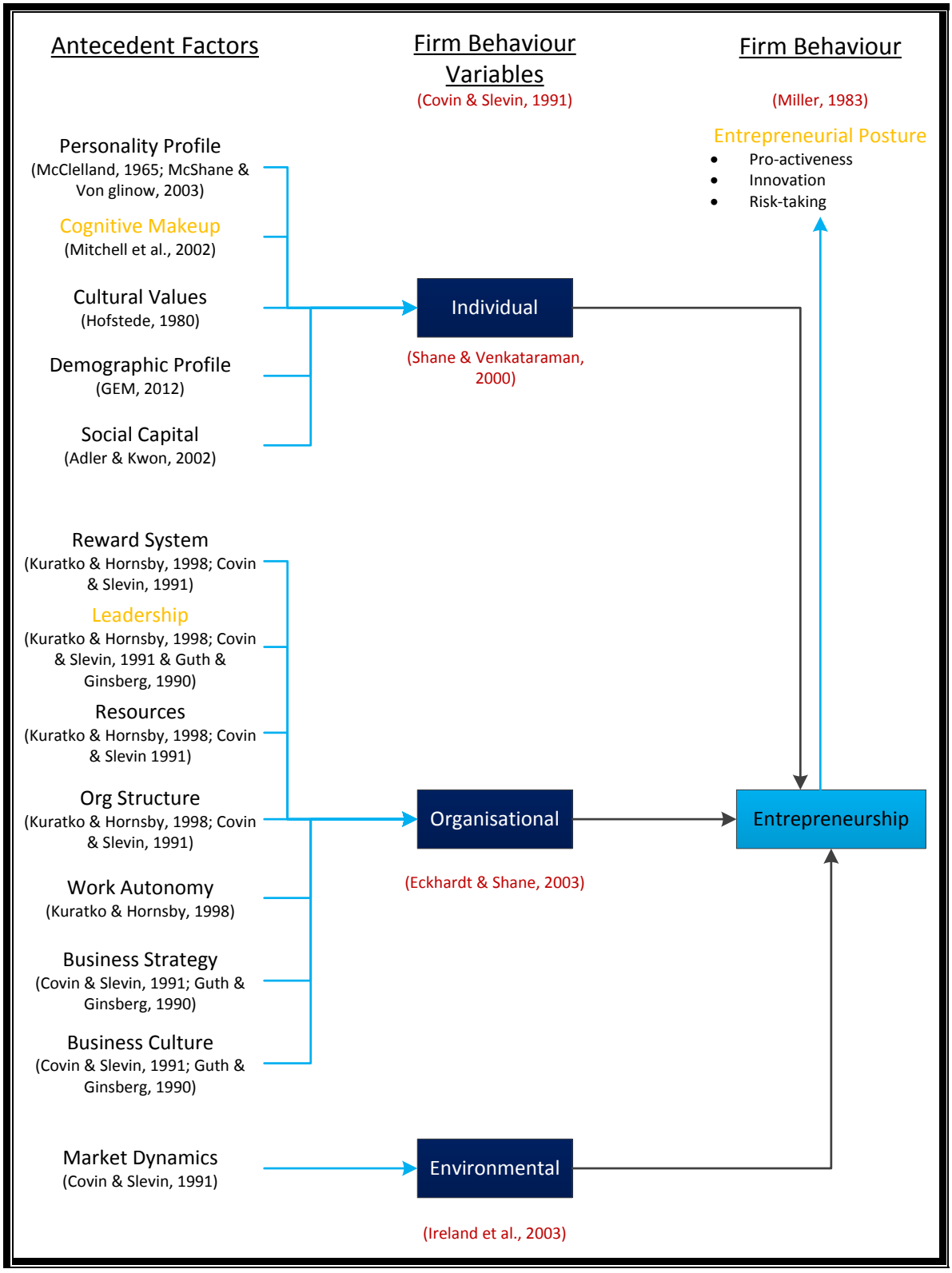


Figure 4: Entrepreneurship as a multi-dimensional construct

2.5.1 Conceptualising an entrepreneurial mindset, the cognitive profile of an individual

Theorists, McGrath and MacMillian (2000) conceptualised an entrepreneurial mindset to be a cognitive ability to recognise and capitalise on opportunities during conditions of uncertainty. Gaglio and Katz (2001) shared a similar viewpoint of an entrepreneurial mindset and concurred that a derivation of opportunities is driven by an individual and their cognitive make-up. Based on the definitions put forward by McGrath and MacMillian (2005), and Gaglio and Katz (2001, one could deduce that theoretically, there is a nexus of the person and the levels of entrepreneurial behaviour.

Applying a cognitive lens, when analysing entrepreneurial behaviour is viewed as an effective tool in prodding and rationalising the role an individual plays in the entrepreneurial process, far more conclusively and broadly than adopting a psychological or demographic character lens. The cognitive viewpoint, has obtained currency within entrepreneurial research, as it addresses the understanding gaps, previously brought to light by the narrow view of "entrepreneurial personality", as an individual level driver for entrepreneurship (Mitchell, et al. 2002:63).

According to Haynie et al. (2010:217), "The model of an entrepreneurial mindset", is based on individuals metacognitive processing or thinking patterns, likewise the research also conferred that the underpinnings of an entrepreneurial mindset are "deep-seated in 'higher-order' mental processing or metacognitive processes that enable the entrepreneur to think beyond or reorganise existing knowledge structures and heuristics, promoting adaptable cognitions in the face of novel and uncertain decision contexts".

Metacognition, is the ability of one, to be able, to select the best-desired path of action, in relation to one's, individual motivational construct and evolving social or environmental context (Staw & Boettger, 1990). According to Urban (2012:19), "metacognition is a process which incorporates self-regulation, but yet advances that regulation to also describe the process through which

regulation influences the development and generation of new sense-making structures (heuristics) as a function of the changing environment".

Whereas Haynie et al. (2010) defined metacognition as a conscious control over one's own cognitive processing in order to reconsider different cognitive schemes in situations of continuous change within the business environment. Therefore, it could be deduced that metacognition is one's ability to select and de-select cognitive strategies, by making use of heuristics and/or alternative metacognitive abilities, when faced with varying environmental changes.

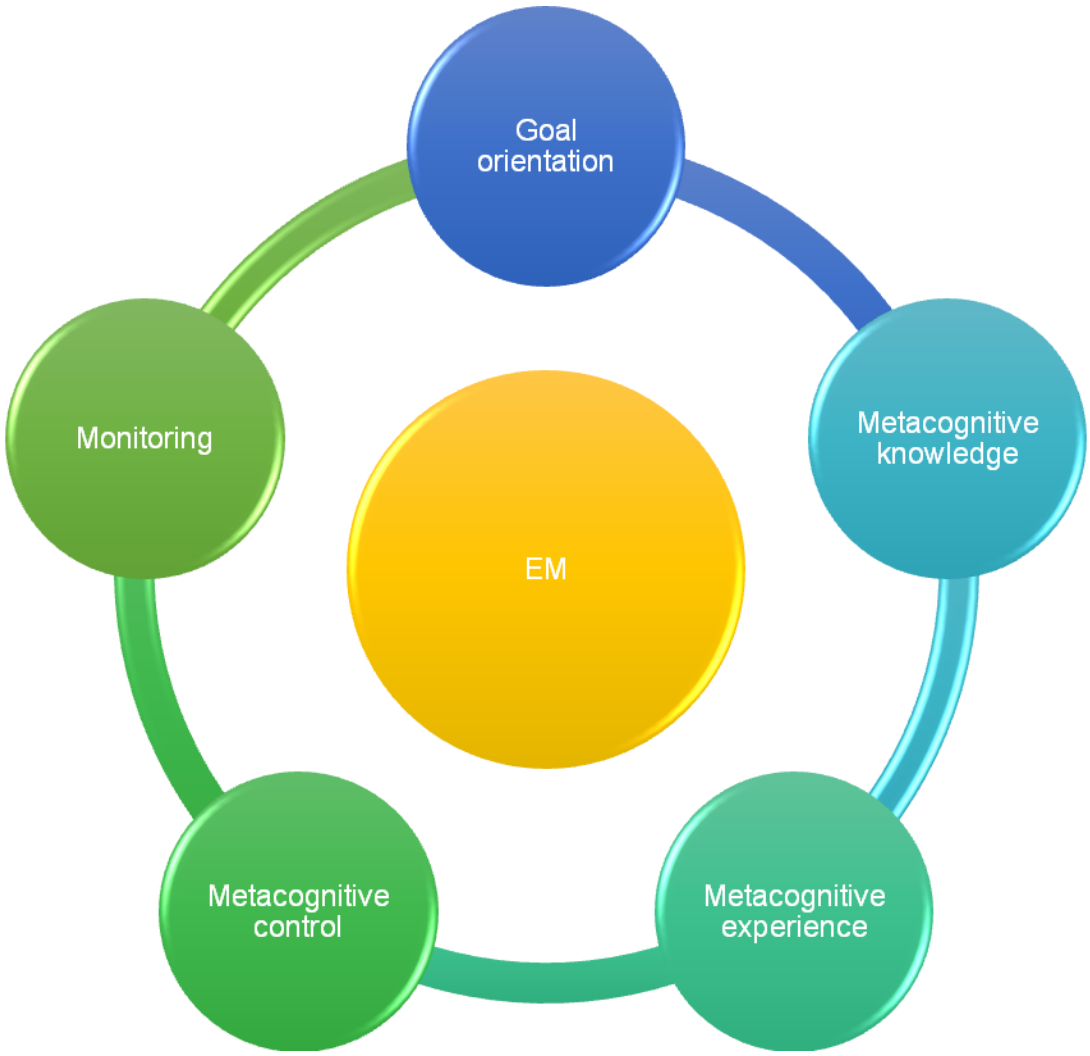
Metacognitive thinking enables a person to be more self-aware, to actively engage in reflective thought, to rationalise aloud, to be visionary and strategic, to be astute in planning, and finally to be able to self-monitor (Haynie & Shepherd, 2009).

Applying an intersection of both concepts, Haynie and Shepherd (2009), and Urban (2012), employed a metacognitive lens in defining an entrepreneurial mindset, but narrowed their viewpoint, to the working of cognitive adaptability as a key construct. According to Haynie and Shepherd (2009:695), cognitive adaptability "is the ability to be dynamic, flexible and self-regulating in one's cognition, given dynamic and uncertain task environments".

Cognitive adaptability is described as the ability of a person to be self-motivated, agile, and self-regulating in one's own cognitions, when placed in business landscapes, which are consumed with fluid, vigorous and uncertain change. Metacognitive theory or metacognition enhances the level of cognitive adaptability a person displays, and subsequently explains the difference in entrepreneurial performance a person achieves (Haynie et al., 2010). In this research study, cognitive adaptability was assessed as the key construct for an entrepreneurial mindset.

The model of an entrepreneurial mindset, illustrated in Figure 5, is employed from the research conducted by Haynie and Shepherd (2009), and Urban (2012). The model of entrepreneurial mindset is based on the concept of cognitive adaptability, which encompasses the aggregation of five core

metacognitive conjectural facets, enabling the effective functioning of the mindset.



Key: EM: entrepreneurial mindset

Figure 5: The model of an entrepreneurial mindset (Haynie & Shepherd, 2009:698)

In relation to the working mechanisms of cognitive adaptability, the underlying latent constructs of the model, an entrepreneurial mindset, are a) goal orientation, b) metacognitive knowledge, c) metacognitive experience and metacognitive choice, and d) monitoring (Haynie & Shepherd, 2009; Urban, 2012).

The entrepreneurial mindset model conceptualises goal orientation as the degree to which a person deciphers environmental changes, bearing in mind, a vast range of organisational, social, and personal goals (Urban, 2012).

According to Haynie and Shepherd (2009), metacognitive knowledge is defined as the degree to which a person utilises self-awareness and awareness of others, tasks, and schemes, when generating multiple decision structures.

According to Urban (2012:21), metacognitive experience, is theorised as the degree to which a person "relies on idiosyncratic experiences, emotions, and intuitions when engaging in the process of generating multiple decision frameworks focused on interpreting, planning and implementing goals to manage a changing environment".

The entrepreneurial mindset model conceptualises metacognitive choice, as the degree to which a person engages in the dynamic process of selecting strategies from a variety of decision structures, based on what plan or strategy is deemed most suitable in response to the changing business landscape (Urban, 2012).

Whereas, monitoring is conceptualised as the degree to which a person utilises feedback loops to re-evaluate cognitions in relation to, "goal orientation, metacognitive knowledge, metacognitive experience, and metacognitive choice", in order to manage the changing business landscape (Urban, 2012:21).

The five first generation, latent constructs of the model, are intellectualised, as a circle of interrelated courses of action, that holistically provide intuitions into the thinking and behavioural framework of an entrepreneur (Haynie & Shepherd 2009).

Thus, unpacking entrepreneurship, through an individual level of exploration, requires an understanding of the cognitive science domain, as cognitions are the cornerstone of why some individuals are more entrepreneurial than others are and consequently how an entrepreneurial mindset is developed. As such, the cognitive profile of a person is considered an antecedent to entrepreneurial behaviour and by conjecture; an entrepreneurial mindset is considered an

antecedent to individually driven, entrepreneurial behaviour (Shepherd et al., 2009).

2.5.2 Individual driven, entrepreneurial behaviour

According to Shane's et al. (2003), conceptual model of the entrepreneurial process, entrepreneurship behaviour occurs due to the individual level behavioural process of opportunity discovery, opportunity exploitation, and opportunity execution. Equally, the model theorises that the nexus between a person and entrepreneurship is largely attributed to the psychological traits of an individual.

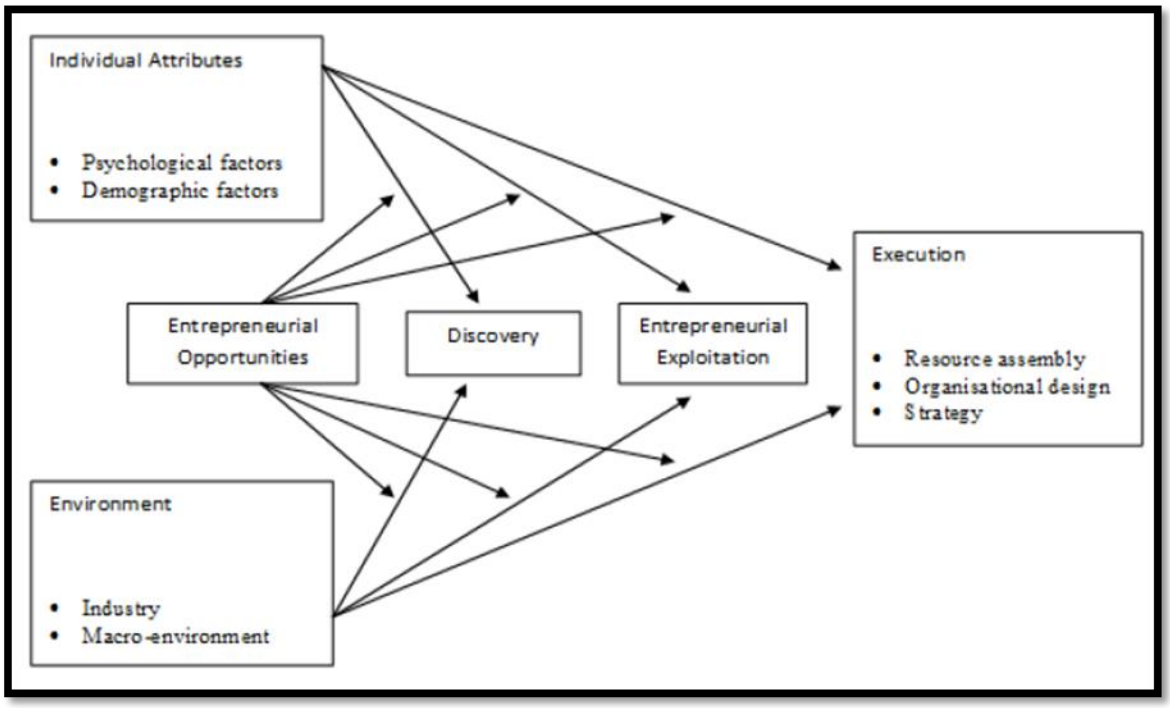


Figure 6: Model of the entrepreneurial process (Shane et al., 2003:274)

Past research supported Shane's et al. (2003) view and acknowledged that opportunity recognition remains a vital component of entrepreneurship (Baron & Ward, 2004). Equally, Shepherd and Krueger (2002:105) had a similar viewpoint, by positioning opportunity recognition or the "orientation towards seeing opportunities as being the heart" of entrepreneurship.

Many entrepreneurial research studies have a shared a fascination in examining the underlying factors that have a role to play in the opportunity recognition process. One of the key differentiating factors, that research has found, has been the influence that cognitive science, plays in the process of opportunity identification (Baron & Ward, 2004).

Cognitive science or cognitive psychology is a study of the thinking, memory and perception framework of humans. Mitchell et al. (2002), conceptualised cognitions as inclusive of mental processing related to the transformation, reduction, elaboration, storage, recovery and usage of sensory inputs. Cognitive science is seen to shape the opportunity recognition phase through three influencing vehicles, a) entrepreneurial alertness, b) information asymmetry and prior knowledge, and c) creativity (Ardichvili, Cardozo & Ray, 2003).

Entrepreneurial alertness is a concept that originated from the studies conducted by economist, Israel Kirzner, in 1973. Kirzner (1979) defined entrepreneurial alertness, as a unique set of cognitive and perceptual, abilities that steer the process of opportunity recognition. Thus, opportunities are discovered without employing active search strategies (Kirzner, 1979) and are preceded by a heightened state of alertness to knowledge and information (Ardichvili et al., 2003).

According to Gaglio and Katz (2001), entrepreneurial alertness enables the discovery of entrepreneurial opportunities based on an individual's schema to scan the environment. Therefore, alert individuals scan the environment, to enable them to, a) properly evaluate market dynamics, b) pinpoint environmental forces, c) isolate critical components, and d) infer the true relational influences among these factors. All these elements allow effective decision making and facilitate judgment calls with regard to the production and distribution of goods and services within the global market, to maximise profit generation.

In relation to the underlying drivers of entrepreneurial alertness, Baron (2008) postulated that positive affect, boosts a person's entrepreneurial alertness, as

they are heightened to external stimuli, more so than feeling negative emotions; thereby, enabling them to recognise entrepreneurial opportunities, more easily.

Thus, according to Baron and Ward (2004), an individual who possesses a high entrepreneurial alertness has both complex and adaptive mental schema, which enables them to engage in lateral or 'outside the box' thinking, ultimately enhancing individual performance in any business setting (Baron & Ward, 2004).

Austrian economic theory has substantiated that the discovery of opportunities, within the entrepreneurial process, cannot be fully explained by neoclassical equilibrium theories or by psychological philosophies, but rather opportunities are identified based on the idiosyncratic knowledge, obtained by people, through individual life experiences (Ardichvili et al., 2003).

The prior knowledge generated by a person, creates "knowledge corridors", which enables an individual to recognise opportunities within the market, without them having to scan the environment (Ardichvili et al., 2003:114). Similarly, Shane (2000) theorised that based on a person's accumulation of prior knowledge; their discovery of opportunities will differ from that of other people.

Consequently, the prior knowledge of access to markets, or the prior knowledge on how to service markets using different methods or the understanding of customer challenges, enables actors to scan the ecosystem for weak signals. This collective prior knowledge enables an entrepreneur to translate weak market signals into opportunities for entrepreneurial exploitation (Ardichvili et al., 2003; Shane, 2000).

The pioneer thought leader in entrepreneurship, Schumpeter (1934), posited that there is an interlocking relationship between creativity and innovative entrepreneurial discoveries, which results in a shift in market dynamics. Creativity, according to Amabile (1998:126), is defined as, "the production of novel and useful ideas by an individual or small group of individuals working together". The theoretical viewpoint of Schumpeter (1934) is in unison with the

view shared by Ardichvili et al. (2003), who postulated that creativity capability is an important trait for the discovery of opportunities.

According to Hills, Lumpkin and Singh (1997), the cognitive horsepower of an individual powers their creative ability. Similarly, Amabile (1998) theorised that the cognitive toolbox of a person supports the development of an individual's deep creativity skills.

According to Amabile (1998), a person's cognitive toolbox consists of four focal tools, a) the ability to problem solve by on boarding different perspectives, b) the utilisation of heuristics to explore alternative cognitive corridors, c) the adaptation of working styles to be goal driven, and d) the development of cultural intelligence.

According to Early and Peterson (2004), cultural intelligence, is a person's ability to adapt effectively to new cultural environments and to recognise new cultural information. Barreira et al. (2013) indicated that it is a pivotal attribute to metacognition, as the concept centres around cognitive flexibility, which involves recognising cultural patterns in society and piecing them together to form a lucid picture.

Oldham and Cummings (1996), and Amabile (1998) concur that individual level creativity is a pivotal cogwheel in firm level innovation, as innovation is described as the fruitful exploitation of novel ideas within a company. Consequently, it could be deduced that individual level creativity is the driving force behind organisational level innovation and that corporate innovation cannot exist without employee creativity.

According to Richard Cantillon (1755, cited in Barreira et al., 2013:16), entrepreneurship is a "judgmental decision-making process, conducted under conditions of uncertainty"; hence, decision-making is considered a core component of the entrepreneurial exploitation process. Building on this perspective, McGrath and MacMillian (2000) viewed that the psychological trait of cognitive aptitude, displayed during effective decision-making, conducted

under situations surrounded by anxiety and uncertainty, is a demonstration of key entrepreneurial behaviour (McGrath & MacMillian, 2000).

The theoretical viewpoint of Bryant (2007) diverged in thought from the neo-classical perspective on behaviour. According to Bryant (2007), heuristics or cognitive short cuts, not only increases a person's susceptibility to biases or error prone thinking, due to cognitive overloading as indicated by Baron (1998); but can also be seen as an effective tool in decision-making, under dynamic circumstances.

Self-regulation is a cognitive construct, that plays a core role in the heuristic decision making process, as it is the practice whereby one determines their internal goals and self directs their thinking and behaviour to realise those goals (Bryant, 2007). Two harmonizing factors, within the self-regulatory construct, that are leveraged during the decision making process, are self-efficacy and regulatory pride.

Regulatory pride is the motivational construct that drives a person to adopt risky decision-making practices in lieu of positive gains and self-efficacy (Bandura, 1997). It is a belief in their own capability, to achieve the desired outcome thus enabling the pursuance of entrepreneurial options that are more risky and more financially rewarding, due to psychological confidence (Bryant, 2007).

The degree of self-efficacy, a person possesses, acts as a mediating factor in relation to the level of proactive behaviour an individual demonstrates in actively seeking new sources of information and aggressively scanning the environment for improvement opportunities (Crant, 2000). Theoretically this argument is supported, since the decision to participate in proactiveness is driven by being self-confident in one's ability to first, be able to recognise new stimuli, second, to be able to convert the stimuli into a full blown opportunity, and third, to exploit the opportunity for entrepreneurial gain (Crant, 2000).

The decision to engage in new venture creation relies on the drawdown of expert scripts or knowledge structures of individuals, thus again, reinforcing the difference in entrepreneurial performance being driven by one's cognitive make-

up (Barreira et al., 2013). According to Mitchell, Smith, Seawright and Morse (2000), the required expert, cognitive scripts are categorised into three categories, a) arrangement scripts, b) willingness cognitions, and c) ability cognitions.

Arrangement cognitions are the social and financial capital, required for the exploration of the opportunity, whereas willingness cognitions are the motivational commitment to explore an opportunity. Ability cognitions are the mental capability to exploit an opportunity effectively. These three types of cognitive, mental maps collectively interact to enable an expert entrepreneurial outcome or performance (Mitchell et al., 2000).

Assessing entrepreneurial behaviour through a personality trait lens, has led many to believe that entrepreneurs have a higher propensity to risk, however this theory has not yielded wide spread theoretical support (Venter et al., 2010). Reflecting on risk-taking behaviour, through a cognitive lens, has yielded that risk-taking behaviour is driven by prior knowledge, as prior knowledge lowers the assessment of risk, thus creating the perception of risk-taking behaviour (Shane, 2000). Relevant knowledge achieved through experience, frames new information into being more positive and achievable, thus creating the perception of riskier decision-making, which in reality is informed decision making. Individual level risk taking behaviour, influences firm or organisational level risk taking behaviour, thus intrapreneurial risk taking, is largely informed by the manner in which employees cognitively deal with risk (Antoncic, 2003).

Thus, the process of entrepreneurial evaluation and/or exploitation equally relies on the cognitive ability of an individual and theoretically explains the differential, entrepreneurial outcome among actors within the entrepreneurial ecosystem

In summary, the cognitive make-up of an individual regulates their engagement and success along the entrepreneurial process and serves as a pivotal performance differentiator among the different entrepreneurial participants within the ecosystem.

The proficiency for an entrepreneurial mindset to drive corporate entrepreneurship is theoretically equally supported, by analysing the influence of the underlying cognitive attributes of an entrepreneurial mindset, on levels of innovation, pro-activeness and risk-taking within a company, as reflected in Fi

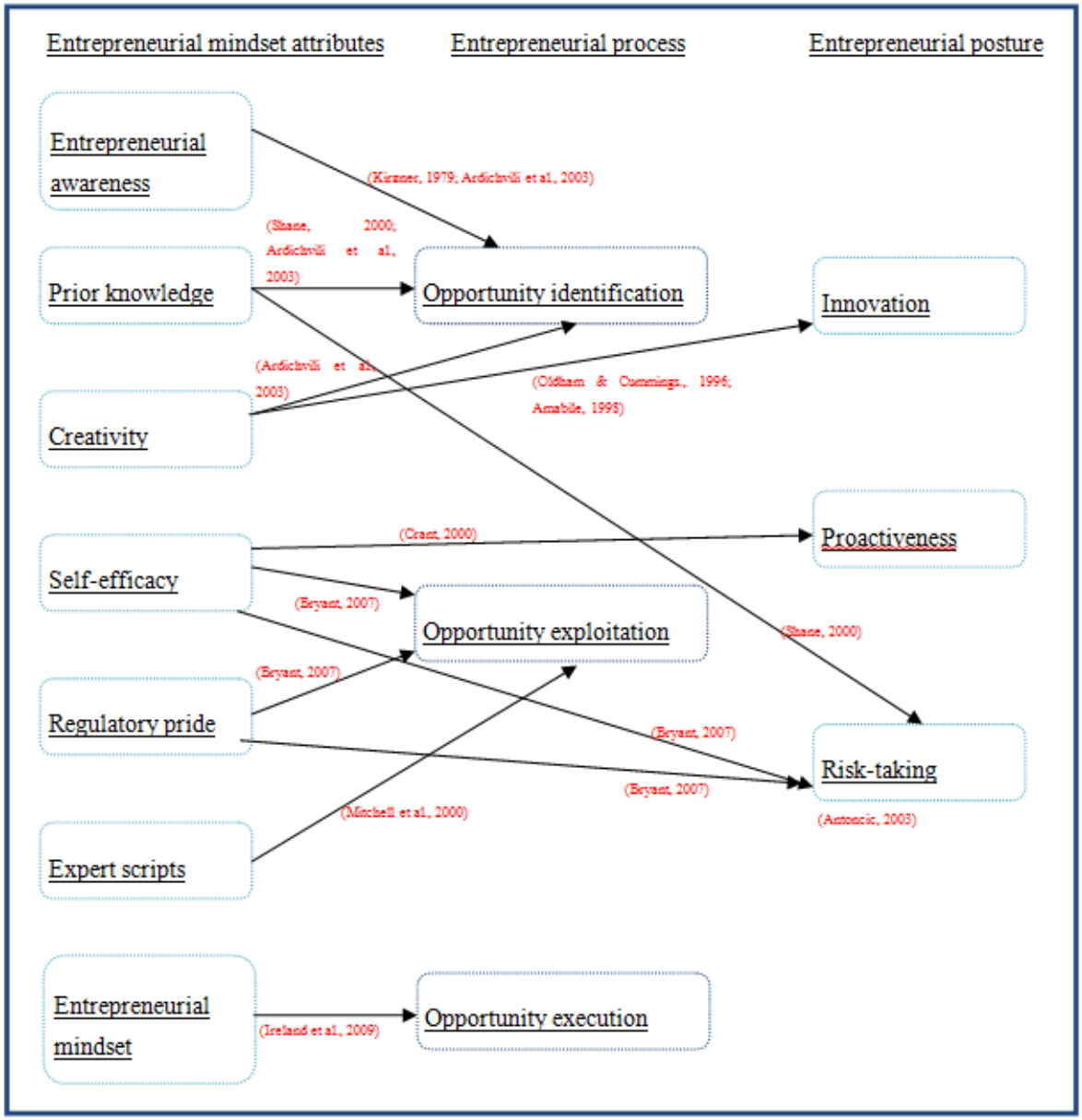


Figure 7: Entrepreneurial mindset, an antecedent to corporate entrepreneurship

According to Shane's et al. (2003) model of the entrepreneurial process, entrepreneurial strategy is considered a key variable for opportunity execution.

According to Ireland's et al. (2009) integrative corporate entrepreneurship strategy model, one of the core antecedents of a corporate entrepreneurship strategy lies in the entrepreneurial cognitions of individual employees within an organisation, as corporate entrepreneurship enhances cultural bias towards entrepreneurial behaviour. Thus, entrepreneurial thinking on the part of the employee and top-level leadership are central to reinforcing levels of corporate entrepreneurship within a company

The research study conducted by Shepherd et al. (2010:60), conceptualised a model referred to as the "entrepreneurial spiral", which establishes a direct relationship between an entrepreneurial mindset and corporate 'entrepreneurialness'. The model theorises that a manager's entrepreneurial mindset influences the levels of corporate entrepreneurship within the organisation. The model equally establishes that this relationship exists because of the influencing power that an entrepreneurial mindset exhibits on the entrepreneurial culture of an organisation. Research has likewise established that individual level entrepreneurial behaviour is collectively aggregated into organisational level, entrepreneurial thinking and behaviour.

Therefore, an entrepreneurial mindset, due to its complex cognitive horsepower, enables employees to adapt and respond to varying environmental conditions, recognise opportunities under ambiguous circumstances, and creatively exploit opportunities to enable innovation and performance within the corporate domain. Thus, theoretically, the entrepreneurial mindset does positively influence corporate entrepreneurship.

2.5.3 Hypothesis 1

H1: An entrepreneurial mindset displayed by employees will be positively related to higher levels of corporate entrepreneurship activity.

2.6 The relational influence of transformational leadership within an organisation

2.6.1 Conceptualising transformational leadership

The leadership construct has gained significant currency in the business domain, as business authors and researchers alike have explored the influencing power that leadership exhibits in relation to business or firm performance. Although there are many varying definitions to leadership, the common ethos, is that “leadership involves influencing subjects’ symbolic realm in order to move them towards certain actions and determining the time and scope of these action” (Eyal & Kark, 2010:125). Phrased simply, leadership encompasses, vision, group, influence, follower and goal.

Research on leadership has described the effectiveness of a leader through three lenses, a) personality traits, b) behaviour, and c) influence of situational attributes (De Jong & Hartog, 2007). For the purposes of this research study, only the behavioural angle, was explored, to ascertain how the behavioural traits of a leader, influences employee behaviour and action within an organisation.

Leading leadership theorist, Bass (1985), challenged the prevalent theories on leadership and posited that there is a gap in the understanding; of leadership as existing viewpoints predominately focus on a) role definitions for followers, b) the achievement of follower goals, and c) the rewarding and sanctioning of follower behaviour. According to Bass (1985), the concept of transactional leadership, only considers the rudimentary exchanges with employees but lacks the understanding of the type of leadership style that influences followers to rise over self-interest for the achievement of the organisation’s ambition, thus Bass (1985) conceptualised, the framework of transformational leadership in order to address this leadership phenomenon.

Transformational leadership is defined as the ability of a leader to inspire their followers to aspire to a higher order purpose within an organisation. This action enables their followers to achieve performance levels, greater than that of a

transactional arrangement (Bass, 1985). However, Avolio, Bass & Jung (1991) expanded on the concept of transformational leadership and developed an additional leadership theory to add to the existing suite of 'new leadership' theories. They termed their contribution the full-range leadership theory, (FRLT). The FRLT comprises three types of leadership behavioural typologies, a) transactional, b) transformational, and c) non-transactional 'laissez-faire' leadership, which is reflected by the nine discrete constructs that underpin the FRLT.

Three of the nine latent factors within the FRLT construct, relate to the transformational leadership construct and are often commonly referred to as the four I's, namely idealised influence, inspirational motivation, intellectual stimulation, and individualised consideration, as illustrated in Figure 8.

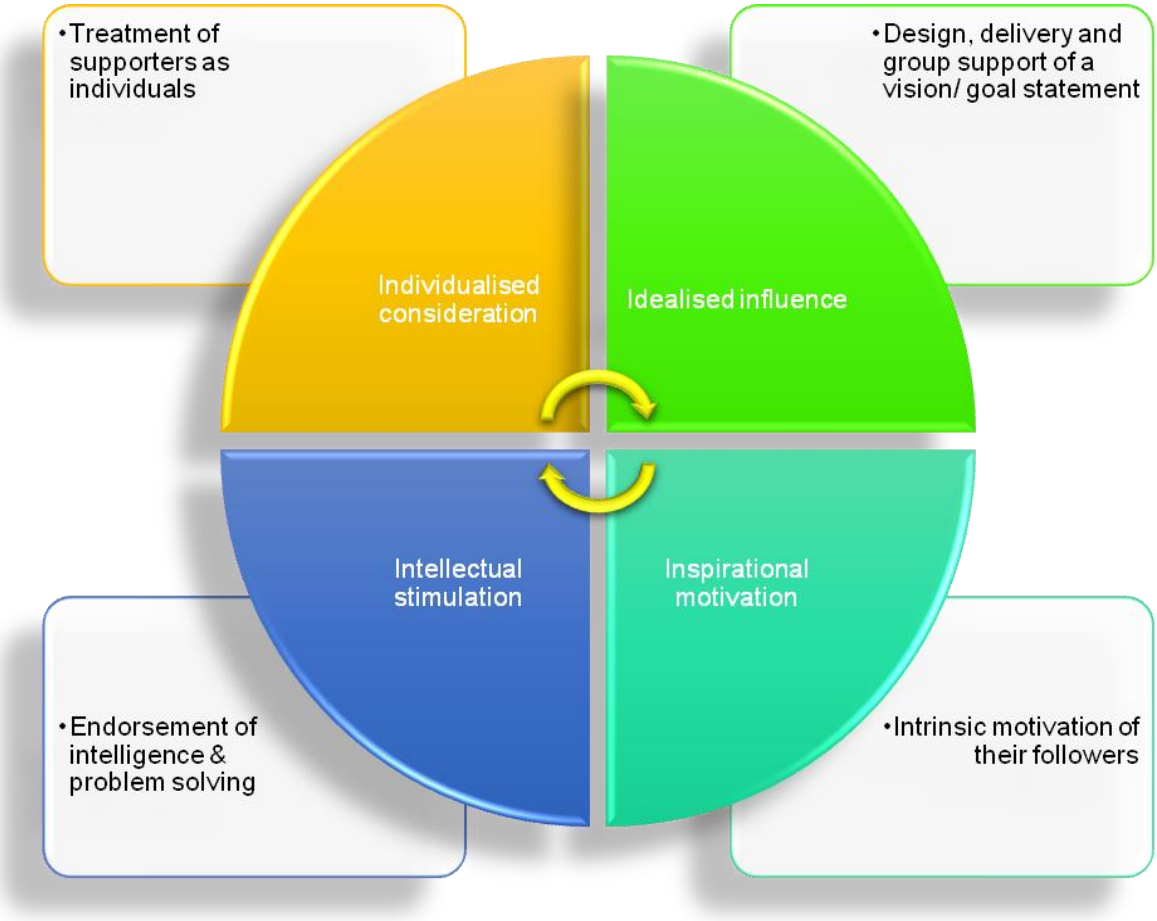


Figure 8: Transformational leadership construct (Avolio et al., 1991:199)

Transformational leaders, through their idealised influence and inspirational motivation behavioural abilities are able to infuse a sense of pride among their followers by way of leader association, and encourage their followers to achieve ambitions beyond self-fulfilling goals for the betterment of the organisation. Furthermore, they enable their followers to become change agents, articulate a compelling vision statement and provide comfort that challenges and adversity could be collectively overcome (Avolio et al., 1991).

Transformational leaders through their intellectual stimulation capabilities are able to encourage different perspectives in problem solving, provide alternative delivery methods, endorse creativity and innovation, and question and challenge the status quo (Avolio et al., 1991).

Transformational leaders through their individualised consideration and behavioural abilities allocate time for coaching and teaching, provide individualised attention in order to develop the competencies of their followers, and listen attentively to others (Avolio et al., 1991).

2.6.2 Organisational driven, entrepreneurial behaviour

According to Eyal and Kark (2004), transformational leaders are naturally entrepreneurial, and are viewed in this light because they are able to transform organisations and followers to achieve ambitious goals, thus cementing themselves as change agents within an organisation. The change readiness that is trickled through the organisation enables employees to anticipate market trends, adapt to changes in the environment and to respond innovatively to the "vision of opportunity", which collectively enriches a firms "entrepreneurial proclivity" (Ling, Simsek, Lubatkin & Veiga, 2008:557).

When this view is deconstructed, there is an understanding that corporate entrepreneurship is an action-oriented phenomenon associated with organisational level innovation, proactiveness and risk-taking (Miller, 1983), implies that transformational leadership clearly influences levels of innovation, proactiveness and risk-taking behaviour at an organisational level.

In lieu of this hypothesis, transformational leadership has been positively associated with innovation and in the empirical study conducted by De Jong and Hartog (2007), evidence was found that transformational leaders have an impact on innovative behaviour, through their influence during the idea generation (initiation) and application (implementation) stages of the innovation process.

Transformational leaders are able to create this affect by a) articulating a vision statement that calls to action innovative benefit, b) encouraging the discovery of new opportunities, achieved through disruptive thinking, c) supporting long-term benefit over short-term goals, d) promoting innovative exploration, and e) allocating resources, budget and time to the incubation of ideas within a company (De Jong & Hartog, 2007; Jung et al., 2003).

According to Jung et al. (2003), transformational leadership enhances the innovation levels of a company and is considered the variable with the most influencing on organisational innovativeness. Thus, studies have significantly proven that transformational leadership directly boosts organisational level innovativeness (Gumusluoglu & Ilsev, 2009).

Similarly Ireland et al. (2009) theorised the integrative corporate entrepreneurship strategy model, which hypothesised that visionary leadership influences firm culture (Chandler, Keller & Lyon, 2000; Jung et al., 2003), as the adoption and drive of corporate entrepreneurship strategy by top management consequently shapes the cultural norms towards entrepreneurial action.

Equally, Jung et al. (2003) claimed that an organisation's culture is representative of the collective social construct within a company, which is informed and shaped by the leadership of the company. This is shared by Ireland et al. (2009), who indicate that the vision setting by a leader moulds the cultural norms of the firm.

A vision is defined as a conceptual image of an idealised future state and a vision statement is seen as a vehicle through which the message is conveyed. Both Awamleh and Gardner (1999) maintain that an idealised vision is the key

ingredient that sets apart transformational leadership from other leadership styles.

Accordingly, when transformational leaders adopt a vision statement that is innovative or entrepreneurial in nature, by deduction, the organisational culture becomes entrepreneurial, as culture is viewed as the lens via which a leader's vision is established and further assists in building a climate that enables organisations to be innovative (Sarros et al., 2008).

According to Shepherd et al. (2010:62), An entrepreneurial organisational culture is one in which new ideas and creativity are expected, risk-taking is encouraged, failure is tolerated, learning is promoted, product, process, and administrative innovations are championed, and continuous change is viewed as a conveyor of opportunities, thus an entrepreneurial culture and corporate entrepreneurship are intricately interwoven together.

Empirically this view is supported by the studies conducted by Sarros et al., (2008), and Jung et al. (2003) who concluded that transformational leadership indirectly influences organisational innovation by the role that transformational leaders play in framing the innovative culture of the company.

The proactiveness of an organisation is equally considered a pivotal construct of corporate entrepreneurship and research conducted by Eyal and Kark (2004), concurred that transformational leaders champion proactive behaviour through an organisation.

According to Crant (2000), proactive behaviour involves questioning the status quo and embracing diverse thinking, in order to create new opportunities. Transformational leaders infuse proactivity among followers in a bi-modal fashion.

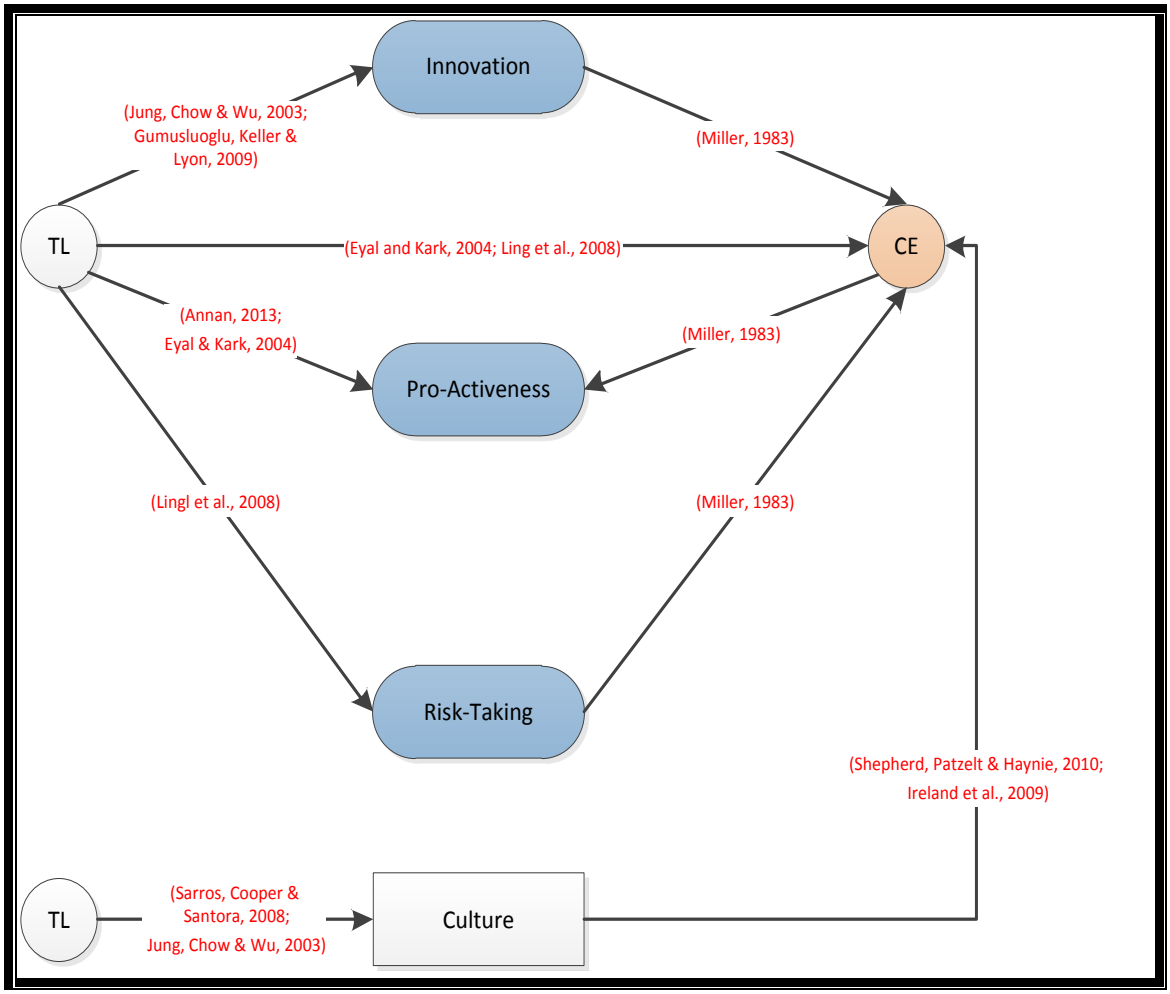
First, through their behavioural trait of intellectual stimulation, transformational leaders encourage forward thinking and disruptive thinking (Crant, 2000). Second, because transformational leaders are change ready and subscribe to radical change to transform the business continually, they become organisational champions of change and influence their followers to follow suit.

Thus, followers become agile and responsive to market shifts, which then leads to proactive opportunity search (Eyal & Kark, 2004).

The final construct, which completes the triage of corporate entrepreneurship cogwheels, is risk-taking. Transformation leaders by design, demonstrate risk-taking proclivities, due to their constant challenge of the status quo in order to break new ground in relation to product and process innovation, and their adoption of radical strategies, in order to transform the business (Gilley, Walters & Olson, 2002).

Transformational leaders' influencing power enables them to diffuse a propensity for risk-taking into the ethos of the company, by challenging followers to think outside the box and encouraging them to pursue innovative opportunities that are perceived as more risky due to the blanket of uncertainty that surrounds the opportunities. However, in the same light, transformational leaders instil team efficacy and reinsurance that followers can rise above the challenges presented by engaging in collective problem solving. These complementary approaches to risk strategies, creates a safe environment for employees to tinker outside the box (Ling et al., 2008).

In summary, literature has acknowledged that transformational leaders act as entrepreneurial change agents within a company, and positively influence levels of corporate entrepreneurship, both in its holistic form and through its deconstructed constructs, as defined within the working definition of corporate entrepreneurship and illustrated in Figure 9.



Key: TL: transformational leadership; CE: corporate entrepreneurship

Figure 9: Transformational leadership, an antecedent to corporate entrepreneurship

2.6.3 Hypothesis 2

H2: Management-based capability of transformational leadership will be positively related to higher levels of corporate entrepreneurship activity.

2.6.4 Transformational leadership, indirectly influences corporate entrepreneurship

According to Schumpeter (1934), creativity is a core ingredient for innovation, and subsequently entrepreneurship. According to Hills et al. (1997), the creativity of an individual is related to their cognitive mindset, and according to the study conducted by Mumford, Scott, Gaddis and Strange (2002), leadership

behavioural characteristics of intellectual stimulation, advocacy, involvement and role modelling, are considered pivotal conditions that enable the effective expression of creative behaviour.

The influencing impact that leadership behaviours exhibit on creativity in the organisational domain is an area of research that has shared different viewpoints by researchers. The traditional side of the coin believe that creative employees, by their sheer need for autonomy and proficiency, do not require leaders (Jung, 2001). However, significant evidence points to the contrary, that employees' creative performance, is strongly related to the behavioural traits of the leader (Mumford et al., 2002).

According to Bass (1985), transformational leadership is described, as a leadership style that naturally demonstrates intellectual stimulation, advocacy, involvement and role modelling above other leadership typologies, thus it could be concluded by conjecture, using the description theorised by Mumford at al. (2002), that transformational leadership strongly influences levels of creative performance among employees.

Creative performance is defined as the formulation of innovative ideas and the design of novel or useful products and processes within an organisation (Oldham & Cummings, 1996). In line with this, Amabile (1988) theorised a model of creativity and innovation in organisations, which indicated that the intersecting effect of motivation, resources and techniques, enables the exploitation of creative ideas within a company.

Self-motivation or intrinsic motivation is considered the core ingredient to enable the blossoming of creativity within the corporate domain, as creativity skills and the availability of resources cannot compensate for a lack of motivation to participate in creativity thought (Amabile, 1988). This theoretical deduction was supported using the empirical evidence, collected from the study conducted by Amabile (1988), wherein a lack of motivation was referenced as the number one factor inhibiting creativity among the respondents.

“Intrinsic motivation refers to the motivational state in which employees are attracted to and energized by a task itself, instead of merely by the external outcomes that doing the task might yield” (Shin and Zhou, 2003:704). Self-motivated employees are more cognitively flexible and determined to achieve their goals and as such, they are able to uncover new creative thinking patterns. This is achieved through the exploration of different problem solving techniques and the piecing together of disparate information into a cohesive idea (Shin & Zhou, 2003). According to the view shared by Amabile (1988), intrinsic motivation is considered the most direct route to stimulating employee creativity.

Transformational leadership, above other leadership styles is seen to boost employee intrinsic motivation directly (Shin & Zhou, 2003). Sosik, Kahai and Avolio (1988) reinforced this theoretical belief by indicating that teams functioning under high concentrations of transformational leadership, generate more novel ideas and solutions than teams exposed to lower levels of transformational leadership. According to the empirical research conducted by Mumford et al. (2002), which evaluated the relationship between transformational leadership and creativity, transformational leadership led to higher levels of creative fluency (the volume of ideas generated by the team) and creative flexibility (the volume of varying idea types generated) than transactional leadership.

Existing research has narrowed down the behavioural traits that influences transformational leaderships’ impact on self-motivation theory to three key constructs, a) intellectual stimulation, b) inspirational motivation, and c) individualised consideration, which work together collectively to create the harmonizing effect on employee creativity.

Transformational leaders therefore, enhance follower creative performance due to six behavioural characteristics:

a) By articulating a vision statement that inspires and motivates employees to innovate (Amabile, 1998);

b) By supporting organisational intellectual stimulation by promoting divergent and disruptive thinking (Sosik et al., 1988; Wang, Oh, Courtright & Colbert, 2011);
c) By encouraging risk-taking (Sosik et al., 1988; Wang et al., 2011);
d) By subscribing to 360-degree problem solving practices (Sosik et al., 1988; Wang et al., 2011);
e) By acknowledging that failure is part of the learning journey (Sosik et al, 1988; Wang et al., 2011); and
f) By listening to the individual viewpoints and novel ideas of all the members of the group, in order to unearth a larger body of knowledge and information that can serve as creative-enhancing stimulus (Sosik et al., 1988).

These collective behaviours create an environment that is both conducive and appealing for followers to exploit their creativity (Sosik et al., 1988; Wang et al., 2011).

Research has found that transformational leaders do not only impact the creativity levels of their followers based on their effect on the intrinsic motivation of an employee, but equally they effect the psychological empowerment of their followers, which serves as an alternative source of creativity (Gumusluoglu & Ilsev, 2009).

Transformational leaders, through their individualised consideration behaviour, build the self-confidence levels of their followers, which is then reinforced by developing follower strengthens and ultimately leads to employee empowerment. Employees that are empowered tend to exhibit increased creative qualities, as empowerment is symbolic of personal autonomy, which is a key trait of creative individuals (Gumusluoglu & Ilsev, 2009).

Transformational leaders are visionary and serve as inspirational motivators within companies (Zhang & Peterson, 2011), which enables them to influence the willingness cognition of employees, to derive higher levels of motivation, empowerment, shared commitment and performance within an organisation

(Mitchell et al., 2000), thus transformational leadership is an antecedent to employee motivation.

According to Shane, Locke and Collins' (2003), model of entrepreneurship motivation and the entrepreneurial process, illustrated in Figure 10, motivation to behave entrepreneurially is a core factor for entrepreneurial behaviour. However, the model theorises that cognitive factors are equally important and therefore conceptualises that an integration of both cognition and motivation is crucial for entrepreneurial behaviour. Thus, a combination of both an entrepreneurial mindset and transformational leadership is required for entrepreneurial behaviour to be realised within an organisation, because although an entrepreneurial mindset does have the ability to influence entrepreneurship, transformational leadership influences the entrepreneurially minded employee's willingness to behaviour entrepreneurially.

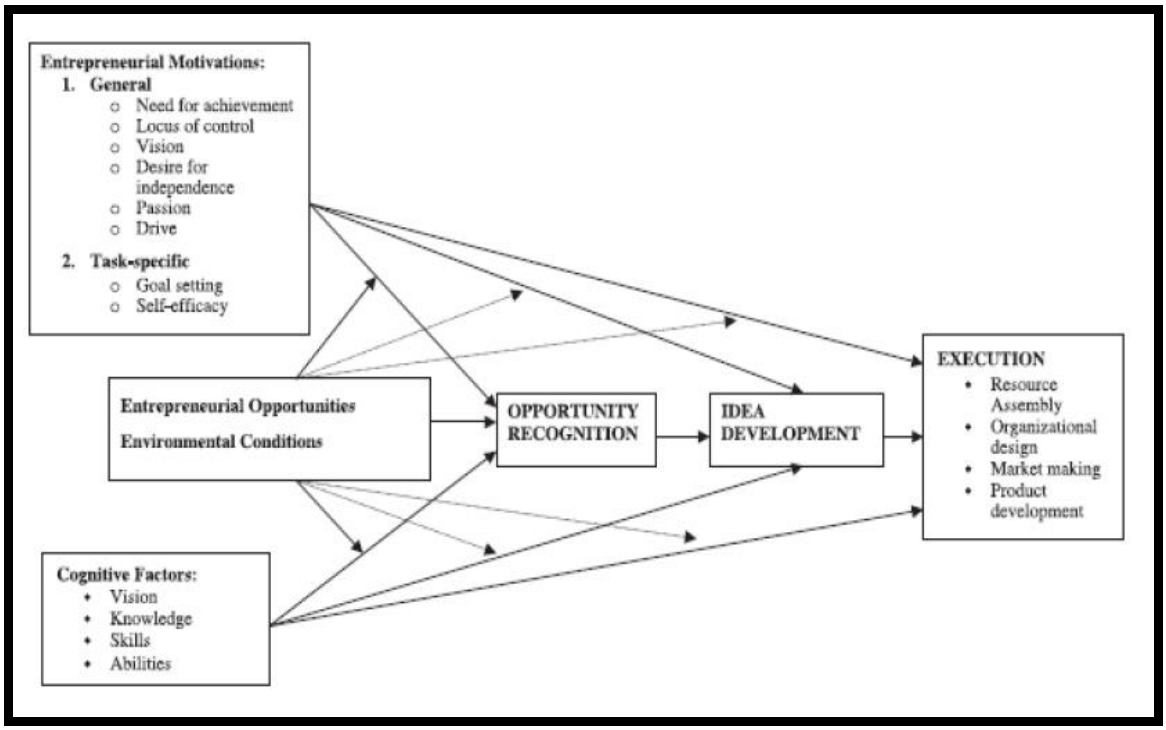


Figure 10: Model of entrepreneurial motivation and the entrepreneurial process (Shane et al., 2003:274)

Transformational leadership also shapes the innovative culture of an organisation (Sarros et al., 2008), and Shepherd et al. (2010) hypothesise that the entrepreneurial or innovative culture of an organisation has a direct positive

relationship with the entrepreneurial levels of an individual's mindset. Hence an entrepreneurial climate, provides employees with the feasibility and desirability to act entrepreneurially, thus eradicating the fear of failure and/or risk-taking that comes when entrepreneurially minded employees, act outside the cultural norms of a company (Shepherd et al., 2010).

Hence, transformational leadership influences an entrepreneurial mindset directly via the motivational influence of transformational leaders on employee behaviour and subsequent stretched innovative performance, and indirectly via the influence that transformational leadership has on the entrepreneurial culture of an organisation, which in turn influences the entrepreneurial mindset of an employee.

It is equally easy to envision how transformational leadership and entrepreneurial mindset could be mutually reinforcing and hence operate in a bidirectional, causal relationship. Just as the transformational traits of a manager shape an employee's mindset to behave entrepreneurially, similarly, when followers are entrepreneurially minded, the role of the transformational leaders is made easier, hence enabling them to be more effective.

The theoretical argument for a bidirectional causal relationship between an entrepreneurial mindset and leadership within the corporate entrepreneurial landscape is substantiated by Ireland, Hitt and Simon's (2003) model of strategic entrepreneurship, depicted in Figure 11. The model posits a relationship of reciprocal causality between an entrepreneurial mindset and entrepreneurial leadership.

According to Gupta, MacMillan and Surie (2004:42), "entrepreneurial leadership is defined as leadership that creates visionary scenarios that are used to assemble and mobilize a supporting cast of participants who become committed by the vision to the discovery and exploitation of strategic value creation".

There is a nexus between entrepreneurial leadership and transformational leadership, whereby both leadership traits are able to achieve superior follower

performance by leadership's ability to evoke a high order purpose among their followers. Equally, both leadership types are able to navigate effectively through uncertainty and are seen as proactive change agents in the corporate domain (Gupta et al., 2004).

Similarly, Barreira et al. (2013:195) theorised that a "dynamic interrelationship" exists between entrepreneurial leadership and transformational leadership, as entrepreneurial leadership is theorised on the characteristics and behavioural traits of transformational leadership.

In fact, entrepreneurial leadership is strongly correlated with the transformational leadership traits, firstly of visionary leadership and secondly of confident leadership. Top-management visionary leaders construct the strategy or vision of the organisation around collectively achieving an entrepreneurial strategic posture for the company. Then, visionary leaders effectively communicate this vision to all employees to encourage them to become more innovative and proactive, and demonstrate a proclivity to risk-taking, thereby enabling the organisation to become more innovative, have a propensity to risk-take and be more proactive (Barreira et al., 2013).

The transformational leadership trait of confident leadership enables a firm to demonstrate high levels of entrepreneurial strategic posture, by the consistent, confident efforts of leadership, which allows the transformation of employees into self-directed leaders (Barreira et al., 2013).

Entrepreneurial leadership is strongly correlated with the transformational leadership behavioural traits of creative leadership, principle centred leadership, and credible leadership (Barreira et al., 2013). Creative leadership is related to the manner in which transformational leaders enable, enhance and leverage the creative ability of their followers. This is achieved through the ability of transformational leaders, to motivate and empower their employees (Barreira et al., 2013).

Credible leadership is the consistent reinforcing of follower trust over time whereas principle centred leadership, is the ability of transformational leaders to

shape and reinforce the culture of an organisation through their capability to mould the belief systems of the employees and create a dominant logic that drives, innovation, proactiveness and risk-taking (Barreira et al., 2013).

Synthesising the theoretical interrelationship between entrepreneurial leadership and transformational leadership, leads to the theoretical deduction that an entrepreneurial leader is equally a transformational leader in an organisation, with a clear purpose, centred on driving the enhancement of the entrepreneurial strategic posture of a firm. Therefore, applying this theoretical inference into the Ireland's et al. (2003) model of strategic entrepreneurship, leads to the conclusion that there is similarly, a bidirectional relationship between an entrepreneurial mindset and transformational leadership.

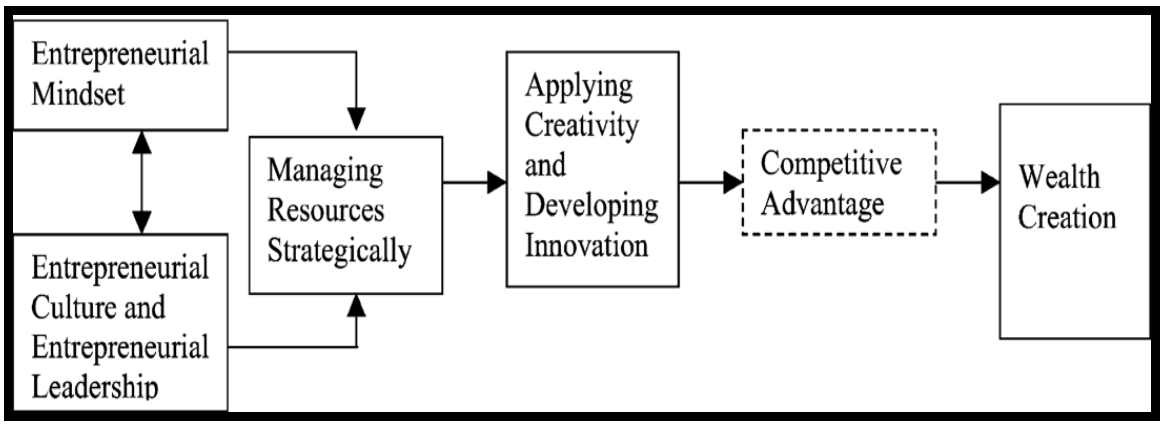


Figure 11: Model of strategic management (Ireland et al., 2003:967)

2.6.5 Hypothesis 3

H3a: Management-based capability of transformational leadership will positively influence an employee's mind-set, to behaviour entrepreneurially.

H3b: An employee's entrepreneurial mindset will positively influence the effectiveness of transformational leadership by management.

2.6.6 The causal behaviour of transformational leadership, in the relationship between an entrepreneurial mindset and corporate entrepreneurship

According to Henseler and Fassott (2010), six different causal relationships can occur between latent variables, direct, indirect (mediated), spurious, bidirectional, unanalysed, and moderated. Theoretically, Hypotheses 1 and 2 theorise a direct causal relationship between entrepreneurial mindset and corporate entrepreneurship and Hypothesis 3, theorises a bidirectional relationship between transformational leadership and entrepreneurial mindset.

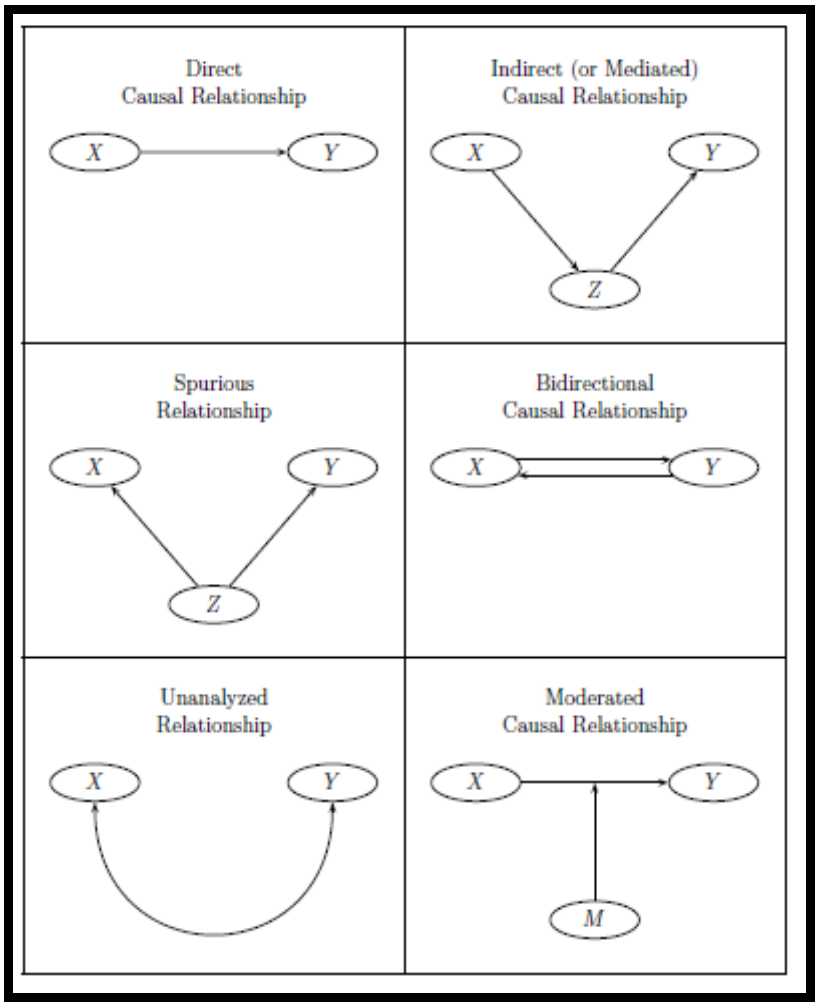
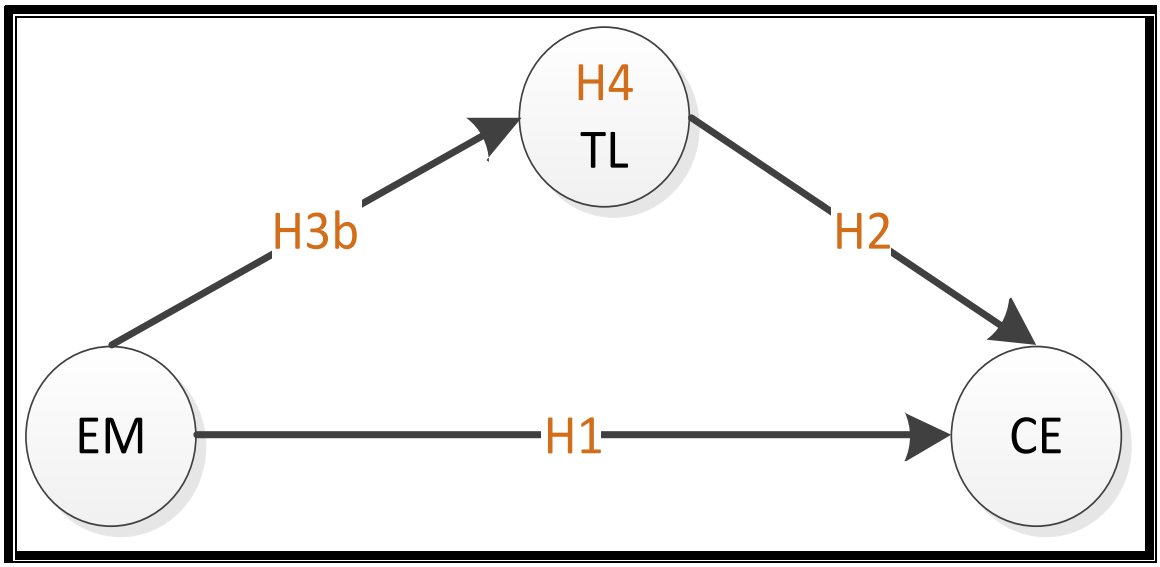


Figure 12: Examples of causal relationships between latent variables (Jaccard & Turrisi, 2003:2)

The theoretical research conducted by Baron and Kenny (1986), conceptualised that mediation and moderation variables differ in the causal

effect they exert between latent variables and cannot be utilised interchangeably in research. According to Baron and Kenny (1986), a moderator variable affects the strength or direction of the relationship between an exogenous and endogenous variable. Mediation occurs when the following criteria are met: a) initially a moderate or strong relationship must occur between the exogenous variable and the endogenous variable, and b) an exogenous variable has an impact on a third variable (mediator), which then influences the endogenous variable.

Synthesising the theoretical relationships that are hypothesised in Hypotheses 1, 2 and 3, and applying Baron and Kenny's (1986) conceptual definition of a mediator variable, leads to the theoretical deduction of a fourth hypothesis, illustrated in Figure 13, whereby transformational leadership acts as a mediator variable in the causal relationship between an entrepreneurial mindset and corporate entrepreneurship.



Key: EM: entrepreneurial mindset; TL: transformational leadership; CE: corporate entrepreneurship;

Figure 13: Transformational leadership, a mediator variable, between entrepreneurial mindset and corporate entrepreneurship

According to Baron and Kenny (1986), the causal effects within the psychology domain, is multi-causal, thus it is unlikely that a single mediator, could fully mediate a relationship within this domain. By conjecture, transformational

leadership is unlikely to explain the variation in the levels of corporate entrepreneurship in the relationship between an entrepreneurial mindset and corporate entrepreneurship, thus it is theoretically more feasible to view transformational leadership as a partial mediator variable.

Previous research, however, has not firmly established the relational role that transformational leadership plays in the relationship between a socio-cognitive mindset of an employee and organisational level entrepreneurial performance. Therefore, inferences and conjecture based on the deconstructed behavioural attributes of a mediation model, derived from Hypotheses 1, 2 and 3, will serve as the theoretical bases to explore transformational leadership empirically as a mediation variable between the causal relationship of an entrepreneurial mindset and corporate entrepreneurship.

For that reason, this research study and the findings from the empirical analysis, would add to the corporate entrepreneurship and leadership, body of knowledge, as it aims to explore the causal properties of transformational leadership within the relationship being tested.

2.6.7 Hypothesis 4

H4: Transformational leadership partially mediates the causal relationship between an entrepreneurial mindset and corporate entrepreneurship.

2.7 Control variable

Research has acknowledged the role that management or leadership play in the corporate entrepreneurial process and that entrepreneurship is a collective effort; however, Kuratko, Morris and Covin (2011) argued that even though all levels of leadership influence entrepreneurial behaviour, the different levels of management, top-level, middle-level and first-level, influence the entrepreneurial behaviour in varying degrees.

Top-level management is considered to play the most critical role in corporate entrepreneurship, both in influencing top-level team behaviour and by shaping

the strategy and culture of the organisation to behave entrepreneurially (Covin & Slevin, 1991).

Similarly, middle managers are seen as the conduit between top-level strategy and front line employees, and are responsible for reinforcing and endorsing entrepreneurial behaviour and providing the resources to exploit opportunities. Thus, middle managers influence individual level and organisational level entrepreneurial behaviour (Kuratko et al., 2005).

Lastly, junior or front-line managers are seen as critical individuals for the ongoing exploration of new opportunities and innovators within the entrepreneurial process (Kuratko et al., 2011).

Thus, due to the different role that each layer of management plays in the entrepreneurial process, and the degree of influence that each level exhibits to both individual level and organisational level entrepreneurial behaviour, a control variable of managerial seniority was added to the model construct.

2.8 Conclusion of literature review

The current rate of change is outstripping the capability of traditional business-operating models and in order to survive firms need to adopt entrepreneurship and transformational leadership as two organisational levers, in order to remain dynamic and competitive.

Transformational leaders' symbiotic relationship with follower, team and subsequently organisational performance, has attracted the interest of many researchers and in 2011, a study using meta-analytic regression discovered that transformational leadership within a company, positively leads to multi-level performance benefit, from individual or follower performance to team performance and finally organisational performance (Wang et al., 2011).

Similarly, as the external business landscape has dramatically evolved over the last decade and continues to evolve at a rapid pace, so has the internal climate of firms been evolving as companies become more global and inclusive. The internal workforce of organisations has transformed into becoming both

demographically diverse and multicultural (Natale, Libertella & Rothschild, 1995).

Existing research would not argue against the potential benefit that diversity has on an organisation and firm performance (Buyl, Boone, Hendricks & Matthyssens, 2001); however, with the benefit of divergent, creative thinking and effective decision-making, comes the management task of overcoming diverse team barriers to achieve effective, homogenous teams.

According to Natale et al. (1995), homogenous teams are created through leadership support, a strategic collective vision that is aligned to organisational purpose, team empowerment and a conducive organisational climate. Whereas, Bass et al. (2003) posited that based on the current business architecture, leadership in the form of transformational leaders, are required, as they act as a conduit between the conversion of individual level behaviour into team and firm level performance.

Similarly, Schaubroeck, Lam and Cha (2007) indicated that overall teamwork performance is positively increased by the role that transformational leaders play within an organisation. The dynamism that transformational leaders exude in communicating and rallying employees to collectively achieve, creates a magnetic force field that draws followers together, increasing the cohesiveness of the team and the probability of success (Wang et al., 2011).

Organisational benefit is derived directly and indirectly through the influencing power of transformational leadership within a company. Indirectly, their impact on follower performance and team level performance is aggregated into organisational level performance. Directly, they lead top-management teams to achieve stretch unison objectives, they inspire transformational leadership across all management layers within the company, and they are responsible for shaping the internal climate of an organisation, thus enabling goal attainment (Wang et al., 2011).

Research supports the argument that transformational leadership is a required antecedent to follower level, team level and subsequently organisational level

performance. According to Bass, Avolio, Jung and Berson (2003), transformational leadership is a necessary organisational requirement, to manoeuvre the changing, uncertain business environments and enable organisations to respond to challenges as a workforce collective.

However, theorists view entrepreneurship, as a nexus of the person and levels of entrepreneurial behaviour (Barreira et al., 2013); hence, organisational level behaviour is theoretically driven by individual level behaviour. The conceptual cognitive framework of an entrepreneurial mindset, coined by McGrath and MacMillan (2000), explains individual level entrepreneurial thinking and behaviour within corporates.

However, given the dynamism currently at play within organisations globally, the achievement of long-term firm success cannot rely on the success of but a few individuals, acting entrepreneurially. The employee workforce should collectively act entrepreneurially and thus become a conduit vehicle, like transformational leadership is considered an important relational variable, which directly and indirectly enables the effective conversion of employee entrepreneurial performance into firm level behaviour of corporate entrepreneurship.

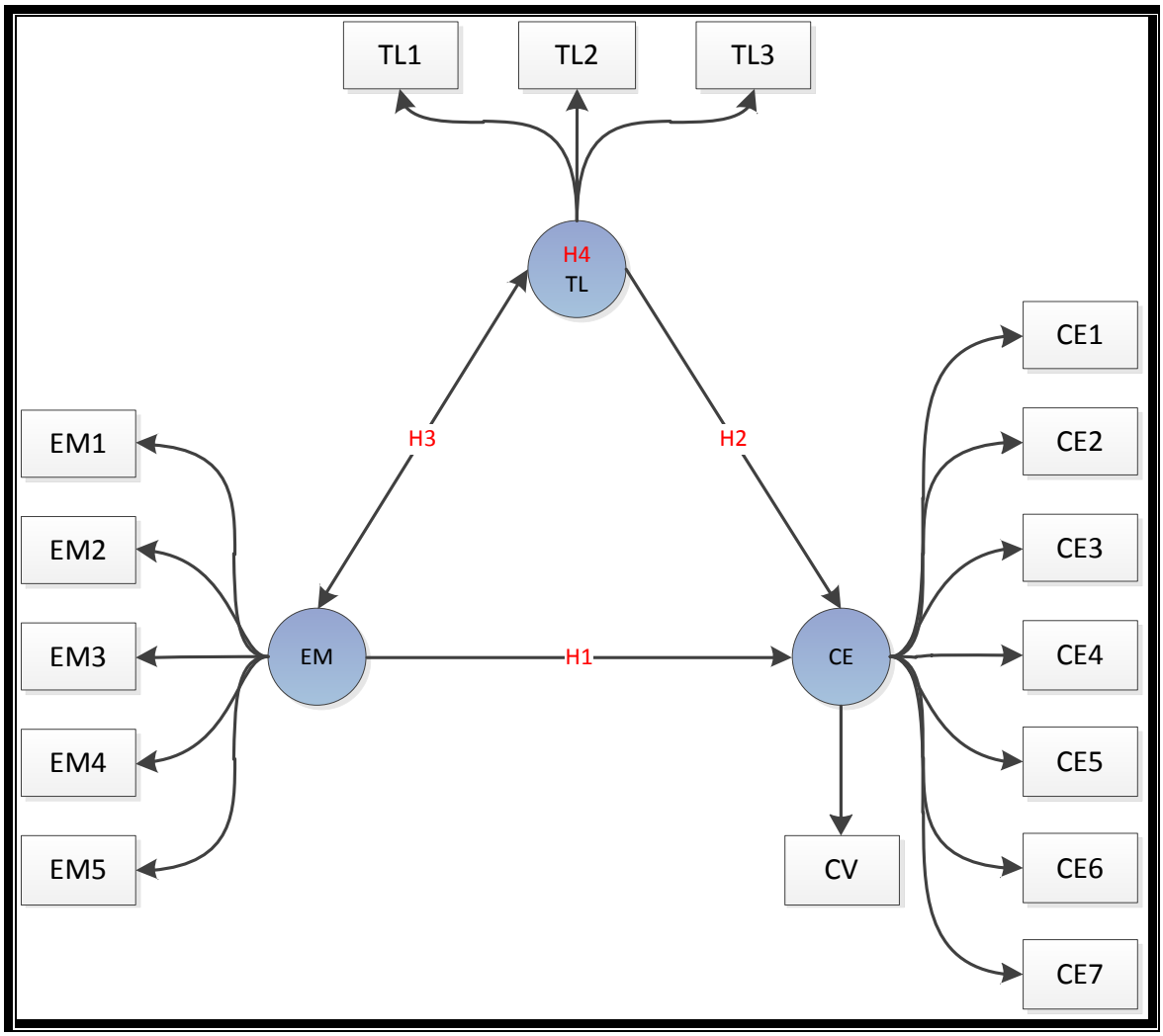
Therefore, in order to enhance the effectiveness of firm performance requires an infusion of an entrepreneurial mindset among employees, driven through the vehicle of transformational leadership, resulting in entrepreneurially thinking employees and corporate entrepreneurship performance.

Theoretically, literature has supported the hypothesis that an entrepreneurial mindset does positively influence levels of corporate entrepreneurship. Equally, literature supports the hypothesis that transformational leadership positively influences an entrepreneurial mindset and levels of corporate entrepreneurship.

Likewise, literature supports the hypothesis that transformational leadership positively influences the relationship between an entrepreneurial mindset and levels of corporate entrepreneurship. Causal influences were found in relation

to the proposed model construct; literature supports the claims of the model, which were empirically tested in this research study.

The control variable of corporate grade was selected, because the entrepreneurial influence of leadership differs depending on their managerial level of seniority in an organisation (Kuratko et al., 2011).



Key: EM: entrepreneurial mindset; TL: transformational leadership; CE: corporate entrepreneurship; CV: corporate grade (control variable)

Figure 14: Model construct: Proposed relational influence of transformational leadership on an entrepreneurial mindset and corporate entrepreneurship

Table 1: Model construct key

Predictor variable indicator	Predictor variable name	Variable Type
Entrepreneurial mindset 1	Goal orientation	First order latent variable
Entrepreneurial mindset 2	Metacognitive knowledge	First order latent variable
Entrepreneurial mindset 3	Metacognitive experience	First order latent variable
Entrepreneurial mindset 4	Metacognitive choice	First order latent variable
Entrepreneurial mindset 5	Monitoring	First order latent variable
Transformational leadership 1	Idealised influence/ inspirational motivation	First order latent variable
Transformational leadership 2	Intellectual stimulation	First order latent variable
Transformational leadership 3	Individualised consideration	First order latent variable
Corporate entrepreneurship 1	Our company has introduced many new products and services over the past three years	Manifest variable
Corporate entrepreneurship 2	Our company has made many dramatic changes in the mix of its products and services over the last three years	Manifest variable
Corporate entrepreneurship 3	Our company has emphasized making major innovations in its products and services over the last three years	Manifest variable
Corporate entrepreneurship 4	Over the past three years, our company has shown a strong proclivity for high-risk project (with chances of very high return)	Manifest variable
Corporate entrepreneurship 5	Our company has emphasized taking bold, wide-ranging actions in positioning itself and its products (service) over the past three years	Manifest variable
Corporate entrepreneurship 6	Our company has shown a strong commitment to research and development (R&D), technological leadership, and innovation	Manifest variable
Corporate entrepreneurship 7	Our company has followed strategies that allow it to exploit opportunities in its external environment	Manifest variable
Corporate grade	Corporate Grade	Control variable

CHAPTER 3: RESEARCH METHODOLOGY

The aim of this research study was to answer the research question and to empirically test, using data observations, the validity of the hypotheses. In addition, the study assessed the holistic empirical outcome and made business inferences.

3.1 Research paradigm

A post-positivism paradigm was employed during this research study. The research paradigm was selected as the axiology of the study was independent of the researchers' internal belief and value system and enabled a critical evaluation of the empirical observations obtained.

Epistemology, according to Krauss (2005:758), "is the philosophy of knowledge and how we have come to know". In this study, knowledge was obtained and verified utilising questionnaires as the primary data source. Ontology, which is related to epistemology, is the viewpoint of reality (Krauss, 2005) and in this research scenario, reflected an objective reality that is deductively derived with known probability from empirical data. Methodology, which is equally related to epistemology, refers to the process employed to obtain or discover knowledge (Krauss, 2005) and the methodology employed in this study, involved a quantitative research study.

As the researcher, is an employee of bank, where the research is to be conducted, it was important, that the study, remain objective and free from internal bias and therefore the post-positivism paradigm, was the most relevant research paradigm to utilise in this study.

3.2 Research design

The methodology adopted in this research study was a cross-sectional, empirical analysis, conducted during the period between August and November

2015, utilising primary data, collected via structured questionnaires, from management staff within the bank.

The advantage of conducting a cross-sectional analysis, was the access to available data, which given the significantly short period allocated to conduct the research, was deemed to be the most suitable method for this research study. The disadvantage of utilising a cross-sectional analysis is that the findings might not be thematic, as employee attrition and individual personalities can create flux in the observations. Analysing is at a point in time, as opposed to observing made over several financial cycles, which is a possible downside but can be controlled (Krauss, 2005).

3.3 Population and sample

3.3.1 Population

The sampling population included junior, middle, senior and top management employees of an African regional bank, based in South Africa. Human resource data, obtained from the Human Resource Department within the company, was utilised as the sampling frame.

3.3.2 Sample and sampling method

The model construct, illustrated in Figure 14, incorporates a control variable of employee seniority within the model and Figure 4, incorporates the leadership traits of managers within an organisation, as a key variable, thus, the merger of both concepts, defines the sampling population and hence, a sample of employees that hold a management position was considered.

The sampling technique that was utilised during this study was purposive sampling, which included the junior, middle, senior and top management employee population within the sampling bank, in South Africa.

At a minimum, the number of respondents required to participate in the survey, was derived based on the “10 times rule” or heuristic (Barclay et al., 1995:39)

employed to determine minimum sampling sizes for partial least squares structural equation modelling (PLS-SEM) analysis. The heuristic is based on determining “the largest number of structural paths directed at a particular construct in the structural model” (Lowry & Gaskin, 2014:132), and multiplying the number by a factor of 10 to determine the minimum sample size. This analysis is based on achieving a fair representative sample, big enough to conduct, rigorous partial least squares structural equation modelling analysis. Employing the 10 times rule on the model construct, depicted in Figure 14, the corporate entrepreneurship construct had the largest number of structural paths, 10, and therefore the minimum sample size required to conduct partial least squares structural equation modelling was 100.

Table 2: Profile of respondents

Description of respondent type based on corporate grade	Number to be sampled
Managing Directors/ Managing Principal	25-50% of the total population
Directors/ Principal	25-50% of the total population
Vice President	25-50% of the total population
Associated Vice President	25-50% of the total population
Team Leader	25-50% of the total population

3.4 The research instrument

The research instrument employed in this study was a structured questionnaire, which was based on leveraging scales from existing literature. The research scale contains the variable constructs as seen in Table 3.

Table 3: Research Instrument

Variable Type	Construct	Referenced Standard Instrument Scale	Dimensions	Scale	Comment on Instrument
Independent	Entrepreneurial mindset	MAC (Haynie & Shepherd, 2009)	1. Goal orientation 2. Metacognitive knowledge 3. Metacognitive experience 4. Metacognitive choice 5. Monitoring	Six-point Likert scale [Not very much like me to Very much like me]	Cronbach alpha of 0.885 across all five dimensions (Haynie & Shepherd, 2009). Exploratory factor analysis (EFA) was used to test validity, resulting in five factors (Urban, 2012).
Dependent	Corporate entrepreneurship	Corporate entrepreneurship Index (Miller & Friesen, 1982)	1. Innovation 2. Risk-taking 3. Proactiveness	Seven-point Likert scale [Very untrue to Very true]	Widely used scale due to its validity and reliability (Zahra 1991, Zahra & Covin, 1995) Cronbach alpha of 0.75 (Zahra & Covin, 1995)
Independent & Mediating	Transformational leadership	Multifactor Leadership Questionnaire (Bass, 1995)	1. Inspirational motivation 2. Intellectual stimulation 3. Individualised consideration	Five-point Likert scale [Never to Every time]	Widely validated construct (Avolio et al., 1991) Cronbach alpha of 0.81 (Jung et al., 2003)

3.5 Procedure for data collection

The research study adopted the approach of utilising a self-administered survey as the vehicle to collect empirical data. As such, the questionnaire was in both paper and electronic format, thus enabling access to respondents across the region.

Two data collection mechanisms were utilised based on the physical location of the respondents, namely paper surveys and on-line surveys. Paper surveys were utilised for head-office employees based in Johannesburg, South Africa and on-line surveys were utilised for employees based at any of the other South African, geographical locations of the respective bank.

Although this approach was a very cost effective method, additional considerations were taken into account, due to the lack of researcher intervention, to ensure that the survey was relatively simple to navigate. As such, the instrument was designed using close-ended questions, in a Likert scale format.

3.6 Data analysis of the model

In order to assess the relational influence of transformational leadership on the relationship between an entrepreneurial mindset and corporate entrepreneurship within the respective African bank, second-generation statistical data analysis, techniques, were applied, as this provided a singular, comprehensive, simultaneous evaluation of the model (Gefen et al., 2000).

Structural equation modelling (SEM) (Bollen, 1989) is a second generation model and is thus viewed as a superior technique to be employed in this behavioural causal research study, taking into consideration that the causal relationship effect, of mediation and moderation, is considered by researchers to be evaluated more effectively utilising SEM techniques than first generation models (Lowry & Gaskin, 2014).

Structural equation modelling, and more specifically partial least squares, was employed, and is considered a more efficient statistical tool (Afthanorhan, 2013). Partial least squares structural equation modelling, is a multivariate analysis method, that is similar to linear regression, in that it aims, “to show high R-square and significant t-values, thus rejecting the null hypothesis of no-effect” (Gefen et al., 2000:24).

Partial least squares structural equation modelling is a statistical technique that can be used both for confirmatory and exploratory theory building, as opposed to covariance-based, structural equation modelling (CB-SEM), which is recommended for confirmatory studies only (Lowry & Gaskin, 2014). As this study, aimed to confirm and explore new theory, partial least squares structural equation modelling was viewed as being a better statistical fit.

Apart from the benefits stated above, partial least squares structural equation modelling provides superior statistical power at minor sample size ranges and “maximises the explained variance of the endogenous latent constructs” (Afthanorhan, 2013:198). Partial least squares structural equation modelling equally has the ability to statistically analyse samples with non-normal data distribution and be able to incorporate models with large indicator variables.

However the choice of partial least squares structural equation modelling over covariance-based, structural equation modelling, does pose some challenges to the integrated analysis of the model, depicted in Figure 15. One of the distinctive disadvantages of partial least squares structural equation modelling, is that “the requirement of recursivity in standard partial least squares path models inhibits investigating bidirectional effects” (Henseler & Fassott, 2010:2) and the model does aim to test bidirectional effects.

This challenge was overcome by using linear regression analytics, to test the relationship, whereby transformational leadership is the exogenous variable and entrepreneurial mindset is the dependent variable. According to Gefen et al. (2000), the statistical objective of linear regression, concurs with the statistical objective of partial least squares structural equation modelling, thus both these

statistical tools were chosen to holistically and empirically test the model construct, depicted in Figure 14.

3.7 Data evaluation of the model

A path model within the partial least squares structural equation modelling domain consists of two models, namely the structural model, often referred to as the inner model; and the measurement model, often referred to as the outer model (Wong, 2003). Partial least squares structural equation modelling equally adopts two types of measurement models, a reflective model and a formative model. According to Gefen et al. (2000), a reflective measurement model, comprises latent variables that are all reflective and thus representative of unidimensional constructs that are correlated. Based on this deduction, the empirical model described in Figure 14, is characterised as a reflective measurement model.

3.7.1 Descriptive statistics

The data was cleansed to ensure that the data set is conducive to conduct partial least squares structural equation modelling analysis techniques. The data characteristics of the measurement model was assessed using the following techniques, namely the mean and the standard deviations of latent variables, and the data skewness and data kurtosis, in order to determine the distribution of the latent variables. Lastly, the correlation matrix of the model was computed and analysed, using the Pearson correlation method, in order to determine how highly correlated latent variables are to one another (Hair, Ringle & Sarstedt, 2013).

3.7.2 Outer model analysis

In order to establish the consistency of the measurement model, a series of two battery tests were conducted, evaluating both the reliability and validity of the model (Hair et al., 2011).

Model reliability

According to Afthanorhan (2012:199), the reliability of a measurement model, measures the “extent of how reliable is the said measurement model in measuring latent constructs”. The reliability of the model was measured using a bi-modal approach, thus both the internal consistency reliability and the indicator reliability of the model was tested (Hair et al., 2011). A series of two tests were used to test the internal reliability of the model, the Cronbach alpha test and the composite reliability test.

The aim of the indicator reliability test was to determine whether the underlying manifest variables of transformational leadership, corporate entrepreneurship and entrepreneurial mindset could be aggregated into singular latent variables for transformational leadership, corporate entrepreneurship and entrepreneurial mindset, respectively.

Model validity

The validity of the model, ascertains the accuracy of the scale instrument utilised in the study (Afthanorhan, 2012) and as such a series of two validity tests were conducted, convergent and discriminant. The convergent validity of model was evaluated using the Fornell and Larcker (1981) criteria, thus the model attained convergent validity when the, “latent construct explain[ed] more than 50 percent of its indicators’ variance” Afthanorhan, 2012:200). Similarly, Fornell and Larcker (1981) criteria was used to assess the discriminant validity of the model, by evaluating whether the value of the correlation of each construct is lower than the square root of the average variance extracted (AVE) value.

The cross-loading approach was used to determine whether the measurement model displayed discriminant validity and was unidimensional, and hence whether the scale manifest variables that were empirically observed had an acceptable factor loading on the respective first or second generation latent construct.

Lastly, the heterotrait-monotrait (HTMT) ratio of correlations methodology was utilised to assess the discriminant validity of the measurement model over and above the Fornell and Larcker (1981) criteria and the cross-loading approach. According to Henseler, Ringle and Sarstedt (2015), the HTMT criterion compensates for some of the shortcomings experienced in assessing discriminant validity in variance-based structural equation modelling, by only using Fornell and Larcker (1981) criteria and the cross-loading approach.

3.7.3 Common method bias

Research has agreed that common method bias is problematic in behavioural research, as it is common research practice for data to be collected from the same person, using a research instrument that simultaneously collects data for both the exogenous and endogenous variables (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). According to Podsakoff et al. (2003:879), method bias, is considered to be a key source of "measurement error and is attributable to the measurement method rather than to the construct of interest".

In order to control for method bias, the research instrument was designed so that each latent variable scale was separated from other latent variable scales using tables. Equally, each latent variable, varied in Likert scale formats. This design consideration reduced "common rater effects", as a potential source of method variations (Podsakoff et al., 2003:881). Coupled with this approach, the anonymity of the respondents was protected, thus reducing social desirability as a potential source of method variations (Podsakoff et al., 2003).

In order to statistically test for common method bias, the correlation matrix derived using Pearson's correlations was utilised to determine whether any of the latent variables correlations were above 0.90, thus strongly indicating a sign of common method bias (Lowry & Gaskin, 2014).

Additionally, signs of common method bias were evaluated by determining whether the measurement model attained construct validity (Bagozzi, Yi & Phillips, 1991).

3.7.4 Ethical Considerations

The respondents rights and protections was preserved during the research process by firstly ensuring that the research partcipation was purely voluntary and no use of positional power was exercised during the process. Secondly, all respondents were fully informed of the research purpose, the lifecycle of the research process and the manner in which the data will be extracted and statistically evaluated. Lastly, the anonymity of respondents was achieved by allocating a number to each participant and by ensuring that the research instrument recorded no personal details, other than the gender of the participants (Stanley, Sieber & Melton, 1987).

3.7.5 Inner model analysis

The holistic measurement model, inclusive of Hypotheses 1, 2, 3b and 4, was tested using partial least squares structural equation modelling, in order to evaluate conclusively the degree of the R-square value and to test the significance of the t-values, to enable an acceptance or rejection of the null hypothesis (Gefen et al., 2000). The R-square value was assessed to determine the level of variation in the endogenous variable that is explained by the exogenous and mediating variables (Lee, 2015).

The effect size of the model (weak, moderate or strong) was evaluated using the F-square statistic, and the Bootstrapping method (Efron, 1992) was utilised to evaluate the significance and the confidence intervals of the path coefficient estimates. The bootstrap method was chosen, as it is far more effective with moderate quantities of data (Lee, 2015), as it ensures no distributional assumptions.

3.7.6 Mediation analysis

Mediation analysis, using the Baron and Kenny (1986) mediation analytics method, was utilised to empirically test whether transformational leadership, acts as a mediation variable, in the relationship between an entrepreneurial mindset and high levels of corporate entrepreneurship. The mediation analysis

was conducted within the partial least squares structural equation modelling measurement model (Lowry & Gaskin, 2014).

The measurement model assessed the effect of the mediator variable, by first evaluating the effect size of the direct path (entrepreneurial mindset to corporate entrepreneurship) and indirect path (entrepreneurial mindset to transformational leadership to corporate entrepreneurship) of the model and secondly by evaluating the significance of the path coefficient estimates, by utilising the Bootstrapping method (Efron, 1992).

According to Baron and Kenny (1986), a variable is considered a mediator, under three circumstances, first statistical variations in levels of entrepreneurial mindset, significantly explain the statistical variations in transformational leadership (path a). Second, statistical variations in the mediator, transformational leadership, significantly explain the statistical variations in the endogenous variable, corporate entrepreneurship (path b); and third the control of paths a and b result in a previously significant relationship between entrepreneurial mindset and corporate entrepreneurship, becoming marginally less significant or non-significant.

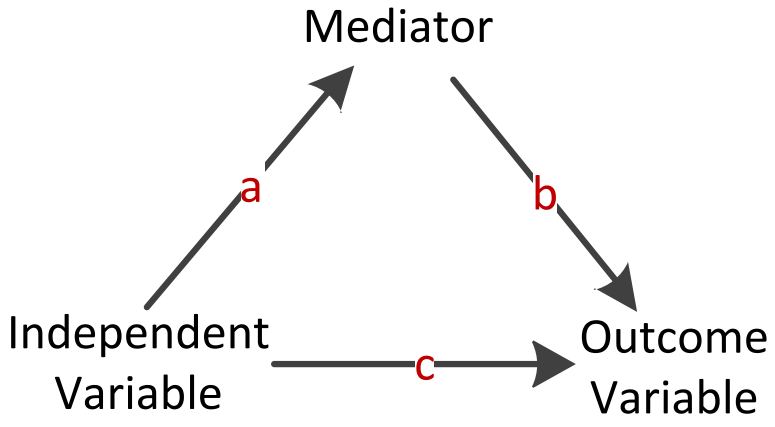


Figure 15: Mediation analysis (Baron & Kenny, 1986:967)

3.8 Linear regression

Based on the shortcomings of partial least squares structural equation modelling in being able to statistical evaluate bi-directional relationships, linear regression analysis, was used to test empirically the relationship between transformational leadership and an entrepreneurial mindset (Lee, 2015).

The objective of linear regression is similar to that of partial least squares structural equation modelling in that a hypothesis is accepted based on a moderate to strong R-square value and significant p-values, thus enabling the rejection of the null hypothesis. The Beta values of the linear slope categorise the strength of the linear association and the effect of the independent variable on the dependent variable (Lee, 2015).

3.9 Validity and reliability of the research

To ensure the statistical validity and reliability of the data analysis conducted within the study, the following criteria and approaches were employed.

3.9.1 External validity

External validity gauges the validity of the relationships and findings of the study, in relation to a full population and thus measures generalised extrapolations in research studies. The external validity of this research study was enhanced by selecting a large population from a singular bank. The population was selected based on their seniority in the bank and thus reflected a sampling from across the management employee grouping within the bank.

3.9.2 Internal validity

Validity is an evaluation of the authenticity of the research and thus measures whether the intention of the research, correlates with the empirical results (Bagozzi et al., 1991). The internal validity of the research was evaluated by testing the construct validity of the data set. A series of two methods were employed to test for the individual distinctiveness of each of the scales variable

constructs, first, convergent and discriminant validity, and second, cross loading analysis.

According to Bagozzi et al. (1991:425), convergent validity, “is the degree to which multiple attempts to measure the same concept are in agreement”, whereas discriminant validity, “is the degree to which measures of different concepts are distinct”. The Fornell and Larcker (1981) criteria, was utilised to evaluate both the convergent and discriminant validity of the model.

The indicator loading and cross loading of the statistical data was utilised to validate the number of factors within the research instrument and determine whether each item, should remain in the measurement model, thus verifying that the model has achieved unidimensionality. According to Hattie (1985), unidimensionality is of critical importance as it ensures that all the items within a research scale measure only one latent variable and this becomes the foundational assumption of measurement theory.

3.9.3 Internal reliability

The internal reliability of the data set, measures the consistency of the research across the sampling population and its reliability over time (Joppe, 2000, cited in Golafshani, 2003). There were two sets of tests that were employed namely, the Cronbach’s Alpha (Cronbach & Gleser, 1959) test and the composite reliability or construct reliability test.

The Cronbach Alpha score, measures the internal consistency of multi-scale items within a survey, in order to gauge its research reliability. An alpha score of greater than or equal to 0.7 (Nunally, 1978) was used as the statistical guide in order to validate the reliability of the data set.

According to Nunally and Bernstein (1994), a composite reliability score of between 0.60 and 0.70 is deemed to be a satisfactory reflection of internal reliability in exploratory research studies, and due to the fact that this research study has components of exploratory research, this composite reliability score spread was used.

3.10 Limitations of the study

As the measurement model was derived from the conceptual framework of Figure 4, entrepreneurship, a multidimensional construct based on the Covin and Slevin (1991:7), “conceptual model of entrepreneurship as firm behaviour”, some limitations of the model equally applies to this research study.

Therefore, the empirical results from the measurement model may not be applicable to small companies, as the model is more applicable to the entrepreneurial causal effect among larger, more established companies. Second, as the study is conducted within a single bank, generalised inferences cannot be directly applied across the domestic or global banking sectors.

Thirdly, as the holistic measurement model was not tested using partial least squares structural equation modelling, due to the limitations of the statistical tool to analyse bi-directional causal relationships, the empirical results could not conclusively deduce a bi-directional relationship between an entrepreneurial mindset and transformational leadership; therefore, structural equation modelling and similar statistical techniques were employed, to derive a relationship.

Lastly, as the research study was a cross-sectional analysis, two sets of limitations arose; first, the empirical findings may not be thematic, due to employee and leadership attrition over time. Second, “transient mood state” (Podsakoff et al., 2003:882), method variance or “recent mood-inducing events” may impede the way in which respondents assess themselves and the external environment, which may affect the measurement error of the results.

3.11 Conclusion

The data collection process was conducted within the South African footprint of a global, multinational bank and adopted a purposive sampling technique to limit the research study to management within the Bank.

The research instrument was designed based on; three widely used and reliable scales for entrepreneurial mindset, corporate entrepreneurship and transformational leadership and was administered in both a paper and electronic format, to increase respondent accessibility.

The statistical data analysis, followed a two-step approach whereby the reliability and the validity of the measurement model were firstly established and thereafter, descriptive statistics, Pearson correlations, partial least squares structural equation modelling analysis, inclusive of mediation analysis, were conducted. This confirmed the causal influence between predictor variables, intermediate variables and the dependent variable, which in this case is corporate entrepreneurship, in order to either accept or reject the proposed hypotheses.

CHAPTER 4: EMPIRICAL RESULTS

4.1 Introduction

There were 173 respondents that completed the research survey across varying managerial levels within the respective bank. There was minimal cleansing of data, as the data integrity was audited during the capturing stage of the research process. The respondent sample size was above the recommended minimum sample size of 100, derived using the “10 times rule” (Barclay, Higgens & Thompson, 1995:287). The data was captured into an excel spreadsheet to enable statistical data analysis, utilising the SmartPLS software. SmartPLS was created by Ringle, Wende and Will (2005), and is considered one of the more prominent applications for partial least squares structural equation modelling (Wong, 2013).

The multi-item scale contained sixty-five questions, of which sixty-three questions, contained within the multi-item scale, were continuous variables and both the control variables, corporate grade and gender, were categorical variables. Gender was eliminated as a control variable within the theoretical model, due to there being insufficient extant literature, to support the argument.

4.2 Profile of respondents

Table 4: The corporate grade profile of respondents

Corporate grade	Managerial Level	Frequency	Percent	Cumulative Percent
Team leader (0)	Junior	17	10.06	10.06
Assistant vice president(1)	Junior	87	51.48	61.54
Vice president (2)	Middle	42	24.85	86.39
Principal (3)	Senior	15	8.88	95.27
Managing Principal (4)	Top	8	4.73	100.0

The managerial profile of the respondent population was largely skewed towards the junior management employee base, with 61.5 percent of the respondents belonging to this grouping. Only 12 percent of the sample population represented the senior and top management of the bank, while the remaining 25 percent of the sample population represented the bank's middle management employee base.

Table 5: The gender profile of respondents

Gender	Frequency	Percent	Cumulative Percent
Male	77	44.44	44.4
Female	95	55.56	100.0

The respondent profile was fairly balanced with regard to gender, thus representing no gender skewness in the empirical data, and consequently reflecting no gender bias in the results.

4.3 Sample adequacy

A series of two tests were utilised to verify that the "10 times rule" Barclay et al., 1995:287) that was applied to determine the minimum sampling population was in fact adequate to conduct factor analysis, thus the Kaiser-Meyer-Olkin, measure of sampling adequacy, and Barlett's test for sphericity, measuring sampling adequacy significance, were conducted.

Table 6: Kaiser-Meyer-Olkin statistics

Latent variable	Kaiser-Meyer-Olkin	Bartlett's Test for Sphericity
Corporate entrepreneurship	0.852	.000
Transformational leadership	0.876	.000
Entrepreneurial mindset	0.946	.000

All latent variables, demonstrated Kaiser-Meyer-Olkin scores of greater than 0.60 and Bartlett's Test of Sphericity significance values of 0.000, thus indicating data adequacy and significance to conduct good factor analysis.

4.4 Descriptive statistics

The descriptive statistics on all the continuous major variables are presented below:

Table 7: Descriptive statistics of latent variables

Latent variable	Mean	Median	Std. Deviation
Corporate entrepreneurship	5.1665	5.1429	1.01560
Transformational leadership	4.0831	4.1539	.73118
Inspirational motivation	4.2128	4.3750	.74681
Intellectual stimulation	4.0305	4.0000	.81570
Individualised consideration	3.7447	3.7500	.89086
Entrepreneurial mindset	4.9452	4.9722	.50419
Goal orientation	5.1171	5.0000	.68443
Metacognitive knowledge	4.9823	5.0000	.53301
Metacognitive experience	4.8921	4.8750	.52455
Metacognitive choice	4.8159	5.0000	.78540
Monitoring	4.9169	5.0000	.63495

As observed in the data presented in Table 7, the mean and medians of each of the variable constructs are closely aligned, indicating an equal spread around the average. Equally, there is no large standard deviation values for any of the variables, thus indicating no major dispersion of data from the mean (Lee, 2015).

The variable distribution of the data constructs are presented in Table 8:

Table 8: Data normality statistics

Latent variable	Mean	Skewness	Kurtosis
Corporate entrepreneurship	5.1665	-.387	-.194
Transformational leadership	4.0831	-1.051	1.162
Inspirational motivation	4.2128	-1.183	1.482
Intellectual stimulation	4.0305	-.828	.658
Individualised consideration	3.7447	-.558	.362
Entrepreneurial mindset	4.9452	-.341	-.043
Goal orientation	5.1171	-.803	.886
Metacognitive knowledge	4.9823	-.651	.633
Metacognitive experience	4.8921	-.205	-.015
Metacognitive choice	4.8159	-.566	-.018
Monitoring	4.9169	-.364	-.163

Skewness and Kurtosis, are statistical measures for data normality and the skewness and kurtosis values presented in Table 8 for each of the latent variables, are within the acceptable ranges of a normal distribution, hence the skewness values were less than ±1 and the kurtosis values were less than ±3 (Lee, 2015).

The linear associations between the continuous major variables are described in Table 9, both in size and significance levels, utilising the Pearson Correlation Procedure. This identifies the strength of the linear relationship and the levels of confidence in the accuracy of the data.

Table 9: Pearson correlations

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Corporate entrepreneurship	1										
2. Transformational leadership	.267***	1									
3. Inspirational motivation	.259***	.968***	1								
4. Intellectual stimulation	.250***	.867***	.759***	1							
5. Individualised consideration	.219***	.875***	.764***	.734***	1						
6. Entrepreneurial mindset	.293***	.141**	.141**	.162**	.078	1					
7. Goal orientation	.208***	.154**	.135**	.182***	.129**	.786***	1				
8. Metacognitive knowledge	.263***	.073	.079	.094	.019	.862***	.557***	1			
9. Metacognitive experience	.245***	.148**	.156**	.139**	.097	.770***	.530***	.541***	1		
10. Metacognitive choice	.261***	.145**	.166**	.136**	.051	.847***	.608***	.657***	.587***	1	
11. Monitoring	.225***	.090	.070	.145**	.058	.871***	.667***	.685***	.566***	.689***	1

Key: *p < 0.10, **p <0.05, ***p<0.01

The correlation data, represented within Table 9 was analysed within Table 10 in order to determine utilising the correlation factor, between key relationships being tested within the model.

Table 10: Linear correlation analysis

Key relationships	Linearity direction	Significance	Size
Entrepreneurial mindset to corporate entrepreneurship	Positive	***	0.293
Entrepreneurial mindset to transformational leadership	Positive	**	0.141
Transformational leadership to corporate entrepreneurship	Positive	***	0.267
Intellectual stimulation & transformational leadership	Positive	***	0.867
Individualised consideration & transformational leadership	Positive	***	0.875
Inspirational motivation & transformational leadership	Positive	***	0.968
Goal orientation & entrepreneurial mindset	Positive	***	0.786
Metacognitive knowledge & entrepreneurial mindset	Positive	***	0.862
Metacognitive experience & entrepreneurial mindset	Positive	***	0.770
Metacognitive choice & entrepreneurial mindset	Positive	***	0.847
Monitoring & entrepreneurial mindset	Positive	**	0.871

Key: *p < 0.10, **p <0.05, ***p<0.01

Based on the correlation data presented in Table 10, there is moderate to weak, positive linear association between entrepreneurial mindset and levels of corporate entrepreneurship with a 95 percent level of confidence in the data accuracy. Equally, a moderate to weak, positive linear association between transformational leadership and levels of corporate entrepreneurship and a 95 percent level of confidence exists in the data accuracy. Similarly, there is weak,

positive linear association between entrepreneurial mindset and transformational leadership with 90 percent level of confidence in the data accuracy. Thus, there are moderate to weak associations between the latent variables within the inner model, even though the correlations are statistically significant. Conversely, the first generation latent variables are very strongly correlated towards their respective second-generation latent variables.

Thus one can conclude that increased levels of an entrepreneurial mindset lead to moderate increases in an organisation's corporate entrepreneurship level and higher levels of transformational leadership, leads to marginal increases in levels of corporate entrepreneurship (Lee, 2015). The linear association between entrepreneurial mindset and transformational leadership is too small to ascertain, whether a positive relationship exists.

4.5 Outer model analysis

The research instrument consists of three multi-scale items, measuring an entrepreneurial mindset, corporate entrepreneurship, and transformational leadership. Thus, the outer model analysis of the measurement model validates the instrument's reliability and validity.

4.5.1 Model reliability

The reliability of the data was tested using both the internal consistency reliability test and the construct or indicator reliability test.

Internal consistency reliability

Table 11: Internal consistency of the measurement model

Latent variable	Cronbach Alpha	Composite Reliability
Corporate entrepreneurship	0.890	0.915
Transformational leadership	0.901	0.938
Entrepreneurial mindset	0.886	0.91
Corporate grade	1.000	1.000

Both the Cronbach alpha scores and the composite reliability scores of the inner model variables, are all above >0.80 (Nunally, 1978; Nunally & Bernstein, 1994), thus indicating that the measurement model has internal consistency reliability.

Indicator reliability

Table 12: Loadings of the measurement model

Corporate entrepreneurship	Loadings	Transformational leadership	Loadings	Entrepreneurial mindset	Loadings
Corporate entrepreneurship 1	0.638	Transformational leadership 1	0.894	Entrepreneurial mindset 1	0.860
Corporate entrepreneurship 2	0.811	Transformational leadership 2	0.919	Entrepreneurial mindset 2	0.783
Corporate entrepreneurship 3	0.829	Transformational leadership 3	0.926	Entrepreneurial mindset 3	0.829
Corporate entrepreneurship 4	0.741			Entrepreneurial mindset 4	0.865
Corporate entrepreneurship 5	0.860			Entrepreneurial mindset 5	0.807
Corporate entrepreneurship 6	0.824				
Corporate entrepreneurship 7	0.725				

All of the indicator variables, except corporate entrepreneurship 1, had item loadings greater than 0.7. However, corporate entrepreneurship 1 had a loading of 0.64, which is approaching the recommended value of 0.7 (Hair et al., 2013), thus did not cause any other issues in the measurement model, considering the remainder of the indicator variables in the measurement model demonstrated indicator reliability, the corporate entrepreneurship 1 variable, remained in the model.

The structural model demonstrated both consistency reliability and fair indicator reliability, therefore the measurement model was deemed to be reliable.

4.5.2 Model validity

Both the convergent and divergent validity of each of the model's latent factors was assessed to determine the validity of the model.

Convergent validity

The convergent validity of the model was tested by first, determining whether the average variance extracted (AVE) value of all the inner model variables were greater than or equal to 0.50 (Bagozzi & Yi, 1988); and second, by determining whether all the t-statistics of the indicator variables of the latent variables, demonstrated significance (Lowry & Gaskin, 2014).

Table 13: Convergent validity of the measurement model

Variables	AVE
Corporate entrepreneurship	0.607
Transformational leadership	0.834
Entrepreneurial mindset	0.688
Corporate grade	1.000

Table 14: T-statistics for convergent validity

Construct	Indicator	T-statistic
Corporate entrepreneurship	Corporate entrepreneurship 1	9.650***
	Corporate entrepreneurship 2	23.997***
	Corporate entrepreneurship 3	25.742***
	Corporate entrepreneurship 4	14.730***
	Corporate entrepreneurship 5	21.445**
	Corporate entrepreneurship 6	17.395***
	Corporate entrepreneurship 7	11.057***
Transformational leadership	Transformational leadership 1	39.997***
	Transformational leadership 2	46.603***
	Transformational leadership 3	31.380***
Entrepreneurial mindset	Entrepreneurial mindset 1	20.869***
	Entrepreneurial mindset 2	28.962****
	Entrepreneurial mindset 3	19.847***
	Entrepreneurial mindset 4	38.817***
	Entrepreneurial mindset 5	22.775***

Key: *p < 0.10, **p <0.05, ***p<0.01

The average variance extracted (AVE) values for all the measurement model variables are above the suggested value of 0.50 (Afthanorhan, 2013), and are

statistically significant at a significance level of one percent, as all the t-statistic values are greater than 2.58 (Wong, 2013) thus demonstrating that the measurement model has satisfied the convergent validity test. This also suggests that the latent variable construct, shares more variance with its assigned indicator variable than with any other latent variable within the measurement model.

Discriminant validity

A series of three battery tests were conducted to ascertain whether the measurement model achieved discriminant validity namely cross-loading, Fornell and Larcker's (1981) criterion, and HTMT criterion.

Each indicator variable, factor loads more significantly on the intended construct it aims to measure, than any other latent variable (Chin, 1998; Gregoire & Fisher, 2006). Equally, the cross-loading with any of the other latent variables is significantly less than 0.10 of the factor loading on the intended latent variable (Lowry & Gaskin, 2014). Therefore, discriminant validity is achieved in the measurement model using the cross-loading methodology. (Table 15)

Table 15: Cross-loadings of the measurement model

Indicator	Corporate entrepreneurship	Transformational leadership	Entrepreneurial mindset	Corporate grade
Corporate entrepreneurship 1	0.638	0.103	0.280	0.063
Corporate entrepreneurship 2	0.811	0.189	0.283	0.023
Corporate entrepreneurship 3	0.829	0.188	0.218	0.057
Corporate entrepreneurship 4	0.741	0.136	0.292	-0.100
Corporate entrepreneurship 5	0.860	0.273	0.207	0.070
Corporate entrepreneurship 6	0.824	0.274	0.209	0.022
Corporate entrepreneurship 7	0.725	0.246	0.107	0.044
Entrepreneurial mindset 1	0.215	0.165	0.807	0.015
Entrepreneurial mindset 2	0.268	0.074	0.829	-0.160
Entrepreneurial mindset 3	0.247	0.146	0.783	0.005
Entrepreneurial mindset 4	0.263	0.135	0.860	-0.037
Entrepreneurial mindset 5	0.234	0.103	0.865	-0.077
Transformational leadership 1	0.251	0.926	0.148	0.166
Transformational leadership 2	0.246	0.919	0.168	0.116
Transformational leadership 3	0.209	0.894	0.085	0.078
Corporate grade	0.032	0.135	0.135	1.000

Table 16: Discriminant validity: Fornell-Larcker criterion

Variables	Corporate entrepreneurship	Corporate grade	Entrepreneurial mindset	Transformational leadership
Corporate entrepreneurship	0.779			
Corporate grade	0.032	1.000		
Entrepreneurial mindset	0.297	-0.060	0.829	
Transformational leadership	0.260	0.135	0.151	0.913

Table 17: Discriminant validity: HTMT method

Variables	Corporate entrepreneurship	Corporate grade	Entrepreneurial mindset	Transformational leadership
Corporate entrepreneurship				
Corporate grade	0.074			
Entrepreneurial mindset	0.330	0.075		
Transformational leadership	0.287	0.138	0.163	

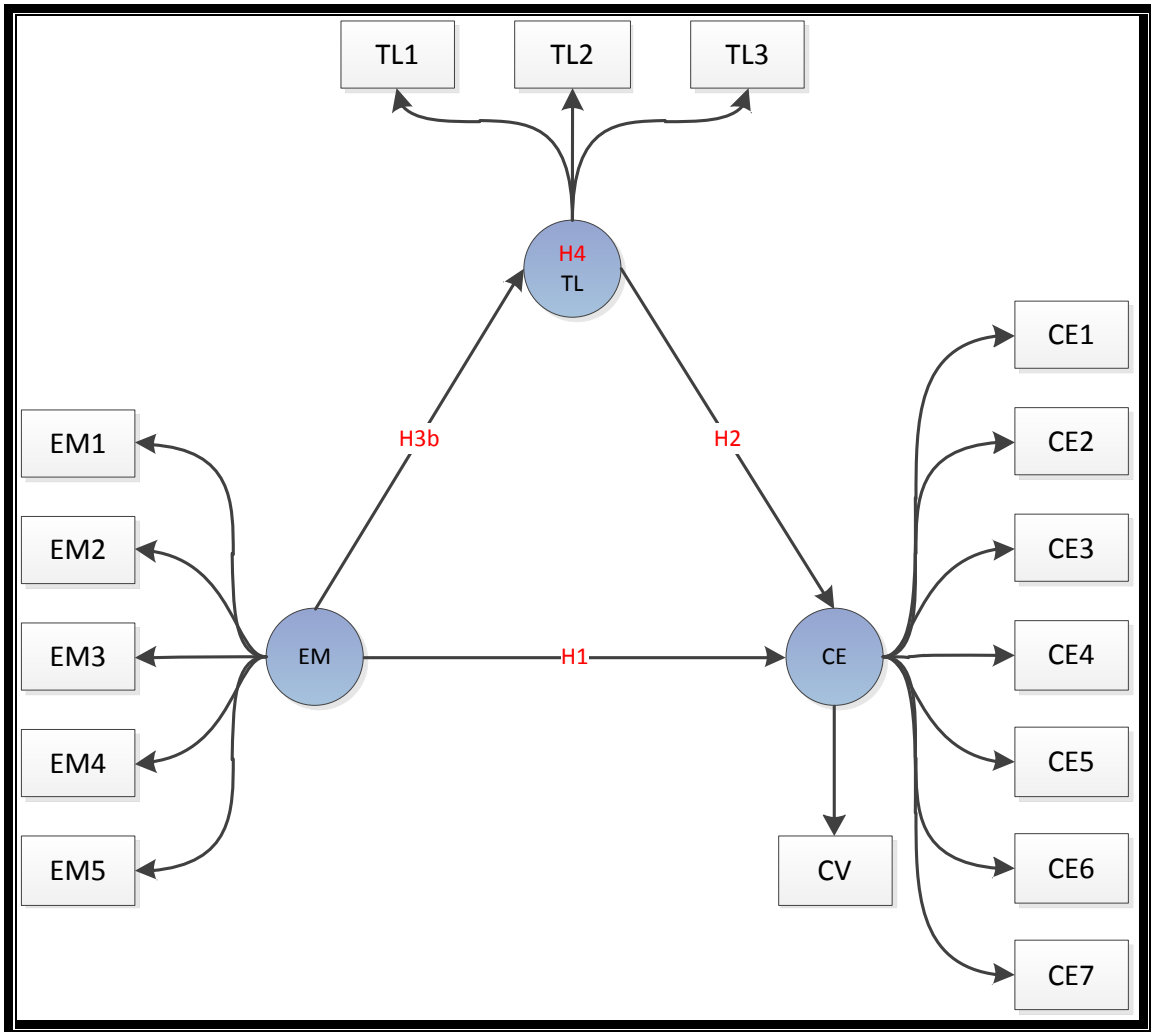
The Fornell and Larcker (1981) criterion was applied to the data represented in Table 16 and the analysis deduced that the square root of the AVE value, represented by the bold diagonal is larger than the correlation among the other latent variables in its respective row and column (Afthanorhan, 2013), thus the measurement model demonstrated discriminant validity. (Table 16)

Based on the data represented in Table 17, the HTMT criterion value is less than the desired threshold of 0.9 (Gold, Malhorta & Segars, 2001; Teo, Srivastava & Jiang, 2008), thus demonstrating that the measurement model has achieved discriminant validity.

All three discriminant validity tests have conclusively completed that the measurement model has attained discriminant validity.

4.5.3 Unidimensionality procedure

In order to assess whether the measurement model achieved unidimensionality, the data in Table 15 was analysed. Based on the empirical data it was discovered that all the factor loadings of the indicator variables were greater than 0.60 for its respective latent construct, which is the recommended threshold for established scales (Awang, Ahmad & Zin, 2010, cited in Afthanorhan, 2013), thus the measurement model was deemed unidimensional. Thus, the theoretical model proposed in Figure 14, is equivalent to the measurement model being tested in Figure 16, as no variables were deleted from the model.



Key: EM: entrepreneurial mindset; TL: transformational leadership; CE: corporate entrepreneurship; CV: corporate grade (control variable)

Figure 16: Measurement model

4.5.4 Common method testing

Two different approaches were adopted to combat method variance within the empirical dataset, first construct validity tests, in the form of convergent and discriminant validity were conducted, and the measurement model demonstrated both convergent and discriminant validity, hence the construct validity of the measurement model was achieved and the mitigation of common method bias was equally achieved.

Table 18: Inner model correlations

Variables	Size
Entrepreneurial mindset to corporate entrepreneurship	0.293
Entrepreneurial mindset to transformational leadership	0.141
Transformational leadership to corporate entrepreneurship	0.267

Second, the inner model correlations, derived from Table 9, were evaluated to determine, whether any of the correlations were greater than 0.90 (Lowry & Gaskin, 2014), hence indicating a possibility of the existence of common bias. Since none of the correlations exceeded the threshold, this served as an additional measure that method variance was mitigated within the research study.

4.6 Inner model analysis

The inner model's variance inflation factor (VIF) was evaluated to determine, whether there were any signs of collinearity within the measurement model.

Table 19: Collinearity of the inner model

Variables	VIF
Entrepreneurial mindset to corporate entrepreneurship	1.030
Entrepreneurial mindset to transformational leadership	1.000
Transformational leadership to corporate entrepreneurship	1.045
Corporate grade to corporate entrepreneurship	1.025

All the VIF values, represented in Table 19, were below the recommended threshold of five (Hair et al., 2011), thus indicating no signs of collinearity.

The R-square value of the measurement model was evaluated to determine how much of the variance in the dependent variable was explained by the predictor variables.

Table 20: R-square value of the measurement model

Variables	R-square
Corporate entrepreneurship	0.139
Transformational leadership	0.023

The latent construct, corporate entrepreneurship had an R-square value of 0.139, therefore transformational leadership and an entrepreneurial mindset were only able to explain 13.9 percent of the variation in corporate entrepreneurship. Similarly, transformational leadership had an R-square value of 0.02; therefore, an entrepreneurial mindset was only able to explain 2.3 percent of the variation in transformational leadership.

The literature indicated that levels of corporate entrepreneurship are influenced by various antecedent factors as depicted in Figure 4; therefore, it can be accepted, that a number of influencing factors could affect levels of corporate entrepreneurship. A single model was improbable in explaining all the variances in the levels of corporate entrepreneurship, thus an explanation of 13.9 percent in the variation of corporate entrepreneurship, was deemed sufficient.

The path coefficient and the t-statistics of the inner model were determined using the SmartPLS software and depicted in Table 21. The t-statistic of the measurement model was determined using the bootstrapping technique.

Table 21: Summary of path coefficient and significance levels of the inner model

Path	Path coefficient	t-value
Entrepreneurial mindset to corporate entrepreneurship	0.265	3.602***
Entrepreneurial mindset to transformational leadership	0.151	2.067**
Transformational leadership to corporate entrepreneurship	0.217	2.552***
Corporate grade to corporate entrepreneurship	0.019	0.246

Key: p < 0.10, **p <0.05, ***p<0.01

The path relationship between entrepreneurial mindset (independent variable) and corporate entrepreneurship (dependent variable); entrepreneurial mindset (independent variable) and transformational leadership (dependent variable); and transformational leadership (independent variable) and corporate entrepreneurship (dependent variable) were all statistically significant. However, the relationship of entrepreneurial mindset and corporate entrepreneurship, and transformational leadership and corporate entrepreneurship, were significant at the one percent level of significance, as opposed to relationship of entrepreneurial mindset and transformational leadership, which was significant at the five percent level of significance. An entrepreneurial mindset had a marginally stronger association of 0.265 on corporate entrepreneurship than on transformational leadership. Both entrepreneurial mindset and transformational leadership demonstrated a moderate association to corporate entrepreneurship, whereas entrepreneurial mindset had a weak association with transformational leadership.

Similarly the outer model was evaluated, both to determine the outer loadings and to evaluate the t-statistics to test for outer model statistical significance, and overall authenticity of the measurement model, as depicted in Tables 22 and 23.

Table 22: Outer loadings of the outer model

Variables	Corporate entrepreneurship	Transformational leadership	Entrepreneurial mindset
Corporate entrepreneurship 1	0.638		
Corporate entrepreneurship 2	0.811		
Corporate entrepreneurship 3	0.829		
Corporate entrepreneurship 4	0.741		
Corporate entrepreneurship 5	0.860		
Corporate entrepreneurship 6	0.824		
Corporate entrepreneurship 7	0.725		
Transformational leadership 1		0.926	
Transformational leadership 2		0.919	
Transformational leadership 3		0.894	
Entrepreneurial mindset 1			0.807
Entrepreneurial mindset 2			0.829
Entrepreneurial mindset 3			0.783
Entrepreneurial mindset 4			0.860
Entrepreneurial mindset 5			0.865

Table 23: T-Statistics and significance levels of the outer model

Variables	Corporate entrepreneurship	Transformational leadership	Entrepreneurial mindset
Corporate entrepreneurship 1	9.650***		
Corporate entrepreneurship 2	23.997***		
Corporate entrepreneurship 3	25.742***		
Corporate entrepreneurship 4	14.730***		
Corporate entrepreneurship 5	21.445***		
Corporate entrepreneurship 6	17.395***		
Corporate entrepreneurship 7	11.057***		
Transformational leadership 1		39.997***	
Transformational leadership 2		46.603***	
Transformational leadership 3		31.380***	
Entrepreneurial mindset 1			20.869***
Entrepreneurial mindset 2			28.962***
Entrepreneurial mindset 3			19.847***
Entrepreneurial mindset 4			38.817***
Entrepreneurial mindset 5			22.775***

Key: *p < 0.10, **p <0.05, ***p<0.01

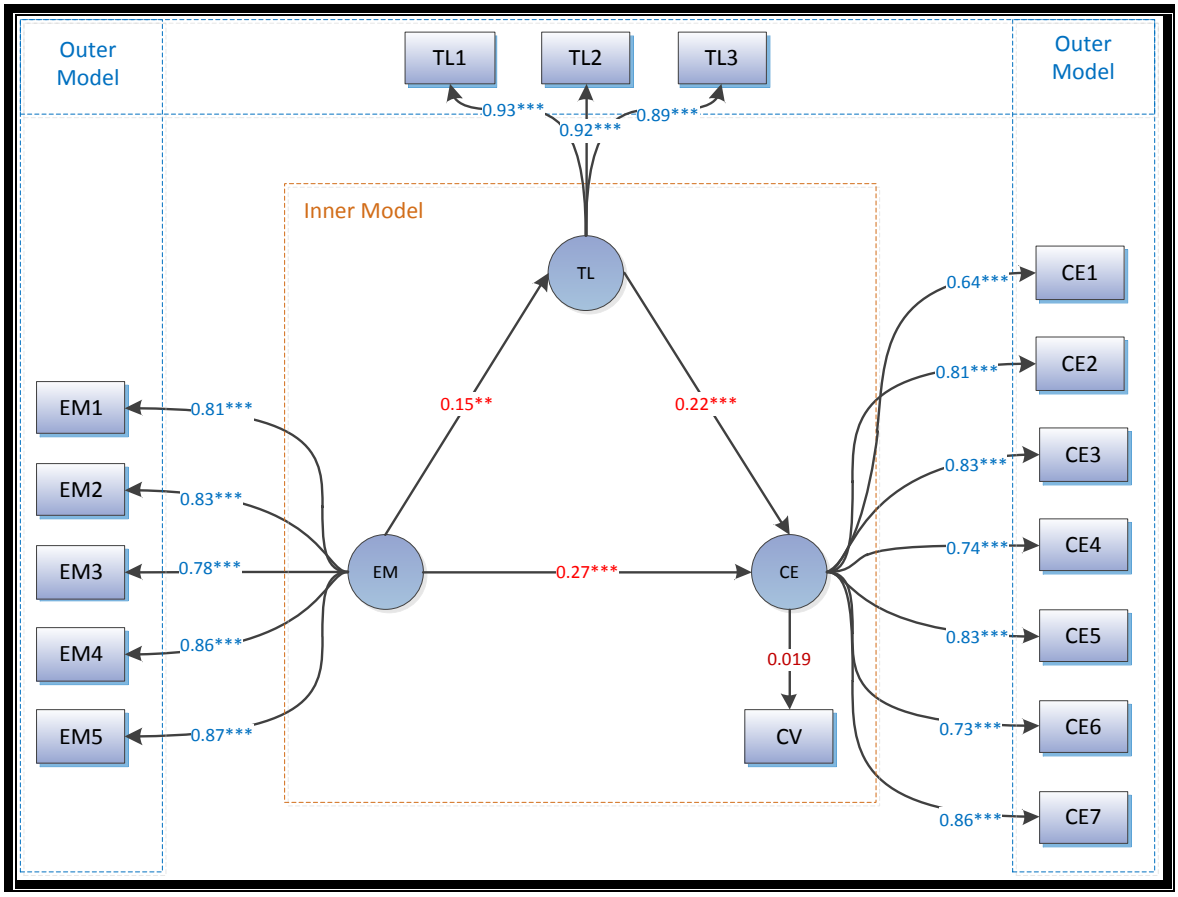
The outer model was deemed statistically significant, at a one percent significance level and the values of all the outer loadings validated the strong associations of indicator variables on the respective latent variables, hence this validated the authenticity of the inner model empirical results. The model's f-square statistic was evaluated to determine the magnitude that a latent exogenous variable, contributed to the variance of a latent endogenous variable's R-square value.

Table 24: Effect size of the inner model

Variables	F-square
Entrepreneurial mindset to corporate entrepreneurship	0.079
Entrepreneurial mindset to transformational leadership	0.023
Transformational leadership to corporate entrepreneurship	0.052
Corporate grade to corporate entrepreneurship	0.000

The individual contribution of an entrepreneurial mindset on the R-square coefficient of the latent variable, corporate entrepreneurship, was 0.079 and the individual contribution of transformational leadership on the R-square coefficient of the latent variable, corporate entrepreneurship, was 0.052. Both relationships demonstrated weak effect sizes (Wong, 2013), with the relationship between an entrepreneurial mindset and corporate entrepreneurship, exhibiting the greatest effect size in the model.

A summary of the partial least squares structural equation modelling statistically analysis is depicted in Figure 17.



Key: *p < 0.10, **p <0.05, ***p<0.01; EM: entrepreneurial mindset; TL: transformational leadership; CE: corporate entrepreneurship; CV: corporate grade (control variable)

Figure 17: Empirical model

4.7 Results pertaining to Hypothesis 1

Based on the partial least squares structural equation modelling analysis, referenced in Figure 17, the hypothesised path relationship between an entrepreneurial mindset and corporate entrepreneurship was statistically significant, with a 99 percent confidence factor.

Therefore, Hypothesis 1 was accepted, and an entrepreneurial mindset displayed by employees will be positively related to higher levels of corporate entrepreneurship activity.

4.8 Results pertaining to Hypothesis 2

Based on the partial least squares structural equation modelling analysis, referenced in Figure 17, the hypothesised path relationship between transformational leadership and corporate entrepreneurship was statistically significant, with a 99 percent confidence factor.

Therefore, Hypothesis 2 was accepted, and transformational leadership by management will be positively related to higher levels of corporate entrepreneurship activity.

4.9 Results pertaining to Hypothesis 3a

In order to determine whether transformational leadership explains the statistical variance in an entrepreneurial mindset, linear regression was applied to the data set, as displayed in Table 25.

Table 25: Linear regression model

Variable	B	SE	B	p-values
Intercept	4.548	0.218		
Transformational leadership	0.097	0.053	0.141	0.065
Anov- F	3.437*			0.065
R-square	0.02			
Adj R-square	0.01			

Key: *p < 0.10, **p <0.05, ***p<0.01

The data assumptions, supporting the linear regression, were verified and the empirical data suggested that there was no evidence of multicollinearity, based on assessment of the condition index (<100) and the variance inflation (<10) parameter data (Lee, 2015). Equally the Durbin Watson measure was close to two (1.58), thus indicating no evidence of autocorrelation. Both the residual normality plots indicated that the residual data was normally distributed, as observed in Appendix B.

Since bootstrapping was utilised in the partial least squares structural equation modelling model, the technique was equally applied to the linear model to ensure consistency of application. The bootstrapping technique was applied to test the statistical significance of the empirical output, and resulted in a difference in confidence intervals and thus significance levels. The p-values changed from $p < 0.10$ to $p < 0.01$, thus demonstrating significance at 0.01, as referenced in Appendix C.

The R-square value revealed that within a 99 percent confidence level, two percent of the variance in the dependent variable, entrepreneurial mindset, was accounted for by the regression fit line. Extant literature has indicated that an entrepreneurial mindset, is largely driven as a result of the cognitive profile of an individual, therefore it can be accepted that a number of social cognitive influencing factors could affect an entrepreneurial mindset and thus a singular model was improbable in explaining all the variances in entrepreneurial mindset.

The standardized Beta values for transformational leadership was utilised to deduce statistical inferences and as such, a unit change in transformational leadership, resulted in a positive, weak, 0.14 unit change in entrepreneurial mindset, within a 99 percent accuracy, confidence level.

Thus, Hypothesis 3a is accepted, and transformational leadership by management will positively influence an employee's mindset, to behave entrepreneurially.

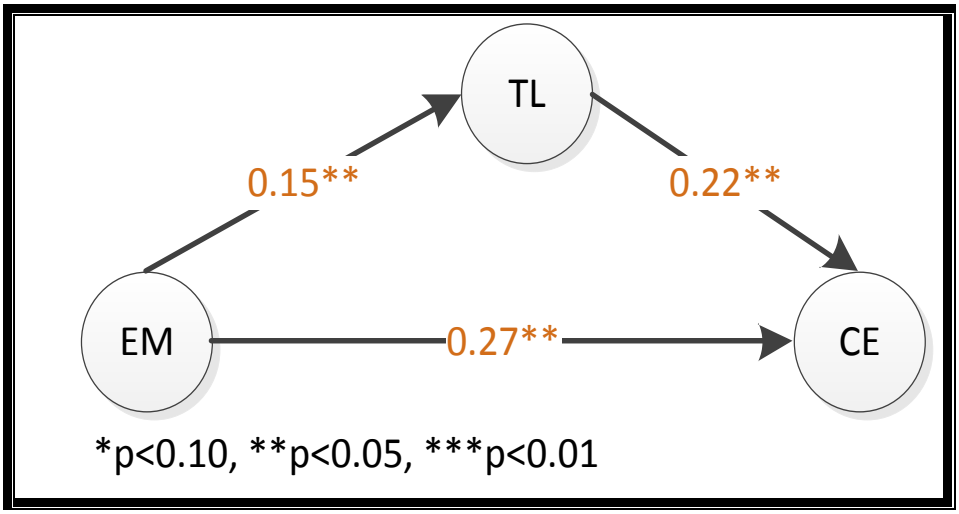
4.10 Results Pertaining to Hypothesis 3b

Based on the partial least squares structural equation modelling, referenced in Figure 17, the hypothesised path relationship between an entrepreneurial mindset and transformational leadership was statistically significant, at a 95 percent confidence factor.

Therefore, Hypothesis 3b was accepted, and an employee's entrepreneurial mindset will positively influence the effectiveness of transformational leadership by management.

4.11 Results Pertaining to Hypothesis 4

Based on the partial least squares structural equation modelling analysis, referenced in Figure 17, the measurement model was evaluated to determine the mediation properties of transformational leadership in the measurement model, using the Baron and Kenny (1986) method.



Key: *p < 0.10, **p <0.05, ***p<0.01

Figure 18: Mediation analysis

The three relevant path relationships namely a) the path relationship between an entrepreneurial mindset and corporate entrepreneurship, b) the path relationship between an entrepreneurial mindset and transformational leadership, and c) the path relationship between transformational leadership and corporate entrepreneurship, were all deemed statistically significant. The data represented in Table 26 shows the evaluation of the total effect of entrepreneurial mindset on higher levels of corporate entrepreneurship.

Table 26: Summary of mediation analysis

Effects	Path coefficient	Percent
Direct effect (entrepreneurial mindset to corporate entrepreneurship)	0.27	90%
Indirect effect (corporate entrepreneurship to entrepreneurial mindset to transformational leadership)	0.03	10%
Total effect	0.30	100%

Thus, an entrepreneurial mindset, affects corporate entrepreneurship both directly and indirectly and as such the total effect of entrepreneurial mindset on corporate entrepreneurship within the measurement model is 0.298. Consequently, 10 percent of the independent variable (entrepreneurial mindset), effect on the dependent variable (corporate entrepreneurship) was through the mediator, (transformational leadership); therefore transformational leadership acts as a partial mediator in the relationship between an entrepreneurial mindset and higher levels of corporate entrepreneurship.

Therefore, Hypothesis 4 was accepted, and transformational leadership partially mediates the causal relationship between an entrepreneurial mindset and corporate entrepreneurship.

4.12 Summary of results

The empirical evidence supported the first claim and Hypothesis 1 was accepted, thus an entrepreneurial mindset displayed by employees will be positively related to higher levels of corporate entrepreneurship activity.

The empirical evidence supported the second claim and Hypothesis 2 was accepted, thus transformational leadership by management will be positively related to higher levels of corporate entrepreneurship activity.

The empirical evidence supported the first part of the third claim and Hypothesis 3a was accepted, thus transformational leadership by management will

positively influence an employee's entrepreneurial mindset, to behave entrepreneurially.

The empirical evidence supported the second part of the third claim and Hypothesis 3b was accepted, thus an employee's entrepreneurial mindset will positively influence the effectiveness of transformational leadership by management.

The empirical evidence supported the fourth claim and Hypothesis 4 was accepted, thus transformational leadership partially mediates the causal relationship between an entrepreneurial mindset and corporate entrepreneurship.

CHAPTER 5: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter is a nexus between the theoretical framework, presented in Chapter 2 and the empirical results, presented in Chapter 4, in order to form a rational basis from which explain the empirical findings in relation to theoretical foundation.

5.2 Demographic profile of respondents

The research instrument was designed to profile the respondents across two demographic categories. The two categories were firstly the gender of the respondents across the sampling population and secondly the managerial level of the respondents within the sampling, bank. These categories were intentionally selected as both the disposition towards entrepreneurship and the impact spectrum differs across gender and managerial levels.

Even though the Global Entrepreneurship Monitor, Sub-Saharan African Regional Report, 2012, (Kelley et al., 2012), propositioned that their surveys have consistently identified men as being significantly more inclined to pursuing entrepreneurship activities than women, the descriptive analysis, uncovered that women on average have a marginally greater entrepreneurial mindset than men. However, men demonstrate marginally greater intensities of an entrepreneurial mindset than do women (Appendix D).

As the Global Entrepreneurship Monitor report (Kelley et al., 2012) investigated entrepreneurial levels within a broader country context, gender statistics for corporate entrepreneurship levels were not specifically analysed. Therefore, it could be argued that gender statistics within the corporate domain were not necessarily reflective of the countries' statistics, as the corporate domain, is

seen as less riskier and safer for women, from a job security perspective, to explore their entrepreneurial ability.

Equally, the corporate world of late has encouraged women diversity and consequently there has been a big drive for the promotion and development of talented women (Natale et al., 1995). In addition, the banking sector in South Africa, has become fixated with the need to innovate and transform their internal capability (Thulo, 2015), thus banks are attracting new blood, with a greater innovative capability. It is not surprising that the empirical results found a balanced reflection across both genders, within the bank.

The respondent profile was fairly represented by all managerial levels within the company being sampled, and reflected an organisational pyramid structure. Thus keeping in mind that firm level entrepreneurial behaviour is driven through the collective efforts of all managerial levels (Kuratko et al., 2011) within a company; the empirical data was adequately spread across the managerial levels to determine the firm level entrepreneurial behaviour of the respective bank.

Only 12 percent of the sample population i.e. senior and top management were considered leadership that shape the strategic direction of the company (Covin & Slevin, 1991). Of the sample population, 25 percent were considered leadership that drives the strategic uptake and embedment within the company (Kuratko et al., 2005). Finally, 62 percent of the sample population were considered front-line leadership that are pivotal to entrepreneurial opportunity discovery (Kuratko et al., 2011).

The descriptive analysis revealed that the entrepreneurial mindset of the front-line leadership and the strategic leadership of the company was greater than was the middle management workforce (Appendix D). This is consistent with the theoretical role profiling of different managerial levels explained above, as middle managers are seen as the conduits between top-level management “entrepreneurially thinking” and front-line management “entrepreneurially doing” and are seen as the entrepreneurial enablement workforce within an organisation (Kuratko, Morris & Covin, 2011:332).

The respondents generally, viewed the transformational leadership capability of the bank as being at a high level, with leaders being frequently reflective in the leadership behaviours of the company's managers. However, since the data reflected strength in transformational leadership capability within the bank, the maximum possibilities of the causal behavioural properties of transformational leadership have been adequately explored within the empirical data.

The descriptive analysis revealed that the level of corporate entrepreneurship within the respective sampling bank, demonstrated moderate levels of corporate entrepreneurship within the organisation. Thus, the empirical data reflected strong levels of entrepreneurial mindset and transformational leadership and moderate levels of corporate entrepreneurship.

5.3 Unidimensional scale constructs

The research instrument utilised in this research study contained an aggregation of three sub-scales that have been leveraged in their original format as prescribed by the theorists that created the scales.

The corporate entrepreneurship scale was leveraged from Miller and Friesen's (1982) corporate entrepreneurship index, which was cross-referenced and utilised in the research study conducted by Zahra and Covin (1995) and achieved an internal consistency reliability coefficient of 0.75 within their study.

This empirical research study achieved an internal consistency reliability coefficient of 0.89 and demonstrated very strong scale reliability and validity, even when using alternative reliability methodologies. Thus the addition of the transformational leadership and entrepreneurial mindset scale into the research instrument, did not conflict with the reliability of the corporate entrepreneurship index.

The path coefficient data for the corporate entrepreneurship index, demonstrated that the corporate entrepreneurship index, behaved empirically as a unidimensional construct with strong linear associations of manifest variables, on the latent variable.

The entrepreneurial mindset scale was leveraged from Haynie and Shepherd's (2009) measure of adaptive cognition, or the MAC index. The entrepreneurial mindset construct is a second generation latent variable, whereby according to Haynie and Shepherd (2009), the first generation latent variables of goal orientation, metacognitive knowledge, metacognitive experience, metacognitive control, and monitoring, demonstrate high internal correlations among the first generation latent variables, thus ultimately displaying properties of an unidimensional construct.

The MAC scale theoretically achieved an internal consistency reliability coefficient of 0.885 within Haynie and Shepherd's (2009) study, and empirically achieved an internal consistency reliability coefficient of 0.886 in this research study, thus the reliability of the scale, is consistently reliable across different empirical research.

The Pearson correlations, demonstrated very strong linear associations, equally, the path coefficients revealed very strong linear associations, indicating the unidimensional nature of the entrepreneurial mindset construct and thus confirmed that the measurement model for entrepreneurial mindset was a reflective as opposed to a formative model.

The transformational leadership was leveraged from the multifactor leadership questionnaire (MLQ Form 5X), created by Bass (1985). The transformational leadership construct, reflects a sub-portion of the research scale and is a second generation latent variable; whereby, according to Bass (1988), the first generation latent variables, namely inspirational motivation, individualised consideration, and intellectual stimulation, demonstrate high internal correlations among the first generation latent variables, thus ultimately displaying properties of a unidimensional construct

The Pearson correlations and the first generation latent path coefficients revealed very strong linear associations, indicating the unidimensional nature of the transformational leadership construct and confirming that the measurement model for transformational leadership was a reflective model.

The internal consistency reliability coefficient of the transformational leadership scale was 0.90, which was higher than the alpha coefficient value of 0.81, empirically found by Jung et al. (2003), in their studies. Thus, the research scale for the transformational leadership construct was very reliable, within this research study and the data is thus, empirically sound.

A series of robust validity tests were conducted to validate the structural validity of the measurement model and thus all measures that were theoretically interrelated, were also found to be empirically interrelated. The construct validity of the model was maintained as all items loaded more significantly on their respective latent variable (indicator loading > 0.50), and all factors cross-loaded more significantly on their respective latent variable, than any other variable factors. Equally the between structural validity was also maintained as unrelated factors did not demonstrate inter-relationships, which was assessed using the Fornell and Larcker (1981) criterion and the HTMT method.

Thus the theoretical, measurement model had achieved both scale reliability and validity, and the empirical model was in unison with the theoretical model and achieved unidimensionality.

5.4 Discussion pertaining to Hypothesis 1

The first hypothesis was related to the effects of employees' individual proclivity to entrepreneurship, driven by their cognitive makeup, on the overall entrepreneurial disposition of the corporate organisation.

Corporate entrepreneurship has been acknowledged by theorists to be firm level, entrepreneurial behaviour (Covin & Slevin, 1991; McGrath & MacMillian, 2000), and an end state that is brought about through an entrepreneurial mindset or entrepreneurial thinking on the part of the organisation (Barreira et al., 2008; McGrath & MacMillian, 2000). However, in order for an organisation to achieve an entrepreneurial mindset or a disposition, it is logical to assume that the sum of the individual parts or the employees of the organisation, also need to have an entrepreneurial mindset.

Theory has supported this logical deduction and the causal behavioural relationship between an individual's entrepreneurial mindset and an organisational mindset, of corporate entrepreneurship, was theoretically established in Chapter 2, Figure 7 (Antoncic, 2003; Amabile, 1998; Ardichvili et al., 2003; Bryant, 2007; Crant 2000; Ireland et al., 2009; Kirzner, 1979; Shane, 2000).

An entrepreneurial mindset enhances a person's ability to identify entrepreneurial opportunities (Ardichvili et al., 2003; Kirzner, 1979) and exploit entrepreneurial opportunities (Bryant, 2007; Ireland et al., 2009; Mitchell et al., 2000), thus an entrepreneurial mindset positively influences an employee's capability to enact with the entrepreneurial process.

An entrepreneurial mindset equally positively enhances an individual's ability to be creative (Amabile, 1998; Oldham & Cummings, 1996), proactive (Crant, 2000) and to have proclivity to risk-taking (Antoncic, 2003), all behavioural traits that are in line with the desired entrepreneurial posture of an intrapreneurial company.

Equally, literature has supported the link between individual driven creativity and organisational innovation (Amabile, 1998; Oldham & Cummings, 1996) and the linkage between employees' propensity of risk-taking and intrapreneurial risk-taking (Antoncic, 2003). Similarly, literature has supported the notion that an employee's proclivity for proactiveness stimulates organisational proactiveness (Crant, 2000).

The empirical results supporting Hypothesis 1 was derived using the partial least squares structural equation modelling results. The Pearson correlation results revealed that there was a positive, moderate, linear relationship between an entrepreneurial mindset and corporate entrepreneurship, that was statistically significant at $p<0.01$, while the path modelling coefficient, revealed that there was a positive, moderate to weak linear association between an entrepreneurial mindset and corporate entrepreneurship, that was statistically significant at $p<0.01$.

Thus, the empirical conclusions were aligned to the theoretical deductions, as an entrepreneurial mindset was found to have a positive linear association with corporate entrepreneurship.

Even though empirically, the data supported the causal behavioural relationship, the effect size of the relationship was weak and hence an entrepreneurial mindset was a weak predictor of corporate entrepreneurship, as only eight percent of the variance in corporate entrepreneurship could be explained by entrepreneurial mindset.

This empirical finding is not misaligned with the theoretical assumptions, as corporate entrepreneurship has been established as a multi-dimensional construct (Covin & Slevin, 1991) that is influenced by organisational level factors, individual level factors and environmental factors. Equally, each of the dimensional factors has a number of antecedent variables that directly influence corporate entrepreneurship levels within a company. This multi-variable causal effect is illustrated in Figure 4, which focuses on 13 antecedent variables of corporate entrepreneurship, including an entrepreneurial mindset, therefore in relation to the corporate entrepreneurial eco-system, an entrepreneurial mindset being an eight percent predictor of corporate entrepreneurship, is a strong establishment of the entrepreneurial mindset as an antecedent to corporate entrepreneurial behaviour.

In summary, a positive unit increase of the collective entrepreneurial mindset of the bank's employees would result in an equivalent 0.27 increase in corporate entrepreneurship levels within the bank. Since the outer loadings of goal orientation (0.81), metacognitive knowledge (0.83), metacognitive experience (0.78), metacognitive choice (0.86), and monitoring (0.87), all revealed that these factors are strong predictors for an entrepreneurial mindset., within an organisation; therefore, these competency skill-sets, should be actively targeted and developed throughout the organisation.

5.5 Discussion pertaining to Hypothesis 2

The second hypothesis was related to the effects of management's transformational leadership capability, on the overall entrepreneurial posture of the corporate organisation.

The influencing power of leadership on firm performance has been a widely supported concept (Eyal & Kark, 2010), because leadership positively influences employee performance, converts employee performance into team performance and converts team performance into organisational performance (Wang et al., 2011).

The capability of leadership, to create multi-level performance benefit, is driven by the ability of leaders to create homogenous teams (Natale et al., 1995) by overcoming diversity challenges among groups of people and harnessing group divergent thinking to achieve superior performance (Buyl et al., 2001).

The are many different leadership types, however transformational leadership (Bass, 1985), is considered by theorists to be a high order leadership capability, that exhibits the strongest effect on business performance (Bass, 1985; Schaubroeck et al., 2007). It has the greatest affect in influencing an organisation's mindset (Bass, 1985), due to its underlying behavioural traits and the ease in which transformational leaders engage with external complexity (Bass, 1985).

The leadership traits of a transformational leader are interwoven with the entrepreneurial traits of an entrepreneur (Eyal & Kark, 2004) and as such transformational leaders enrich a firms "entrepreneurial proclivity" (Ling et al., 2008:557). Equally, transformational leadership positively enhances the entrepreneurial posture of a company by first, directly influencing levels of innovation within an organisation (Gumusluoglu, Keller & Lyon, 2009; Jung et al., 2003) and second infusing a proactive disposition within the company (Eyal & Kark, 2004). Third, it encourages the propensity for risk-taking within the firm (Ling et al., 2008).

Literature has supported the causal behavioural relationship between management's transformational leadership capability and enhanced levels of corporate entrepreneurship activity within an organisation.

The empirical results supporting Hypothesis 2 was derived using the partial least squares structural equation modelling results. The Pearson correlation results revealed that there was a positive, moderate to weak, linear relationship between transformational leadership and corporate entrepreneurship, that was statistically significant at $p<0.01$, which concurred with the path modelling coefficient, revealing a positive, moderate to weak linear association between transformational leadership and corporate entrepreneurship, that was statistically significant at $p<0.01$.

Thus, the empirical conclusions were aligned to the theoretical deductions, as transformational leadership was found to have a positive linear association with corporate entrepreneurship.

Even though empirically, the data supported the causal behavioural relationship, the effect size of the relationship was weak and hence transformational leadership was a weak predictor of corporate entrepreneurship, as only five percent of the variance in corporate entrepreneurship could be explained by transformational leadership.

This empirical finding is not misaligned with the theoretical assumptions, as corporate entrepreneurship has been established as a multi-dimensional construct (Covin & Slevin, 1991) that is influenced by organisational level factors, individual level factors and environmental factors. Equally, each of the dimensional factors has a number of antecedent variables that directly influence corporate entrepreneurship levels within a company. This multi-variable causal effect is illustrated in Figure 4, which focuses on 13 antecedent variables of corporate entrepreneurship, including leadership, therefore in relation to the corporate entrepreneurial eco-system, transformational leadership being a five percent predictor of corporate entrepreneurship, is a moderate establishment of the transformational leadership as an antecedent to corporate entrepreneurial behaviour.

In summary, a positive unit increase of the collective transformational leadership capability of the bank's managerial employees would result in an equivalent, 0.22 increase in the corporate entrepreneurship levels within the bank. The outer loadings of inspirational motivation (0.93), intellectual stimulation (0.92), and individualised consideration (0.89), all revealed that these factors are strong predictors for transformational leadership within an organisation, therefore these competency skill-sets, should be actively targeted for managerial positions and developed throughout the organisation.

5.6 Discussion pertaining to Hypothesis 3

The third hypothesis is related to the bi-directional, causal relationship between an employee's 'entrepreneurial thinking' and manager's, transformational leadership capability.

5.6.1 Discussion pertaining to Hypothesis 3a

Transformational leaders shape and inspire creative or entrepreneurial thinking (Amabile, 1988; Mumford et al., 2002; Oldham & Cummings, 1996) and action (Shin & Zhou, 2003). Their entrepreneurial influence across the employee workforce is both direct and indirect.

Directly, through the impact of their underlying behavioural traits of idealised influence, inspirational motivation, intellectual stimulation, and individualised consideration on an organisation's employees mindset and willingness (Zhang & Peterson, 2011) to behave entrepreneurially. Indirectly, transformational leaders contour entrepreneurial thinking and action by strategically creating a "vision of opportunity" (Ling et al., 2008:557) and by orchestrating an innovative culture and dominant logic that permeates throughout the company (Sarros et al., 2008; Shepherd et al., 2010).

Equally, the conceptual model of an entrepreneurial mindset, created by Barreira et al. (2013), theorised that an individual's motivations and intentions, coupled with their value and belief system are contributing variables to an

entrepreneurial mindset over and above the cognitive horsepower of an individual.

Transformational leadership has been theoretically linked to positively influence an individual's willingness (Zhang & Peterson, 2011), their purpose (Bass, 1985) and their cognitive ability (Mumford et al., 2002), thus positively influencing the entrepreneurial mindset of an individual.

Theoretically, literature has supported the causal behavioural relationship between the managerial employees, transformational leadership capability and enhanced levels of employee entrepreneurial thinking within an organisation.

The empirical results supporting Hypothesis 3a, was derived using linear regression modelling results. The Pearson correlation results revealed that there was a positive, weak, linear relationship between transformational leadership and entrepreneurial mindset that was statistically significant at $p<0.05$, which concurred with the standardised Beta coefficient, which revealed that there was a positive, weak linear association between transformational leadership and entrepreneurial mindset, that was statistically significant at $p<0.01$, using the bootstrapping technique.

Thus, the empirical conclusions were aligned to the theoretical deductions, as transformational leadership was found to have a positive linear association with entrepreneurial mindset. Equally, two percent of the variance in an entrepreneurial mindset is explained by the transformational leadership construct.

Even though empirically the data supported the causal behavioural relationship, transformational leadership was a very weak predictor of entrepreneurial mindset, with the slope size of the relationship being only 0.14. This empirical finding is not misaligned with the theoretical assumptions, as entrepreneurial mindset has been established as a cognitive profile of an individual (Haynie & Shepherd, 2009), which is influenced by an individual's human capital construct (Barreira et al., 2013).

According to the human capital model construct created by Gratton and Ghoshal (2003), the knowledge, skills and abilities of a person is governed by a person's intellectual capital, which drives cognitive complexity and differentiates cognitive capability among individuals. Equally, the model posits that an individual's social and emotional capital positively enhances the cognitive ability of that individual.

Similarly, Figure 7 posits that the underlying attributes of an entrepreneurial mindset are equally predictors of an entrepreneurial mindset, thus prior knowledge (Shane, 2000), creativity (Ardichvili et al., 2003), self-efficacy (Bryant, 2007), regulatory pride (Bryant, 2007), and expert scripts (Mitchell et al., 2000) all enhance the ability of a person to think and act entrepreneurially. Thus, based on all these viewpoints, an entrepreneurial mindset is enhanced by several antecedent variables.

Hence, a singular predictor cannot logically explain the causal behavioural relationship of entrepreneurial mindset. Therefore, transformational leadership is a moderate establishment of an antecedent variable to an entrepreneurial mindset. This relationship is particularly important in a corporate organisational setting whereby the ability to influence the other antecedent variables of entrepreneurial mindset is not as controllable.

In summary, a positive unit increase of the collective transformational leadership capability of the bank's managerial employees would result in an equivalent 0.14 increase in the entrepreneurial mindset levels of the employees within the bank.

5.6.2 Discussion pertaining to Hypothesis 3b

The theoretical constructs of transformational leadership and entrepreneurial mindset are considered mutually reinforcing constructs, as the behavioural traits of an entrepreneurial leader is based on the leadership framework of a transformational leader (Barreira et al., 2008). According to the conceptual model of strategic management created by Ireland et al. (2003), both entrepreneurial leadership and an entrepreneurial mindset share a reciprocal

causal relationship. Literature has supported the causal behavioural relationship between the entrepreneurial mindset of the employee workforce and management's transformational leadership capability within an organisation.

Hence, the effectiveness of transformational leadership within an organisation increases with the presence of entrepreneurially minded employees and similarly, the effectiveness of entrepreneurially minded employees increases with the presence of transformational leadership within an organisation.

The empirical results supporting Hypothesis 3b, was derived using the partial least squares structural equation modelling results. The Pearson correlation results revealed that there was a positive, weak, linear relationship between transformational leadership and corporate entrepreneurship that was statistically significant at $p<0.05$, which concurred with the path modelling coefficient, revealing that there was a positive, weak linear association between transformational leadership and corporate entrepreneurship, which was statistically significant at $p<0.05$.

Thus, the empirical conclusions were aligned with the theoretical deductions, as entrepreneurial mindset was found to have a positive linear association with transformational leadership.

Even though empirically the data supported the causal behavioural relationship, the effect size of the relationship was very weak and hence an entrepreneurial mindset was a very weak predictor of transformational leadership, as only two percent of the variance in transformational leadership could be explained by an entrepreneurial mindset.

This empirical finding is not misaligned with the theoretical assumptions, as the outer loadings of inspirational motivation (0.93), intellectual stimulation (0.92), and individualised consideration (0.89), all revealed that these factors were strong predictors for transformational leadership within an organisation, which concurred with Bass' (1985) theoretical hypothesis. Thus, as much an entrepreneurial mindset influences the effectiveness of transformational leadership, it is logical to assume that it would not be a strong predictor.

In summary, a positive unit increase of the collective transformational leadership capability of the bank's managerial employees would result in an equivalent 0.15 increase in the corporate entrepreneurship levels within the bank.

5.6.3 Summary discussion pertaining to Hypothesis 3

Since Hypothesis 3a and Hypothesis 3b, were both accepted based on the empirical results being statistically significant, the causal behavioural relationship between an entrepreneurial mindset and transformational leadership exists in both directions and hence confirms the bidirectional relationship between both the variable constructs.

The strength of the linear association is seven percent greater in the relationship between an entrepreneurial mindset and transformational leadership; whereby, transformational leadership is the endogenous variable; however, transformational leadership is an equivalent predictor of an entrepreneurial mindset, as an entrepreneurial mindset is of transformational leadership. Thus, the strength of the bidirectional relationship marginally differs in both directions.

5.7 Discussion pertaining to Hypothesis 4

The fourth hypothesis is related to the mediation properties of transformational leadership, in the causal relationship between employee's entrepreneurial thinking and firms', entrepreneurial behaviour.

Theoretically the deconstructed causal relationships of the transformational leadership, mediation model between the latent variables of entrepreneurial mindset and corporate entrepreneurship was established in Hypothesis 1, Hypothesis 2, and Hypothesis 3b; thus, holistically the theoretical relationship of transformational leadership as a mediating variable has been established.

The empirical results supporting Hypothesis 4, was derived using the partial least squares structural equation modelling results. Empirically the

deconstructed causal relationships of the transformational leadership, mediation model between the latent variables of entrepreneurial mindset and corporate entrepreneurship was established to be statistically significant. In other words, Hypothesis 1, 2, and 3b were all statistically significant, thus confirming that transformational leadership does act as a mediating variable, in the causal relationship between an entrepreneurial mindset and corporate entrepreneurship.

However, transformational leadership does not fully mediate the relationship between entrepreneurial mindset and corporate entrepreneurship, as only 10 percent of the causal relationship can be explained through the presence of transformational leadership in the behavioural relationship, thus transformational leadership acts as a partial mediator in the causal behavioural relationship between entrepreneurial mindset and corporate entrepreneurship.

This empirical finding is not misaligned with the theoretical assumptions, as entrepreneurship is a multi-causal domain (Baron & Kenny, 1986; Covin & Slevin, 1991), and thus it is highly unlikely that a single mediator could fully mediate a causal behavioural relationship in this domain.

Equally, the mediation model, revealed that when both corporate entrepreneurial antecedent variables of transformational leadership and an entrepreneurial mindset, collectively act within an corporate entrepreneurial ecosystem, they collectively account for 14 percent of the variance in the levels of corporate entrepreneurship within an organisation.

5.8 Discussion conclusion

The theoretical deductions and the empirical results, across Hypothesis 1, Hypothesis 2, Hypotheses 3a and 3b, and Hypothesis 4 all converged in findings, thus making the theoretical model construct, illustrated in Figure 14, statistically significant and empirically sound.

Therefore, one could conclude that both transformational leadership and an entrepreneurial mindset are antecedent variables of corporate

entrepreneurship. Equally, transformational leadership shares a bidirectional causal relationship with an entrepreneurial mindset and acts as a partial mediator, between the causal relationship between entrepreneurial mindset and corporate entrepreneurship.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter serves as the concluding chapter of the research report, and condenses the theoretical and empirical learnings from the research report and ascertains whether the desired advancements in literature and business knowledge have been achieved.

6.2 Conclusion of the study

Transforming an organisation to become entrepreneurial extends much further than just creating an internal climate that is conducive for entrepreneurial behaviour as posited by Kuratko et al. (2004). It extends to the foundational premise, derived from resource-based theory, that an organisation's resources are their source of competitive advantage (Grant, 1991). According to Alvarez and Busenitz (2001), one of the pivotal resources that a company possesses, that makes imitating a firm challenging, is the collective human capital of the organisation.

Thus, it is natural to deduce that the cognitive mindset and behaviours of a company's employee workforce could be a differentiating cog in the entrepreneurial wheel (Eyal & Kark, 2004; Mitchell et al., 2002; Geyery & Steyrer, 1998). Indeed, the empirical findings within this research report have concurred with this inference, and concluded that the entrepreneurial mindset of employees and the transformational leadership behaviours of an organisation's management pyramid positively enhance the levels of corporate entrepreneurship within a company.

However, entrepreneurship is not a one-dimensional phenomenon and in fact, the causal behavioural effects of entrepreneurship are multi-causal (Covin & Slevin, 1991). corporate entrepreneurship antecedent variables, acting in a

singular capacity, would not make massive strides in attaining higher levels of corporate entrepreneurship within a company, as evidenced within the empirical findings, whereby when corporate entrepreneurship antecedent variables act alone; their effect on corporate entrepreneurship is weak.

Entrepreneurship, therefore, exists within a delivery ecosystem and this research report theorised and empirically proved that the human resource sub-ecosystem within the broader entrepreneurial ecosystem should include employees that collectively possess an entrepreneurial mindset and managers that collectively possess transformational leadership capability, as it creates the multiple corporate entrepreneurial effect within an organisation.

Transformational leadership could be seen as a powerful organisational resource, and this research report has proven that transformational leadership positively enhances both organisational level entrepreneurial behaviour and employee level entrepreneurial behaviour. Equally, transformational leadership acts as the partial conduit for the conversion of employee level entrepreneurial behaviour into organisation level entrepreneurial behaviour, within a firm and concurs with the views posited by Mumford et al. (2002), that creative employees respond positively to the behavioural traits of a transformational leader. Thus, transformational leadership could be utilised as a business lever in order to drive transformational change and achieve competitive advantage.

In summary, this research report has enhanced the body of corporate entrepreneurial knowledge, by validating the importance of the existence of a human resource capability within the corporate entrepreneurial ecosystem.

6.3 Limitations of the study

As the foundational framework for the theoretical model utilised in this research report, Figure 4, was based on the Covin and Slevin (1991) model of entrepreneurship as a firm behaviour, the empirical model shown in Figure 14 therefore, intended to explain the causal behavioural relationships, among larger more time-honoured organisations, than necessarily the family run businesses.

Even though this research study established the multi-dimensional characteristics of corporate entrepreneurship, it did not empirically test the holistic multi-dimensional model construct, and only concentrated on two antecedent elements. Thus, even though the research was conclusive in establishing that entrepreneurial mindset and transformational leadership are predictors of corporate entrepreneurship, it is has been inconclusive in understanding the weighting prediction across all the constructs, in order to determine the rank order of antecedent variable impact on corporate entrepreneurship.

According to Covin and Slevin (1991), entrepreneurship is driven by the multiplicity effect across three-dimensional elements, namely organisational level behaviour, individual level behaviour, and environmental influences. However, this research report did not unpack the effect of the external environmental complexity on the causal behavioural relationship model depicted in Figure 14. Thus, there is the probability that since transformational leadership enables organisations to effectively navigate external complexity (Bass, 1985), and an entrepreneurial mindset is said to help individuals to effectively deal with ambiguous external environments (McGrath & MacMillian, 2000), that the prediction effect of both transformational leadership and an entrepreneurial mindset may have been stronger with the presence of market forces as an additional construct within the empirical model.

6.4 Implications of the study for business

As the macro environment evolves and doing business becomes increasingly more difficult, remaining relevant and engaging in constant business rejuvenation becomes a pivotal consideration for business survival (Herbert & Brazeal, 1998). Entrepreneurial behaviour, on the part of the firm is considered by many researchers to be a competitive response to the current business climate (Burgelman, 1984).

Thus, the findings of this research study have practical organisational benefit, as they delineate the employee and management behavioural characteristics

that are conducive for fostering organisational level entrepreneurial behaviour. Since entrepreneurial posture is a behavioural phenomenon, it means that this behaviour can be shaped and encouraged across the organisation.

Therefore both the recruitment, and learning and development practices in an organisation should be adapted accordingly to ensure that the right calibre of staff are targeted through recruitment practices and equally that a targeted competency set is holistically developed throughout the organisation, in way of formal learning inventions.

Selection criteria for the recruitment practices should be customised based on whether the employee of the firm is part of the general employee workforce or part of the management workforce. The behavioural characteristics that should be tested for across the employee base, in order to ensure that the selection of employees do in fact possess an entrepreneurial mindset, are a) goal orientation, b) metacognitive choice, c) monitoring, d) metacognitive experience, and e) metacognitive knowledge.

Similarly, the behavioural characteristics that should be tested for across the management employee base, in order to ensure that the selection of management staff do in fact possess transformational leadership capability, are a) idealised influence, b) inspirational motivation, c) intellectual stimulation, and d) individualised consideration. This approach enables that the employees with the desired DNA capability are recruited into the organisation.

Human resource management of entrepreneurial skills should not be isolated to only the recruitment processes of the company and should naturally extend to the learning and development framework of the company, as well. The rationale behind the suggestion is to ensure that first, the desired skill set is being consistently reinforced within the organisation through formal training inventions and second, as the targeted organisation for this research is not necessarily a start-up company, the on-going structured transformational development of all long-term staff, skill-sets is vitally important.

6.5 Implications of the study for theory development

This research study has progressively bridged the knowledge gap that was identified by Phan et al. (2009), by empirically determining that the cognitive factor of an entrepreneurial mindset and the organisational factor of management's transformational leadership capability are both drivers of corporate entrepreneurship.

Furthermore, the causal behavioural properties of transformational leadership were furthered both theoretically and empirically, as the theoretical domain of transformational leadership mediation has had minimal advancements since the discovery of transformational leadership by Bass (1985) (Boerner et al., 2007).

The study found that transformational leadership displays both mediating properties, as well as bidirectional properties within an entrepreneurial ecosystem and thus transformational leadership is a driver of both organisational level entrepreneurial behaviour and individual level entrepreneurial behaviour, thus Figure 4 was theoretically adapted to include leadership as an antecedent variable to individual level, entrepreneurial behaviour.

Lastly, the study has furthered the nexus of transformational leadership and corporate entrepreneurship or innovation in the banking sector, to include the transformational capability of the management pyramid and not necessarily only the top-management staff within bank. Thus, in order for banks to innovate, the holistic management pyramid needs to reflect transformational leadership capability and not only the top-management of the bank, as focused upon by many earlier researchers (Bantel & Jackson, 1989).

6.6 Suggestions for future research

For future research, it is suggested, that the research study be extended into a longitudinal study, thus enabling the discovery of thematic observations within the banking environment across various business cycles and changes to leadership.

Considering that one of the key limitations of the study was that the influencing driver of the external environment was not empirically tested within the model, an adaptation of this research would be to include market forces as an additional construct. This would ascertain whether the presence of all three major corporate entrepreneurship dimensional factors would significantly strengthen the empirical findings reported within this study.

Since the study was limited to a single bank, a study of the banking ecosystem within developing countries could result in potentially insightful discoveries that could shape industry recruitment practices and sector transformation.

A key consideration for future research would be to increase the antecedent variables included in the empirical model depicted in Figure 14, to include a larger spectrum of antecedent variables, detailed in Figure 4, thus enabling researchers to understand the weighting prediction across all the constructs, in order to determine the rank order of antecedent variable impact on corporate entrepreneurship.

Lastly, a suggestion for future research would be to transport the research study into a different sector, for example the fast moving consumer goods industry, whereby product innovation is more frequent and differentiated across competitors.

REFERENCES

Afthanorhan, W.M.A.B.W. (2013). A comparison of Partial Least Square Structural Equation Modeling (PLS-SEM) and Covariance Based Structural Equation Modeling (CB-SEM) for confirmatory factor analysis. *International Journal of Engineering Science and Innovative Technology*, 2(5), pp. 198-205.

Alder, P.S. & Kwon, S.W. (2002). Social capital: Prospects for a new concept. *Academy of Management Review*, 27(1), pp. 17-40.

Alvarez, S.A. & Busenitz, L.W. (2001). The entrepreneurship of resource-based theory. *Journal of Management*, 27(6), pp. 755-775.

Amabile, T.M. (1988). A model of creativity and innovation in organizations. *Research in Organizational Behaviour*, 10(1), pp. 123-167.

Antoncic, B. (2003). Risk taking in intrapreneurship: Translating the individual level risk aversion into the organizational risk taking. *Journal of Enterprising Culture*, 11(1), pp. 1-23.

Antoncic, B. & Hisrich, R.D. (2003). Clarifying the intrapreneurship concept. *Journal of small business and enterprise development*, 10(1), pp. 7-24.

Ardichvili, A., Cardozo, R. & Ray, S. (2003). A theory of entrepreneurial opportunity identification and development. *Journal of Business venturing*, 18(1), pp. 105-123.

Avolio, B.J., Bass, B.M. & Jung, D.I. (1991). Re-examining the components of transformational and transactional leadership using the Multifactor Leadership Questionnaire, *Journal of Occupational and Organizational Psychology*, 72(4), pp. 441-462.

Awamleh, R. & Gardner, W.L. (1999). Perceptions of leader charisma and effectiveness: The effects of vision content, delivery, and organizational performance. *The Leadership Quarterly*, 10(3), pp. 345-373.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: WH. Freeman & Company.

Bagozzi, R.P. & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1), pp. 74-94.

Bagozzi, R. P., Yi, Y. & Phillips, L. W. (1991). Assessing construct validity in organizational research. *Administrative Science Quarterly*, 36(3), pp. 421-458.

Bain, P. G., Mann, L. & Pirola-Merlo, A. (2001). The innovation imperative: The relationships between team climate, innovation, and performance in research and development teams. *Small Group Research*, 32(1), pp. 55-73.

Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1991b). Self-regulation of motivation through anticipatory and self-reactive mechanisms. *Perspectives on Motivation: Nebraska Symposium on Motivation*, 38, pp. 69-164.

Bandura, A. (1997). *Self-Efficacy: The Exercise of Control*. New York: Freeman.

Bandura, A. (2001). Social Cognitive Theory: An agentic perspective. *Annual Review of Psychology*, 52(1), pp. 1-26.

Bantel, K.A. & Jackson, S.E. (1989). Top management and innovations in banking: does the composition of the top team make a difference? *Strategic Management Journal*, 10(1), pp. 107-124.

Baron, R.M. & Kenny D.A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations, *Journal of Personality and Social Psychology*, 51(6), pp. 1173-1182.

Baron, R.A. (2008). The role of affect in the entrepreneurial process, *Academy of Management Review*, 33(2), pp. 328-340.

Baron, R.A. (1998). Cognitive mechanisms in entrepreneurship: Why and when entrepreneurs think differently than other people. *Journal of Business venturing*, 13(4), pp. 275-294.

Baron, R.A. & Ward, T.B. (2004). Expanding entrepreneurial cognition's toolbox: Potential contributions from the field of cognitive science. *Entrepreneurship Theory and Practice*, 28(6), pp. 553-573.

Barreira, J., Botha, H., Oosthuizen, C. & Urban, B. (2013). *The Entrepreneurial Mindset*. South Africa: Pearson Education.

Barreira, J., Carmichael, T., Dagada, R., Duneas, N., Marcelle, G., Smith, P. & Urban, B. (2015). *Technopreneurship: Strategy, Innovation and Entrepreneurship*. South Africa: Pearson Education.

Barreira, J., Dhliwayo, S., Luiz, J., Naude, W. & Urban, B. (2008). *Frontiers in Entrepreneurship*, Johannesburg: Heinemann Publishers.

Bass, B.M. (1985). *Leadership and performance beyond expectations*. New York: Free Press.

Bass, B.M. (1995). Theory of Transformational Leadership Redux. *Leadership Quarterly*, 6(4), pp. 463-478.

Bass, B.M., Avolio, B.J., Jung, D.I. & Berson, Y. (2003). Predicting unit performance by assessing transformational and transactional leadership. *Journal of applied psychology*, 88(2), pp. 207-218.

Barclay, D.W., Higgens, C.A. & Thompson, R. (1995). The partial least squares approach to causal modelling: personal computer adoption and use as illustration. *Technology Studies*, 2(2), pp. 285-309.

Boerner, S., Eisenbeiss, S.A. & Griesser, D. (2007). Follower behavior and organizational performance: The impact of transformational leaders. *Journal of Leadership and Organizational Studies,* 13(3), pp. 15-26.

Bollen, K.A. (1989). *Structural equations with latent variables*. New York: Wiley.

Brown, T.E., Davidsson, P. & Wiklund, J. (2001). An operationalization of Stevenson's conceptualization of entrepreneurship as opportunity based firm behavior. *Strategic Management Journal*, 22(10), pp. 953-968.

Bryant, P. (2007). Self-regulation and decision heuristics in entrepreneurial opportunity evaluation and exploitation. *Management Decision*, 45(4), pp. 732-748.

Burgelman, R.A. (1984). Designs for corporate entrepreneurship in established firms. *California Management Review*, 26(3), pp. 154-166.

Buyl, T., Boone, C., Hendriks, W. & Matthyssens, P. (2011). Top management team functional diversity and firm performance: The moderating role of CEO characteristics. *Journal of Management Studies*, 48(1), pp. 151-177.

Chandler, G.N., Keller, C. & Lyon, D.W. (2000). Unraveling the determinants and consequences of an inn ovation-supportive organizational culture. *Entrepreneurship Theory and Practice*, *25*(1), pp. 59-59.

Chin, W.W. (1998). The partial least squares approach to structural equation modeling. In G.A. Macoulides (Ed.), *Modern methods for business research*, (pp. 295-336). New York: Psychology Press.

Covin, J.G. & Slevin D.P. (1991). A conceptual model of entrepreneurship as firm behaviour. *Entrepreneurship Theory and Practice*, 16(1), pp. 7-26.

Crant, J.M. (2000). Proactive behavior in organizations. *Journal of Management*, 26(3), pp. 435-462.

Cronbach, L.J. & Gleser, G.C. (1959). Interpretation of reliability and validity coefficients: Remarks on a paper by Lord. *Journal of Educational Psychology*, 50(3), pp. 230-237.

De Jong, J.P.J & Hartog, D.N. (2007). How leaders influence employees' innovative behaviour. *European Journal of Innovation Management*, 10(1), pp. 41-46.

Dess, G.G. & Lumpkin, G.T. (2005). The role of entrepreneurial orientation in stimulating effective corporate entrepreneurship. *Academy of Management Executive*, 19(1), pp. 147-156.

Dess, G.G., Ireland, R.D., Zahra, S.A., Floyd, S.W., Janney, J.J. & Lane, P.J. (2003). Emerging issues in corporate entrepreneurship. *Journal of Management*, 29(3), pp. 351-378.

Early, C.P. & Peterson, R.S. (2004). The elusive cultural chameleon: Cultural intelligence as a new approach to intercultural training for the global manager. *Academy of Management Learning and Education*, 3(1), pp. 100-115.

Eckhardt, J.T. & Shane, S.A. (2003). Opportunities and entrepreneurship. *Journal of Management*, 29(3), pp. 333-349.

Economist (2 June 2012). Johannesburg, South Africa: The gateway to Africa? *Economist*. Retrieved from: http://www.economist.com/node/21556300 (Accessed 13 March 2016).

Eisenhart, K.M. (1988). The case of retail sales compensation. *Academy of Management Journal*, 31(3), pp. 488-511.

Efron, B. (1992). Bootstrap Methods: Another look at the jackknife. In S. Kotz & N. L. Johnson (Eds.), *Breakthroughs in Statistics: Methodology and Distribution,* (pp. 569-593). New York: Springer.

Eyal, O. & Kark, R. (2004). How do transformational leaders transform organizations? A study of the relationship between leadership and entrepreneurship. *Leadership and Policy in Schools*, 3(3), pp. 211-235.

Fornell, C. & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), pp. 39-50.

Frei, F.X., Harker, P.T. & Hunter, L.W. (1998). *Innovation in retail banking*. Wharton Financial Institutions Centre, University of Pennsylvania, Philadelphia.

Gaglio, C.M. & Katz, J.A. (2001). The psychological basis of opportunity identification: Entrepreneurial alertness. *Small Business Economics*, 16(2), pp. 95-111.

Gefen, D., Straub, D.W. & Boudreau, M.C. (2000). Structural equation modeling and regression: Guidelines for research practice. *Communications of the Association for Information Systems*, 4(7), pp. 1-76.

Grégoire, Y. & Fisher, R.J., 2006. The effects of relationship quality on customer retaliation. *Marketing Letters*, *17*(1), pp. 31-46.

Geyery, A.L. & Steyrer, J.M. (1998). Transformational leadership and objective performance in banks*. Applied Psychology*, 47(3), pp. 397-420.

Gilley, K.M., Walters, B.A. & Olson, B.J. (2002). Top management team risk taking propensities and firm performance: Direct and moderating effects. *Journal of Business Strategies*, 19(2), pp. 95-114.

Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The Qualitative Report*, 8(4), pp. 597-607.

Grant, R.M. (1991). The resource based theory of competitive advantage: Implications for strategy formulation. *California Management Review*, 33(3), pp. 114-135.

Gratton, L. & Ghoshal, S. 2003. Managing personal human capital: New ethos for the “volunteer” employee. *European Management Journal*. 21(1), pp. 1-10.

Gold, A.H., Malhotra, A. & Segars, A.H. (2001). Knowledge management: an organizational capabilities perspective. *Journal of Management Information Systems*, 18(1), pp. 185–214.

Guth, W.D. & Ginsberg, A. (1990). Corporate entrepreneurship. *Strategic Management Journal*, 11(special edition), pp. 5-15.

Gumusluoğlu, L. & Ilsev, A. (2009). Transformational leadership and organizational innovation: The roles of internal and external support for

innovation. *Journal of Product Innovation Management*, 26(3), pp. 264-277.

Gupta, V., MacMillan, I.C. & Surie, G. (2004). Entrepreneurial leadership: developing and measuring a cross-cultural construct. *Journal of Business Venturing*, 19(2), pp. 241-260.

Hair, J.F., Ringle, C.M. & Sarstedt, M. (2011). PLS-SEM: Indeed a sliver bullet. *Journal of Marketing Theory and Practice*, 19(2), pp. 139-151.

Hair, J.F., Ringle, C.M. & Sarstedt, M. (2013). Partial least squares structural equation modeling: Rigourous applications, better results and higher acceptance. *Long Range Planning*, 46(1-2), pp. 1-12.

Hattie, J. (1985). Methodology review: assessing unidimensionality of tests and ltenls. *Applied psychological measurement*, 9(2), pp. 139-164.

Haynie, M. & Shepherd, D.A. (2009). A measure of adaptive cognition for entrepreneurship research. *Entrepreneurship Theory and Practice*, 33(3), pp. 695-714.

Haynie, J.M, Shepherd, D., Mosakowski, P. & Earley, P.C. (2010). A situated metacognitive model of the entrepreneurial mindset. *Journal of Business Venturing*, 25(2), pp. 217-229.

Henseler, J., Ringle, C.M. & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modelling. Journal of the Academy of Marketing Science, 43(1), pp. 115-135.

Henseler, J. & Fassott, G. (2010). Testing moderating effects in PLS path models: An illustration of available procedures. In V.E. Vinzi, W.W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of partial least squares: Concepts, methods and applications in marketing and related fields,* (pp. 713-735). Berlin: Springer.

Herbert, T.T. & Brazeal, D.V. (1998). *The future of the corporation: Corporate entrepreneurship on the fly*. Paper presented at Annual Meeting of the United States Association for Small Business and Entrepreneurship, Clearwater, Florida.

Herring, R.J. & Santomero, A.M. (1991). *The role of the financial sector in economic performance*. Study Prepared for the Kingdom of Sweden's Productivity Commission, Stockholm.

Hills, G.E., Lumpkin, G.T. & Singh, R.P. (1997). Opportunity recognition: Perceptions and behaviors of entrepreneurs. *Frontiers of Entrepreneurship Research*, 17, pp. 168-182.

Hitt, M.A. (2001). The new frontier: Transformation of management for the new millennium. *Organizational Dynamics*, 28(3), pp. 7-17.

Hofstede, G. (1980). *Culture's consequences*, Beverly Hills, CA: Sage Publications.

Howell, J.M & Avolio, B.J. (1993). Transformational leadership, transactional leadership, locus of control, and support for innovation: Key predictors of consolidated-business-unit performance. *Journal of Applied Psychology*, 78(6), pp. 891-902.

Ireland, R.D., Covin, J.G. & Kuratko, D.F. (2009). Conceptualizing corporate entrepreneurship strategy. *Entrepreneurship Theory and Practice*, 33(1), pp. 19-46.

Ireland, R.D., Hitt, M.A. & Sirmon, D.G. (2003). A model of strategic entrepreneurship: The construct and its dimensions. *Journal of Management*, 29(6), pp. 963-989.

Jaccard, J. & Turrisi, R. (2003). *Interaction effects in multiple regression* (No. 72). Thousand Oaks, California: Sage Publications.

Jung, D.I. (2001). Transformational and transactional leadership and their effects on creativity in groups. *Creativity Research Journal*, 13(2), pp. 185-195.

Jung, D.I., Chow, C. & Wu, A. (2003). The role of transformational leadership in enhancing organizational innovation: Hypotheses and some preliminary findings. *The Leadership Quarterly*, 14(4), pp. 525-544.

Kelley, D.J., Singer, S. & Herrington, M. (2012). *The Global Entrepreneurship Monitor*, *2011*. Available from: http://www.econ-it2.eu/en/wp-content/uploads/2012/09/GEM-Global-Monitor-2011-lr.pdf (Accessed 13 July 2015).

Kirzner, I.M. (1979). *Perception, opportunity, and profit*, Chicago: Beard Books.

Krauss, S.E. (2005). Research Paradigms and Meaning Making: A primer. *The Qualitative Research Report*, 10(4), pp. 758-770.

Kuratko, D.F. & Hornsby, J.S. (1998). Corporate entrepreneurial leadership for the 21st Century. *Journal of Leadership and Organizational Studies*, 5(2), pp. 27-39.

Kuratko, D.F., Hornsby, J.S. & Covin, J.G. (2014). Diagnosing a firm's internal environment for corporate entrepreneurship. *Business Horizons*, 57(1), pp. 37-47.

Kuratko, D.F., Morris, M.H. & Covin, J.C. (2011). *Corporate Innovation and Entrepreneurship*. (3rd ed.). Cincinnati: South Western Publishing.

Lee, G.J. (2015). *Business Statistics Made Easy in SAS*. Randjiesfontein, SA: Silk Route Press.

Ling, Y.A.N., Simsek, Z., Lubatkin, M.H. & Veiga, J.F. (2008). Transformational leadership's role in promoting corporate entrepreneurship: Examining the CEO-TMT interface. *Academy of Management Journal*, 51(3), pp. 557-576.

Locke E.A.& Latham G.P. (1990). *A Theory of Goal Setting and Task Performance*. Englewood Cliffs, NJ: Prentice-Hall.

Lowry, P.B. & Gaskin, J. (2014). Partial Least Squares (PLS) Structural Equation Modeling (SEM) for Building and Testing Behavioral Causal Theory: When to Choose It and How to Use It. *IEEE Transactions on Professional Communication*, 57(2), pp. 123- 146.

Maddux J.E. (1995). *Self-efficacy, adaptation, and adjustment: Theory, research, and application*. New York: Plenum.

McClelland, D.C. (1961). *The achieving society*. Free Press, New York.

McGrath, R. & MacMillan, I. (2000). *The entrepreneurial mind-set: Strategies for continuously creating opportunity in an age of uncertainty*. Cambridge, MA: Harvard Business School Press.

McGrath, R. G., MacMillan, I. C. & Scheinberg, S. (1992). Elitists, risk-takers, and rugged individualists? An exploratory analysis of cultural differences between entrepreneurs and non-entrepreneurs. *Journal of Business Venturing*, 7(2), pp. 115-135.

McShane, S.L. & von Glinow, M.A. (2003). *Organisational behavior*, (2nd ed.). New York: McGraw-Hill.

Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*, 29(7), pp. 770-791.

Miller, D. & Friesen, P.H. (1982). Innovation in conservative and entrepreneurial firms: Two models of strategic momentum. *Strategic Management Journal*, 3(1), pp. 1-25.

Mitchell, R.K., Busenitz, L., Lant, T., McDougall, P.P., Morse, E.A. & Smith, J.B. (2002). Toward a theory of entrepreneurial cognition: Rethinking the people of entrepreneurship research. *Entrepreneurship Theory and Practice*, 27(2), pp. 93-104.

Mitchell, R.K., Smith, J.B., Seawright, W.K. & Morse, E.A. (2000). Cross cultural cognitions and the venture creation decision. *Academy of Management Journal*, 43(5), pp. 974-993.

Mumford, M.D., Scott, G.M., Gaddis, B. & Strange, J.M. (2002). Leading Creative People: orchestrating expertise and relationships. *The Leadership Quarterly*, 13(6), pp. 705-750.

Natale, S. M., Libertella, A. F. & Rothschild, B. (1995). Team performance management. *Team Performance Management: An International Journal*, 1(2), 6-13.

Nunnally, J., 1978. *Psychometric theory* (2nd ed.). New York: McGraw Hill.

Nunnally, J. C. & Bernstein I. H., 1994. *Psychometric theory*. (3rd ed). New York: McGraw Hill.

Oldham, G.R. & Cummings, A. (1996). Employee Creativity: Personal and Contextual Factors at work. *Academy of Management Journal*, 39(3), pp. 607-634.

Phan, P.H., Wright, M. Ucbasaran, D. & Tan, W.L. (2009). Corporate entrepreneurship: current research and future directions. *Journal of Business Venturing*, 24(3), pp. 197-205.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y. & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), pp. 879-903.

PWC (PricewaterhouseCoopers). (2015). *Resilient through challenging times: Major banks analysis – South Africa.* Retrieved from

http://www.pwc.co.za/en/assets/pdf/bank-analysis-15-September-2015.pdf (Accessed 3 October 2015).

Rauch, A., Wiklund, J., Lumpkin, G.T. & Frese, M. (2004). Entrepreneurial orientation and business performance: an assessment of past research and suggestions for the future. *Entrepreneurship Theory and Practice*, 33(3), pp. 761-787.

Ringle, C.M., Wende, S. & Will, A. (2005). *SmartPLS 2.0* (Computer software). Available from https://www.smartpls.com/

Sashkin, M., (2004). Transformational leadership approaches: A review and synthesis. In J. Antonakis, A. T. Cianciolo, & R. J. Sternberg (Eds.), *The nature of leadership*. (pp. 171-196). Thousand Oaks, CA: Sage Publications.

Sarros, J.C., Cooper, B.K. & Santora, J.C. (2008). Building a climate for innovation through transformational leadership and organizational culture. *Journal of Leadership and Organizational Studies*, 15(2), pp. 145-158.

Schaubroeck, J., Lam, S.S. & Cha, S.E. (2007). Embracing transformational leadership: team values and the impact of leader behaviour on team performance. *Journal of Applied Psychology*, 92(4), pp. 1020-1030.

Shane, S. (2000). Prior knowledge and the discovery of entrepreneurial opportunities. *Organization Science*, 11(4), pp. 448-469.

Shane, S. & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1), pp. 217-235.

Shane, S., Locke, E.A. & Collins, C.J. (2003). Entrepreneurial motivation. *Human Resource Management Review*, 13(2), pp. 257-279.

Shepherd, D.A., Patzelt, H. & Haynie, J.M. (2010). Entrepreneurial Spirals: Deviation-Amplifying Loops of an Entrepreneurial Mindset and Organizational Culture. *Entrepreneurship Theory and Practice*, 34(1), pp. 59-81.

Shepherd, D.A. & Krueger, N.F. (2002). An Intentions Based Model of Entrepreneurial Teams' Social Cognition. *Entrepreneurship Theory and Practice*, 27(2), pp. 167-185.

Shin, S.J. & Zhou, J. (2003). Transformational leadership, conservation, and creativity: Evidence from Korea. *Academy of Management Journal*, 46, pp. 703-714.

Shumpeter, J.A. (1934). *The theory of economic development*. Cambridge: Harvard University Press.

Sosik, J.J, Kahai, S.S, & Avolio, B.J. (1998). Transformational Leadership and Dimensions of Creativity: Motivating Idea Generation in Computer-Mediated Groups. *Creativity Research Journal*, 11(2), pp. 111-121.

Stanley, B., Sieber, J.E. & Melton, G.B. (1987). Empirical studies of ethical issues in research: a research agenda. *American Psychologist*, *42*(7), p.735.

Stevenson, H.H. & Jarillo, J.C. (1990). A paradigm of entrepreneurship: Entrepreneurial management. *Strategic Management Journal*, 11(5), pp. 17-27.

Staw, B. & Boettger, R. (1990). Task revision: A neglected form of work performance. *Academy of Management Journal,* 33(3), pp. 534-560

Teo, T.S.H., Srivastava, S.C. & Jiang, L. (2008). Trust and electronic government success: an empirical study. *Journal of Management Information Systems*, 25(3), 99-132.

Thulo, L. (2015, March). *How innovation and intrapreneurship is helping banks fuel growth from within.* Retrieved from: http://www.smesouthafrica.co.za/15380/How-innovation-and-intrapreneurship-is-helping-this-bank-fuel-growth-from-within/ (Accessed 15 July 2015).

Trochim, W. M. (2000). *The research methods knowledge base*. Retrieved from http://www.anatomyfacts.com/research/researchmethodsknowledgebase.pdf (Accessed 20 September 2016).

Urban, B. (2012). A metacognitive approach to explaining entrepreneurial intentions. *Management Dynamics*, 21(2), pp. 16-33.

Urban, B. (2013). *Technopreneurship. Book 3: Perspectives in Entrepreneurship: A Research Companion*. Cape Town: Pearson Education.

Venter, R., Urban, B. & Rwigema, H. (2010). *Entrepreneurship theory in practice,* (2nd ed.). Cape Town: Oxford Southern Africa.

Wang, G., Oh, I., Courtright, S.H. & Colbert, A.E. (2011). Transformational Leadership and Performance across Criteria and Levels: A Meta-Analytic Review of 25 Years of Research. *Group and Organization Management*, 36(2), pp. 223-270.

Wong, K.K. (2013). Partial Least Squares Structural Equation Modeling (PLS-SEM) Techniques Using SmartPLS. *Marketing Bulletin,* 24(1), pp. 1-32.

Young, J. (2013, July). South Africa is a springboard for the rest of Africa. Retrieved from https://www.matchdeck.com/article/2347-overview-of-the-financial-services-sector-in-south-africa#/index (Accessed 15 July 2015).

Zaccaro, S.J., Kemp, C. & Bader, P. (2004). Leader traits and attributes. In J. Antonakis, A.T. Cianciolo, and R.J. Sternberg (Eds.). *The nature of leadership*, (pp. 101-124). Thousand Oaks: Sage Publications.

Zahra, S.A. (1991). Predictors and financial outcomes of corporate entrepreneurship: An exploratory study. *Journal of Business Venturing*, 6(4), pp. 259-285.

Zahra, S.A. (1993). Environment, corporate entrepreneurship, and financial performance: A taxonomic approach. *Journal of Business Venturing*, 8(4), pp. 319-340.

Zahra, S.A. & Covin, J.G. (1995). Contextual influences on the corporate entrepreneurship-performance relationship: a longitudinal analysis. *Journal of Business Venturing*, 10(1), pp. 43-58.

Zhang, Z. & Peterson, S.J. (2011). Advice Networks in Teams: The role of transformational leadership and members' core self-evaluations. *Journal of Applied Psychology*, 96(5), pp. 1004-1017

Zhao, F. (2005). Exploring the synergy between entrepreneurship and innovation. International *Journal of Entrepreneurial Behavior and Research*, 11(1), pp. 25-41.

APPENDIX A:

Actual Research Instrument

Adaptive Cognition (5 Factor MAC Scale)	
	6 point scale [“Not very much like me”: Very much like me”]
“Goal Orientation” (5 scale items)	
“Metacognitive Knowledge” (11 scale items)	
“Metacognitive Experience” (8 scale items)	
“Metacognitive Choice” (5 scale items)	
“Monitoring” (7 scale items)	
Corporate entrepreneurship Index (1 Factor Scale)	
	7 point scale [“Very untrue: Very true”]
7 scale items	
Multifactor (MLQ Form 5x-short) 20 item scale	
	5 point scale [“Never: Every Time]
“Inspirational” (12 scale items)	
“Intellectual Stimulation” (4 scale items)	
“Individualised Consideration” (4 scale items)	

Masters Research Survey: Wits Business School

Dear Respondent, I thank you in advance for taking the time to complete the survey. The survey consists of 63 questions and will take you approximately 15 minutes to complete.

Adaptive Cognition						
Thinking of yourself, how likely or unlikely it is that you	**Not very much like me**	**Not like me**	**Slightly unlike me**	**Slightly like me**	**Much like me**	**Very much like me**
Goal Orientation						
1. I often define goals for myself	1	2	3	4	5	6
2. I understand how the accomplishment of a task relates to my goals	1	2	3	4	5	6
3. I set specific goals before I begin a task	1	2	3	4	5	6
4. I ask myself how well I have accomplished my goals once I have finished	1	2	3	4	5	6
5. When performing a task, I frequently assess my progress against my objectives	1	2	3	4	5	6
Metacognitive Knowledge						
6. I think of several ways to solve a problem and choose the best one	1	2	3	4	5	6
7. I challenge my own assumptions about a task before I begin	1	2	3	4	5	6
8. I think about how others may react to my actions	1	2	3	4	5	6
9. I find myself automatically employing strategies that have worked in the past	1	2	3	4	5	6
10. I perform best when I already have knowledge of the task	1	2	3	4	5	6
11. I create my own examples to make information more meaningful	1	2	3	4	5	6
12. I try to use strategies that have worked in the past	1	2	3	4	5	6
13. I ask myself questions about the task before I begin	1	2	3	4	5	6
14. I try to translate new information into my own words	1	2	3	4	5	6
15. I try to break problems down into small components	1	2	3	4	5	6
16. I focus on the meaning and significance of new information	1	2	3	4	5	6
Metacognitive experience						
17. I think of what I really need to accomplish before I begin a task	1	2	3	4	5	6

Adaptive Cognition						
Thinking of yourself, how likely or unlikely it is that you	**Not very much like me**	**Not like me**	**Slightly unlike me**	**Slightly like me**	**Much like me**	**Very much like me**
18. I use different strategies depending on the situation	1	2	3	4	5	6
19. I organise my time to best accomplish my goals	1	2	3	4	5	6
20. I am good at organising information	1	2	3	4	5	6
21. I know what kind of information is most important to consider when faced with a problem	1	2	3	4	5	6
22. I consciously focus my attention on important information	1	2	3	4	5	6
23. My “gut” tells me when a given strategy I use will be most effective	1	2	3	4	5	6
24. I depend on my intuition to help me formulate strategies	1	2	3	4	5	6
Metacognitive Choice						
25. I ask myself if I have considered all the options when solving a problem	1	2	3	4	5	6
26. I ask myself if there was an easier way to do things after I finish a task	1	2	3	4	5	6
27. I ask myself if I have considered all the options after I solve a problem	1	2	3	4	5	6
28. I re-evaluate my assumptions when I get confused	1	2	3	4	5	6
29. I ask myself if I have learned as much as I could have when I finished the task	1	2	3	4	5	6
Monitoring						
30. I periodically review to help me understand important relationships	1	2	3	4	5	6
31. I stop and go back over information that is not clear	1	2	3	4	5	6
32. I am aware of what strategies I use when engaged in a given task	1	2	3	4	5	6
33. I find myself analysing the usefulness of a given strategy while engaged in a given task	1	2	3	4	5	6
34. I find myself pausing regularly to check my comprehension of the problem or situation at hand	1	2	3	4	5	6
35. I ask myself questions about how well I am doing while I am performing a novel task	1	2	3	4	5	6
36. I stop and reread when I get	1	2	3	4	5	6

Adaptive Cognition						
Thinking of yourself, how likely or unlikely it is that you	**Not very much like me**	**Not like me**	**Slightly unlike me**	**Slightly like me**	**Much like me**	**Very much like me**
confused						

Corporate Entrepreneurship							
Thinking of your company, how true or untrue is the following statement	**Very untrue**	**Untrue**	**Slightly Untrue**	**Neutral**	**Slightly true**	**True**	**Very True**
37. Our company has introduced many new products and services over the past three years	1	2	3	4	5	6	7
38. Our company has made many dramatic changes in the mix of its products and services over the last three years	1	2	3	4	5	6	7
39. Our company has emphasized making major innovations in its products and services over the last three years	1	2	3	4	5	6	7
40. Over the past three years, our company has shown a strong proclivity for high-risk project (with chances of very high return)	1	2	3	4	5	6	7
41. Our company has emphasized taking bold, wide-ranging actions in positioning itself and its products (service) over the past three years	1	2	3	4	5	6	7
42. Our company has shown a strong commitment to research and development (R&D), technological leadership, and innovation	1	2	3	4	5	6	7
43. Our company has followed strategies that allow it to exploit opportunities in its external environment	1	2	3	4	5	6	7

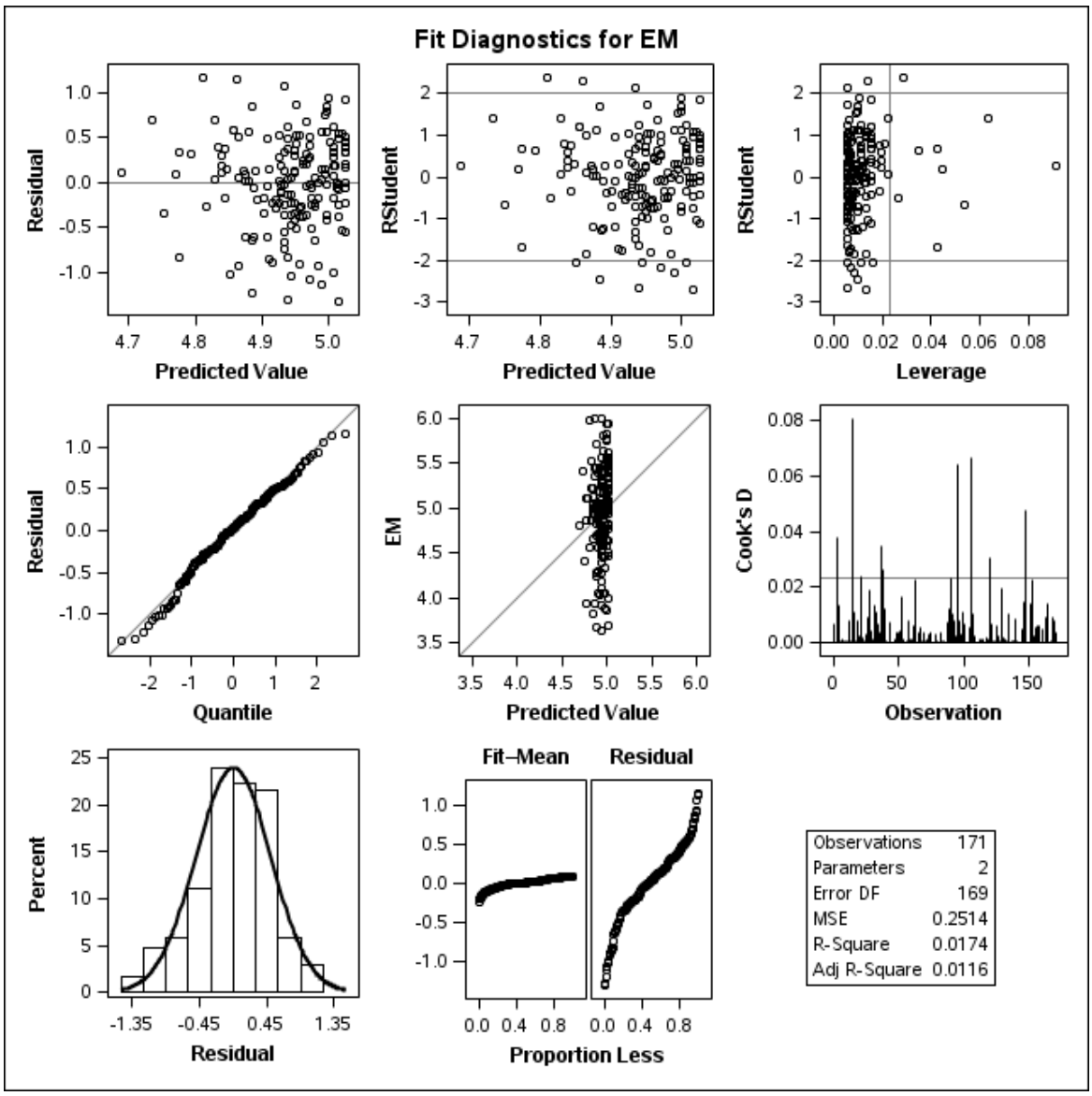
Leadership					
Thinking of your manager, how Frequently does the following statements occur	**Never**	**Almost Never**	**Occasionally / Sometimes**	**Almost Every Time**	**Every Time**
Inspirational					
44. Feel proud of him/her	1	2	3	4	5
45. Goes beyond self-interest	1	2	3	4	5
46. Has my respect	1	2	3	4	5
47. Displays power and confidence	1	2	3	4	5
48. Talks about values	1	2	3	4	5
49. Models ethical standards	1	2	3	4	5
50. Considers the moral/ethical	1	2	3	4	5
51. Emphasizes the collective mission	1	2	3	4	5
52. Talks optimistically	1	2	3	4	5
53. Expresses Confidence	1	2	3	4	5
54. Talks enthusiastically	1	2	3	4	5
55. Arouses awareness about important issues	1	2	3	4	5
Intellectual Stimulation					
56. Re-examines assumptions	1	2	3	4	5
57. Seeks different / alternative views	1	2	3	4	5
58. Suggests new ways	1	2	3	4	5
59. Suggest different angles	1	2	3	4	5
Individualised Consideration					
60. Individualises attention	1	2	3	4	5
61. Focuses on your strengths	1	2	3	4	5
62. Teaches and coaches	1	2	3	4	5
63. Differentiates among us	1	2	3	4	5

Respondent profile				
	AVP Assistant Vice President	**VP Vice President**	**P Principal**	**MP Managing Principal**
What corporate grade are you in your organisation				
	Male	**Female**		
Gender				

Please note, that all information gathered, will be kept anonymous and confidential.

APPENDIX B:

Residual Plots



APPENDIX C:

OLS regression, Bootstrapping Results

Bootstrap Confidence Interval Comparisons

Bootstrap with Percentile method and 10 000 resamples

	Bootstrap Confidence Intervals			**Comparisons**		
Variable	99% CI	95% CI	90% CI	Orig sig	Boot sig	Difference
Intercept	3.94 to 5.15	4.11 to 5.00	4.19 to 4.93	Sig at .01	Sig at .01	
Transformational leadership	-0.05 to 0.24	-0.01 to 0.20	0.01 to 0.18	Sig at .10	Sig at .10	
R2	68E-6 to 0.10	13E-4 to 0.08	48E-4 to 0.07	Sig at .10	Sig at .01	Bootstrap differs

APPENDIX D:

Categorical, Continuous Descriptive Statistics

Gender	Grade	Variable	N	Mean	Median	Minimum	Maximum
Male	Transformational leadership	Entrepreneurial mindset	3	5.03	5.08	4.28	5.72
		Corporate entrepreneurship	3	6.19	6.00	5.57	7.00
		Transformational leadership	3	3.87	4.00	3.45	4.15
	Assistant vice president	Entrepreneurial mindset	37	4.97	4.97	3.63	6.00
		Corporate entrepreneurship	37	5.18	5.14	2.57	7.00
		Transformational leadership	37	4.07	4.35	1.30	5.00
	Vice president	Entrepreneurial mindset	22	4.71	4.72	3.67	5.56
		Corporate entrepreneurship	22	4.81	4.86	2.57	6.14
		Transformational leadership	22	4.05	4.10	3.45	4.70
	Principal	Entrepreneurial mindset	6	4.64	4.63	3.89	5.36
		Corporate entrepreneurship	6	4.10	4.14	3.57	4.57
		Transformational leadership	6	4.41	4.33	4.00	5.00
	Managing principal	Entrepreneurial mindset	6	4.83	4.74	4.56	5.56
		Corporate entrepreneurship	6	5.05	5.00	3.71	6.00
		Transformational leadership	6	4.13	4.10	3.65	4.60

Gender	Grade	Variable	N	Mean	Median	Minimum	Maximum
Female	Transformational leadership	Entrepreneurial mindset	14	5.00	4.99	3.69	5.83
		Corporate entrepreneurship	14	5.48	5.64	3.00	6.86
		Transformational leadership	14	4.55	4.62	3.32	5.00
	Assistant vice president	Entrepreneurial mindset	50	5.08	5.11	3.83	5.97
		Corporate entrepreneurship	50	5.30	5.29	2.86	7.00
		Transformational leadership	50	3.99	4.20	1.80	5.00
	Vice president	Entrepreneurial mindset	20	4.88	4.90	3.86	5.47
		Corporate entrepreneurship	20	5.21	5.50	2.43	7.00
		Transformational leadership	20	3.98	4.10	2.95	5.00
	Principal	Entrepreneurial mindset	9	4.83	4.94	4.31	5.44
		Corporate entrepreneurship	9	4.81	4.57	3.71	5.44
		Transformational leadership	9	4.01	4.00	3.00	4.85
	Managing principal	Entrepreneurial mindset	2	5.26	5.26	5.25	5.28
		Corporate entrepreneurship	2	5.93	5.93	5.14	6.71
		Transformational leadership	2	4.08	4.08	4.00	4.15