

UNIVERSITY OF KWAZULU-NATAL

**Evaluation of the intrapreneurship orientation in a pharmaceutical
manufacturing company in KwaZulu-Natal**

By

Student's Name: Rangini Chetty

Student Number: 200500882

A dissertation submitted in partial fulfilment of the requirements for the degree
of Master of Business Administration

Graduate School of Business & Leadership
College of Law and Management Studies

Supervisor: Dr Tony Ngwenya

Year of Submission: 2022

DECLARATION

I, Rangini Chetty, declare that:

- The research reported in this dissertation, except where otherwise indicated, is my original work.
- This dissertation has not been submitted for any degree or examination at any other university.
- This dissertation does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.
- This dissertation does not contain other persons' writing, unless specifically acknowledged as being sourced from other researchers. Where other written sources have been quoted, then:
 - a) their words have been re-written but the general information attributed to them has been referenced;
 - b) where their exact words have been used, their writing has been placed inside quotation marks, and referenced.
 - c) Where I have reproduced a publication of which I am author, co-author or editor, I have indicated in detail which part of the publication was actually written by myself alone and have fully referenced such publications.
 - d) This dissertation does not contain text, graphics or tables copied and pasted from the Internet, unless specifically acknowledged, and the source being detailed in the dissertation and in the References sections.

Signed: 

Date: 10 February 2022

Acknowledgements

First and foremost, I wish to express my sincere appreciation and gratitude to my Lord and Saviour Jesus Christ for His grace, mercy and unfailing love that kept me motivated during this arduous journey. Indeed, from Him are all things, and to Him are all things, He deserves the glory.

Learning does not happen in a vacuum. It is a process that transforms you in inexplicable ways. It is also very contextual and I am grateful for the opportunity to learn continuously from those around me. I would therefore like to honour and acknowledge the following people who have supported me on my MBA journey:

- My husband, Sergan Chetty, who has been the wind beneath my wings and believed in me even when I didn't believe in myself. Thank you for your unwavering support, your patience and your kindness. I love and appreciate you.
- My children, especially Tiara, for their patience and understanding during the times when I was not always able to be a present parent. Please know that I have done this as an investment in your future, so that you too can attain your goals and fulfil your destiny.
- To my parents, Sam and Sally Govender, for their unwavering faith, their guidance and encouragement to pursue my MBA. To my dad, thank you for inspiring me and for your exemplary work ethic that I aspire to emulate.
- To my twin sister, Rani Pillay, thank you for your prayers and support. I am truly appreciative of your words of encouragement that provided strength at my weakest moments. Thank you for teaching me how to turn my wounds into wisdom.
- To my supervisor, Dr Tony Ngwenya, thank you for your guidance and support throughout the course of my research. I am truly appreciative of the valuable insights you have provided, and for the wonderful manner in which you conducted yourself as my supervisor. Thank you for making the dissertation process pleasant.
- Finally, I would like to express my gratitude and appreciation to the research participants for trusting me and allowing me to see the world from their perspective. It was both enlightening and humbling.

Abstract

The pharmaceutical industry in South Africa is considered a knowledge-intensive sector, with sophisticated consumers, world-class clinical skills, excellent infrastructure, and an established policy and regulatory environment. However, recent global business disruptions, including the COVID-19 pandemic, with its ensuing socio-economic sequelae, have highlighted the importance of an innovation or intrapreneurship orientation in pharmaceutical companies, where agility and responsiveness is pivotal - not just for surviving, but also thriving and creating value. It is in this context that intrapreneurship can be leveraged to spur innovation, augment business renewal, enhance organisational performance and ensure sustainability. The objectives of this study were to evaluate the nature and extent of the intrapreneurship orientation of the company's managerial employees, to identify the strengths and weaknesses that influence intrapreneurship orientation at the company, to investigate the relationship between the company's intrapreneurship orientation and organisational culture, and finally to explore strategies to augment the intrapreneurship orientation of the company's managers. This sequential mixed methods explanatory study evaluated the nature and extent of intrapreneurship orientation of a pharmaceutical manufacturing company located in KwaZulu-Natal, using a sample of 55 managers, employing a self-administered online questionnaire for the quantitative research phase, and a focus group discussion of 10 managers for the qualitative research phase. The findings revealed a suboptimal intrapreneurship orientation, with weaknesses revolving around the management support, organisational structure and culture, as well as the availability and orchestration of resources. The organisation's strengths were underpinned by the proactiveness and learning orientation of its managerial employees. Recommendations to the organisation include the development of a structure for innovation and intrapreneurship, the performance of a cultural survey as a first step in establishing a culture of innovation, collaboration and continuous learning, and the development and implementation of an innovation balanced scorecard to manage innovation-related performance.

Key words: Intrapreneurship; pharmaceutical industry; South Africa

Table of Contents

CHAPTER ONE: INTRODUCTION	1
1.1 Introduction.....	1
1.2 Background.....	1
1.3 Statement of the Problem.....	4
1.4 Purpose of the Study	5
1.5 Significance of the Study	5
1.6 Research Objectives.....	6
1.7 Research Questions.....	7
1.8 Literature Review.....	7
1.9 Research Methodology	8
1.10 Dissertation Outline	9
1.11 Chapter Summary	10
CHAPTER TWO: LITERATURE REVIEW	11
2.1 Introduction.....	11
2.2 Overview of Part 1	12
2.2.1 Section 1: Intrapreneurship	12
2.2.2 Section 2: Innovation	12
2.2.3 Section 3: Culture.....	12
2.3 Intrapreneurship	13
2.3.1 Defining intrapreneurship	13
2.3.2 Characteristics of intrapreneurship	14
2.3.3 The intrapreneurial employee	15
2.3.4 Organisational factors influencing intrapreneurship	18
2.4 Innovation	26
2.4.1 The pharmaceutical industry innovation imperative	26
2.4.2 Innovation in the global pharmaceutical industry	27
2.4.3 Innovation in the African pharmaceutical industry	28
2.4.4 Innovation in the South African pharmaceutical industry	29

2.4.5 Archetypes and dimensions of innovation	29
2.4.6 Drivers of innovation	34
2.4.7 Barriers to innovation.....	35
2.4.8 The Innovation Balanced Scorecard	36
2.5 Culture.....	40
2.5.1 The content of culture	40
2.5.2 The structure of organisational culture	42
2.5.3 Culture and Leadership	44
2.5.4 Organisational Culture: Caveats to Consider	45
2.5.5 Implications for intrapreneurship.....	47
2.6 Overview of Part 2.....	48
2.6.1 Section 1: Resources Based View.....	48
2.6.2 Section 2: Dynamic Capabilities Perspective	48
2.6.3 Section 3: The Theory of Planned Behaviour	48
2.7 Resourced-Based View	49
2.7.1 Implications for intrapreneurship.....	50
2.8 Dynamic Capabilities.....	51
2.8.1 Implications for intrapreneurship.....	52
2.9 The Theory of Planned Behaviour	55
2.9.1 Implications for intrapreneurship.....	56
2.10 Synthesis of constructs and theories underpinning intrapreneurship.....	57
2.10.1 The co-existent constructs.....	57
2.10.2 The tethered theories	58
2.11 Chapter Summary	60
CHAPTER THREE: RESEARCH METHODOLOGY	61
3.1 Introduction.....	61
3.2. Research Paradigm.....	61
3.2.1 The Pragmatist Paradigm	62
3.2.2 Justification for selection of pragmatist paradigm	64

3.3 Research Approach	65
3.3.1 Mixed methods research approach.....	65
3.3.2 Justification for selection of mixed methods approach.....	66
3.3.3 Mixed Methods Typology.....	68
3.4 Phase 1: Quantitative Research Approach	70
3.4.1 Survey design.....	70
3.4.2 COVID-19 Considerations.....	71
3.4.3 Study site.....	72
3.4.4 Target Population.....	72
3.4.4 Sampling Method.....	73
3.4.5 Sample size	73
3.4.6 Quantitative Data Collection.....	74
3.4.7 Data Quality Control.....	75
3.4.8 Data Analysis	77
3.5 Phase 2: Qualitative Research Approach	78
3.5.1 Focus Group Discussion Interview Strategy.....	78
3.5.2 COVID-19 Considerations.....	79
3.5.3 Sampling method	79
3.5.4 Sample size	79
3.5.5 Qualitative Data Collection.....	80
3.5.6 Qualitative data analysis	81
3.6 Qualitative Data Validation	82
3.6.1 Validity	82
3.6.2 Reliability.....	83
3.7 Mixed Methods Data Integration and Triangulation.....	83
3.8 Ethical Considerations	84
3.9 Chapter Summary	85
CHAPTER FOUR: ANALYSIS AND DISCUSSION.....	86
4.1 Introduction.....	86

4.2 Quantitative data analysis	86
4.2.1 Reliability assessment using Cronbach’s alpha coefficient	86
4.2.2 Descriptive statistical analysis	88
4.2.3 Inferential statistical analysis	91
4.3 Descriptive analysis of demographic variables.....	91
4.4 Intrapreneurship orientation among respondents	99
4.4.1 Managerial Intrapreneurship Orientation.....	99
4.4.2 Factors influencing intrapreneurship orientation	100
4.4.3 Intrapreneurship and Balanced Scorecard Perspectives.....	107
4.4.4 Intrapreneurship and Organisational Culture	114
4.5 Thematic Analysis of Qualitative Data	117
4.5.1 The nature and extent of intrapreneurship orientation in the case study organisation	117
4.5.2 Factors influencing Intrapreneurship Orientation	122
4.5.3 Intrapreneurship and Organisational Culture	140
4.6 Triangulation.....	143
CHAPTER FIVE: CONCLUSION, RECOMMENDATIONS AND LIMITATIONS.....	149
5.1 Introduction.....	149
5.2 Study Conclusions	149
5.3 Recommendations.....	150
5.4 Limitations of Study	156
5.5 Future Research	156
5.6 Conclusion	157
REFERENCES	158
APPENDIX 1: ETHICAL CLEARANCE.....	172
APPENDIX 2: GATEKEEPER’S LETTER.....	173
APPENDIX 3: SURVEY QUESTIONNAIRE & INFORMED CONSENT	174
APPENDIX 4: FOCUS GROUP DISCUSSION INVITE & INFORMED CONSENT	183
APPENDIX 5: FOCUS GROUP DISCUSSION INTERVIEW SCHEDULE.....	185
APPENDIX 6: TURNITIN SIMILARITY INDEX REPORT	186

List of Figures and Tables

List of Figures

Figure 2.1: Structure of Literature Review.....	11
Figure 2.2: An Integrated Framework of Intrapreneurship	15
Figure 2.3: Archetypes of open innovation processes	33
Figure 2.4: Innovation Balanced Scorecard Perspectives	37
Figure 2.5: Edgar Schein’s Culture Model	42
Figure 2.6: Dynamic Capabilities Framework	52
Figure 2.7: Theory of Planned Behaviour	56
Figure 3.1 Explanatory Sequential Mixed Method Design Procedures	69
Figure 4.1: Respondents’ Gender Distribution	91
Figure 4.2: Respondents’ Age Group Distribution	92
Figure 4.3: Distribution of Respondents’ Highest Qualification Level	92
Figure 4.4 Distribution of Respondents’ Tenure	94
Figure 4.5: Distribution of Respondents’ Organisational Positions	95
Figure 4.6 Respondents’ level of Agreement: Managerial Intrapreneurship Orientation.....	99
Figure 4.7 Individual-level factors influencing intrapreneurship orientation (Statements 1-4).....	101
Figure 4.8 Organisational factors influencing intrapreneurship orientation (Statements 5-8)	103
Figure 4.9 Leadership factors influencing intrapreneurship orientation (Statements 9-11)	105
Figure 4.10 Intrapreneurship and Balanced Scorecard Perspectives (Statements 1-4)	107
Figure 4.11: Intrapreneurship and Balanced Scorecard Perspectives (Statements 5-8)	110
Figure 4.12 Intrapreneurship and Balanced Scorecard Perspectives (Statements 9-12)	112
Figure 4.13 Intrapreneurship and organisational culture	114

List of Tables

Table 3.1: Sampling Frame for Managerial Employees	73
Table 3.2 Demographic Profile of Focus Group Discussion Participants	80
Table 4.1 Description of 5-point Likert Scale Responses	87
Table 4.2 Cronbach alpha for intrapreneurship orientation survey	87
Table 4.3 Cross-tabulation chi-square results for differences in responses according to level of education	97
Table 4.4 Cross-tabulation chi-square results for differences in responses according to tenure....	97

Table 4.5 Cross-tabulation chi-square results for differences in responses according to tenure (10-year benchmark)	98
Table 4.6 Cross-tabulation chi-square results for differences in responses according to level of education	98
Table 4.7 Managerial intrapreneurship orientation	99
Table 4.8 Individual-level factors influencing intrapreneurship orientation (Statements 1-4)	100
Table 4.9 Organisational factors influencing intrapreneurship orientation (Statements 5-8).....	102
Table 4.10 Leadership factors influencing intrapreneurship orientation (Statements 9-11)	105
Table 4.11 Intrapreneurship and balanced scorecard perspectives (Statements 1-4)	107
Table 4.12 Intrapreneurship and balanced scorecard perspectives (Statements 5-8)	109
Table 4.13 Intrapreneurship and balanced scorecard perspectives (Statements 9-12)	111
Table 4.14 Intrapreneurship and organisational culture	114
Table 4.15 Emerging themes and sub-themes on the concept of intrapreneurship.....	117
Table 4.16 Emerging themes and sub-themes on the individual factors influencing intrapreneurship.	122
Table 4.17 Emerging themes and sub-themes on the organisational factors influencing intrapreneurship.....	129
Table 4.18 Emerging themes on relationship between intrapreneurship and organisational culture..	140
Table 4.19 Individual-level strengths and weaknesses with respect to intrapreneurship.....	144
Table 4.20 Organisational strengths and weaknesses with respect to intrapreneurship.....	144
Table 4.21 Individual factors that promote intrapreneurship	145
Table 4.22 Organisational factors that promote intrapreneurship	146
Table 4.23 Median Likert-scale scores for organisational culture.....	147

CHAPTER ONE: INTRODUCTION

1.1 Introduction

With the disruptive effects of globalisation and the dawn of the Fourth Industrial Revolution, as well as the emergence of the COVID-19 pandemic, the world as we know it has irrevocably changed. Indeed, in this new milieu, characterised by volatility, uncertainty, complexity, and ambiguity (VUCA), it is “business unusual,” and organisations that fail to adapt and innovate are at risk of becoming irrelevant. Moreover, it is apparent that the pressing challenges confronting organisations cannot be solved by being reactive or acting in isolation. As emerging disruptions reshape and connect the contemporary business world, a future-focused innovation imperative becomes even more critical (World Economic Forum, 2019).

Indeed, these challenges can only be surmounted by agile and responsive organisations committed to innovation. To this end, intrapreneurship, described as the process by which individuals or teams within an organisation engage in activities involving the identification, pursuit, and promotion of innovation, is posited as the bedrock of organisational growth and sustainability, and a lever for national and regional economic development (Antoncic & Antoncic, 2011, Ireland et al., 2009; Cullen et al., 2018).

1.2 Background

1.2.1 South Africa’s development and transformation agenda

Innovation and intrapreneurship form the bedrock for sustainable economic growth and development in the prevailing VUCA global environment. Therefore, the United Nations “*2030 Agenda for Sustainable Development*” espouses seventeen (17) Sustainable Development Goals (SDGs), representing an urgent call for action by member countries to address the “*Five P’s*,” namely, *people*, *planet*, *prosperity*, *peace*, and *partnership* to ensure inclusive and sustainable economic growth through innovation and creativity (United Nations, 2015).

In South Africa, these SDGs are underpinned by the development imperative, and the transformation imperative, that seeks to restore the dignity of people who have suffered the consequences of deprivation and exclusion as a result of apartheid. Arguably, for the SDGs to fulfil this transformative agenda, it needs to be aligned with the goals of the National Development Plan (NDP): “*Vision 2030 – Our future – make it work*” (National Planning Committee, 2011). To date, the NDP has demonstrated

a 74% convergence with the SDGs, prioritizing job creation, poverty elimination, inequality reduction, and inclusive economic growth by 2030 (Statistics South Africa, 2019).

Further, South Africa's Industrial Policy Action Plan (IPAP), designed to promote greater efficiency concerning government interventions targeting industrial development and re-industrialisation, is also underpinned by the socio-economic transformation agenda (Department of Trade and Industry (DTI), 2018). Indeed, IPAP seeks to promote job creation, enhance domestic demand for locally manufactured products, strengthen industrial finance and provide investment incentives to drive economic growth and reposition the economy for the disruptive technological transformation induced by the Fourth Industrial Revolution (DTI, 2018). To this end, both IPAP and the NDP resonate with “*SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation*” (UN, 2015).

Imperatively, to remain relevant within the global community, amid the Fourth Industrial Revolution, investments in education, training, and skills development are imperative for attaining these SDGs in South Africa (Statistics South Africa, 2019). However, based on the results of the Global Innovation Index (GII) 2021, which presented the most recent global innovation ranking of 132 economies, including the impact of the COVID-19 pandemic on innovation, South Africa was placed in 61st position on the global ranking, and 2nd in the sub-Saharan African region, after Mauritius (WIPO, 2021). Further, South Africa ranked highest in the sub-Saharan region in market sophistication (23rd globally), business sophistication (51st globally), and knowledge and technology outputs (61st globally). Clearly, this indicates that South Africa needs to advance its innovation agenda to compete globally, and needs to heed the recommendations of the GII 2021 Report to shape its policies and design an actionable plan for innovation excellence that translates innovation inputs (knowledge creation, exploration, and investments) into outputs (idea generation, exploitation, and technology development).

1.2.2 The South African pharmaceutical industry innovation imperative

The South African pharmaceutical industry is knowledge-intensive, with fairly erudite consumers, first-rate clinical skills, well-developed infrastructure, as well as a robust policy and regulatory landscape (DTI, 2020). Yet, the pharmaceutical industry has encountered formidable challenges to firms' competitiveness and long-term sustainability in recent years. These challenges include low margins and growing competition, especially for generic medicine manufacturers, in the context of weak economic growth; regulated medicine prices; excessive reliance on imports; counterfeits; volatile supply chains; and importantly, sub-optimal Research and Development (R&D) and innovation capabilities (DTI, 2020; Lorenzini et al., 2018).

Despite the emergent threats encountered by the pharmaceutical industry, there are also emerging opportunities such as the green economy and local economic development with its associated socio-economic enhancements as envisioned in the NDP (National Planning Committee, 2011). These external threats and opportunities create a conducive catalyst for pursuing an intrapreneurship strategy, particularly the drive towards “strategic self-renewal” at the industry and the firm level (Comella-Dorda et al., 2020). Indeed, disruptive events, such as the COVID-19 pandemic, have underscored the imperative for innovation and an intrapreneurship orientation in this industry, where agility and responsiveness remain critical – not merely to survive, but to thrive and create value (Cohen et al., 2020; Henke et al., 2020).

1.2.3 The organisational innovation imperative

Against this backdrop, the case study organisation, a pharmaceutical manufacturing company located in KwaZulu-Natal, has acknowledged the innovation imperative to enhance organisational growth and performance. To this end, the organisation aspires to expand its core business within the biological medicine manufacturing and biotechnology domain and transcend from being an *imitator* concerning the manufacturing of biosimilar (generic) medicines to an *innovator* in the development, testing, and manufacturing of novel protein therapies, as well as in its business processes. The company has, since its inception, developed a portfolio of biosimilar protein therapy products, which are registered with the South African Health Products Regulatory Authority (SAHPRA), with some of these products cited in the national Essential Medicines List (EML). However, this product portfolio has remained fairly static over the past three decades.

Following a recent strategic review process, the case study organisation developed and affirmed its strategic intention to pursue innovation to facilitate organisational growth and renewal. Further, as an outcome of the strategic review process, the organisation has developed a long-term strategic outlook, underpinned by the “*Big Hairy Audacious Goal*” (BHAG) of being the leading global manufacturer and supplier of protein therapies in the next 30 years, thereby improving the health and quality of life of millions of patients within Africa and beyond.

In order to realise its ambitions, the organisation’s top management has acknowledged the need to modernise and transform its facilities, operations, and product portfolio, with innovation at the core of its business. Currently, the organisation has 262 employees, who are primarily graduates in the fields of pharmacy, science, engineering, and biotechnology. Further, the organisation has a traditional hierarchical structure with divisions, headed by senior managers who are part of the Executive

Committee. The divisional structure is further divided into functional departments, which are managed by middle managers, and sections for similar unit operations, which are overseen by supervisors or section heads.

1.3 Statement of the Problem

Innovation is vital for sustained competitive advantage and superior performance. Therefore, intrapreneurship has been advanced as a strategic imperative to facilitate product, process, business model, as well as market innovation (Cullen et al., 2018; Kuratko et al., 2014; Prata et al., 2017). To this end, Johnson et al. (2017) assert that a rigorously planned and executed innovation strategy, which is congruent with the organisational strategy and receives buy-in from individuals at all levels within the organisation, is essential for organisational success.

In the current VUCA business milieu, innovation, coupled with speed and agility, and supported by strong leadership, forms the bedrock of intrapreneurship (Cohen et al., 2020; Morris et al., 2011; Neessen et al., 2018). However, in these turbulent times, pharmaceutical companies rapidly pursuing R&D in specialised therapeutic areas, are compelled to contend with the complexity and uncertainty triggered by disruptive events, such as the prevailing pandemic, to manage intricate supply chains, new business models, and new models of stakeholder engagement (Cohen et al., 2020). Moreover, to keep pace with the evolution in this industry, organisations are required to assess and mobilise their resources and capabilities to innovate at scale, and exploit emerging opportunities to advance the innovation imperative (Cohen et al., 2020).

However, despite the impetus for innovation, De Jong et al. (2015) aver that the pursuit of innovation is fraught with challenges, with most organisations pursuing paths as imitators as opposed to innovators. Therefore, their success is predominantly dependent on process optimization, encompassing incremental innovation and gradual organic growth, instead of radical and disruptive innovation initiatives that accelerate growth and performance. Moreover, De Jong et al. (2015) contend that innovation necessitates complex and integrated systems and processes to configure and enhance it. Consequently, in the current rapid-paced, digital era, organisations need to leverage their strategic, operational, and organisational factors and align them with an intrapreneurial orientation to innovate successfully.

Further, innovation adoption necessitates a transformation of organisational culture to eliminate barriers to intrapreneurship such as bureaucracy and cultural rigidities (Cullen et al., 2018; Morris et al., 2011).

Further, this transformation necessitates a paradigm shift from silo models to collaborative work arrangements predicated on enhanced stakeholder interdependence and the notion of shared value creation, a formidable capacity-development programme, and improved and inclusive accountability dedicated to customer-centric results (Cohen et al., 2020; Schein & Schein, 2017).

In the context of the preceding arguments, the problem that has compelled this study, and piqued the interest of the researcher, was that although the case study organisation espoused as its strategic renewal objective the modernisation and transformation of the company through innovation, innovative practices were not consistently demonstrated nor prevalent within the organisation. To this end, the intrapreneurship orientation of the case study organisation was largely unknown, and the reasons underpinning the apparent innovation deficit were also elusive. This, therefore, encapsulated the research problem and informed the aim of this research which was to evaluate the extent of intrapreneurship orientation of the case study organisation, and elucidate the factors that underpin its orientation.

1.4 Purpose of the Study

The purpose of this empirical research was to evaluate the intrapreneurship orientation of managerial employees at the case study organisation, a pharmaceutical manufacturing company located in KwaZulu-Natal. Using the pragmatist lens conferred by the explanatory sequential mixed methods research methodology, this study further sought to elucidate the individual and organisational factors that influence intrapreneurship within the case study organisation, in order to inform the deployment of effective strategies to augment its intrapreneurship orientation, and ultimately enable the realisation of the organisation's strategic objectives.

Although the intrapreneurship orientation of some managerial employees may have been enhanced after they participated in the study, this was not an intervention study and was not the focus of this study.

1.5 Significance of the Study

Undoubtedly, to stay abreast of emerging clinical demands in healthcare, and not just survive but thrive in a dynamic and hypercompetitive milieu, the pharmaceutical industry must embrace innovation as a critical business strategy. To this end, the intrapreneurship imperative is irrefutable.

Therefore, an empirical study of the intrapreneurship orientation of a South African pharmaceutical manufacturing company is essential for several reasons. From an organisational perspective, this study provides rich novel insights into the factors influencing intrapreneurship within a pharmaceutical company, located in KwaZulu-Natal, South Africa. It is hoped that these insights into the innovativeness of the case study organisation will lead to new perspectives among managers to expand their intrapreneurship orientation and ignite and sustain an entrepreneurial spirit that drives innovation and organisational growth.

From a business practice perspective, understanding the individual and organisational enablers and barriers to intrapreneurship informs policy and decision-making, leading to business strategies to entrench and enhance intrapreneurship and advance the innovation agenda.

From a scholarly research perspective, this empirical study will contribute to the body of knowledge on intrapreneurship within the pharmaceutical industry in a developing country and extend the frontiers of this knowledge domain by responding to a call for research that builds on the construct of intrapreneurship within the pharmaceutical industry in a resource-constrained setting (Cullen et al., 2018).

Finally, from a societal perspective, it is clear that the pharmaceutical industry has an important role to play in society in ensuring the availability and accessibility of high-quality medicines to improve health and well-being. Spurred by innovation, the discovery and development of new medications to treat areas of unmet need have significant societal outcomes (Prata et al., 2017). Further, the pharmaceutical industry's role in driving productivity and economic growth through innovation ultimately alleviates the triple scourge of poverty, unemployment, and inequality that pervades South African society.

1.6 Research Objectives

The research objectives of this study were as follows:

1. To evaluate the nature and extent of the case study organisation management's intrapreneurship orientation.
2. To identify the strengths and weaknesses that influence the case study organisation's intrapreneurship orientation.

3. To investigate the relationship between the case study organisation's intrapreneurship orientation and organisational culture.
4. To explore strategies to augment the case study organisation's intrapreneurship orientation.

1.7 Research Questions

The research questions that this study aims to answer are as follows:

1. What is the nature and extent of the case study organisation management's intrapreneurship orientation?
2. What are the strengths and weaknesses that influence the case study organisation's intrapreneurship orientation?
3. What is the relationship between the case study organisation's intrapreneurship orientation and organisational culture?
4. What strategies can be employed to augment the case study organisation's intrapreneurship orientation?

1.8 Literature Review

A review of the extant literature has revealed that intrapreneurship is a complex, multi-faceted construct, that may be organisation-driven ("top-down"), employee-driven ("bottom-up"), or encompass both forms (Antoncic & Hisrich, 2003; Neessen et al., 2018). However, in the context of the current study, intrapreneurship refers to an employee-driven construct wherein individuals or groups within an organisation identify, pursue and exploit opportunities for innovation (Vargas-Halabi et al., 2017). Therefore, the literature review for this study focused on the broad constructs of intrapreneurship and innovation, and honed in on the characteristics, attitudes and behaviours of employees that support intrapreneurship (Neessen et al., 2018; Valsania et al., 2016). Further, since employees do not act within a vacuum, the extant literature was reviewed to provide insight on the contextual factors, in particular the organisational factors that influence intrapreneurship, including the influence of organisational culture on this phenomenon (Hornsby et al., 2002; Kuratko et al., 2005; Rigtering & Weitzel, 2013; Schein & Schein, 2017; Van Wyk & Adonisi, 2011).

The literature review was thereafter directed at the theories underpinning intrapreneurship, and focused on the *resource-based view* theory (Barney, 1991; Hamal & Prahalad, 1990; Johnson et al., 2017), the *dynamic capabilities* theory (Barreto, 2010; Teece, 1997; Johnson et al., 2017), and the *theory of*

planned behaviour (Ajzen, 1991; Neessen et al., 2018). The first two theories underpinned the imperative for organisational resources and capabilities to support intrapreneurship, while the latter theory explained the antecedents for intrapreneurial behaviour.

Notably, despite the growing body of literature on intrapreneurship and its strategic importance, local studies on intrapreneurship have been industry-specific, albeit offering valuable practical insights (Adonisi & van Wyk, 2012; Cullen et al., 2018; Letsie, 2013; Oosthuizen, 2006; Rambakus et al., 2020). Indeed, Cullen et al. (2018) who assessed intrapreneurship in a pharmaceutical company in the Eastern Cape, contend that there is a lack of empirical research on the intrapreneurship orientation of South African pharmaceutical manufacturing companies. Further, previous research studies were conducted before the advent of the COVID-19 pandemic with its ensuing innovation impetus. They did not include organisations that occupied the niche domain at the nexus of biological medicines manufacturing and biotechnology, areas that are ripe for innovation. Therefore, a research gap exists to evaluate the intrapreneurship orientation from the lens of a pharmaceutical manufacturing company in South Africa, a developing economy, specialising in the production of biological medicines in the context of a global public health disruption presented by the COVID-19 pandemic.

1.9 Research Methodology

Ethical approval for this study was obtained from the University of Kwa-Zulu Natal's Humanities and Social Science Research Ethics Committee (Refer to Appendix 1).

The study population included managerial employees at different levels within the case study organisation, who were sorted in a sampling frame comprising 55 managers.

An explanatory sequential mixed methods research methodology was employed in this empirical study to provide a comprehensive and nuanced understanding of the intrapreneurship orientation of the case study organisation. In phase 1 of the study, quantitative data collection occurred through an online survey instrument, designed by the researcher that encompassed the thirteen constructs of intrapreneurship identified by Cullen et al. (2018), as well as other constructs identified from the extant literature. The survey questionnaire utilised a 5-point Likert scale to establish the perceptions of the respondents with respect to the statements pertaining to the specific constructs. Hence, the dependent variable in this phase was the intrapreneurship orientation of the respondents, whereas the independent variables were the constructs that were identified as factors that influence intrapreneurship in the extant literature. Descriptive (measures of frequency) and inferential statistical analyses (non-parametric tests) were performed on the collected data to establish the extent of the intrapreneurship orientation of

managerial employees at the case study organisation, and the enablers and impediments to intrapreneurship.

In phase 2 of the study, qualitative data was collected through a focus group discussion employing an interview schedule that sought a more profound understanding of the research questions and solicited the ten (10) participants' perceptions and explanations of the findings of the quantitative phase of the research. The data were coded into themes and analysed further using NVivo software.

This study therefore engaged a pragmatist paradigm, employing both a positivist and interpretivist lens, within a mixed-methods design, to answer the research questions, provide insight into the conceptions of research participants, and propose practical approaches to surmount barriers to innovation.

1.10 Dissertation Outline

This dissertation is structured into five distinct chapters, as summarized below.

Chapter 1: Introduction

This chapter introduces the research topic, provides the background to the study, illuminates the problem statement, and the study purpose and significance. It further delineates the research objectives, research questions, and presents an overview of the extant literature, and theoretical underpinnings of the phenomenon under study, followed by an overview of the research methodology employed. The chapter concludes with an outline of the dissertation.

Chapter 2: Literature Review

This chapter is divided into two parts, with the first part critically reviewing and elaborating on the constructs underpinning the phenomenon under study. In the second part of this chapter, the theories underpinning the research are presented, and their implications concerning intrapreneurship are explicated.

Chapter 3: Research Methodology

In this chapter, an outline of the selected research methodology and the rationale for selection is explained. Information on the meta-theoretical research foundations and insights into the empirical data collection and analysis is presented.

Chapter 4: Analysis of Results and Discussion

In this chapter, the empirical findings of the research are analysed and presented. The results are discussed in the context of the research questions and objectives, the theoretical underpinnings, and extant literature in the domain of intrapreneurship.

Chapter 5: Conclusions and Recommendations

The final chapter presents the main findings concerning the research questions. Further, the practical and theoretical contributions of the research and the limitations of the study are presented, accompanied by recommendations for future research.

1.11 Chapter Summary

This chapter introduced the phenomenon of intrapreneurship and provided the background and rationale for understanding the intrapreneurship orientation of managerial employees within the context of the case study organisation that operates in the South African pharmaceutical industry. It elucidated the problem statement which informed the rationale or purpose of the study, and the formulation of the research objectives and questions. Thereafter, a brief synopsis of the relevant literature landscape was presented, followed by a description of the research methodology employed in this study. Finally, an outline of this research paper was provided, and the chapter concluded with a summary to reiterate the thread of the preceding narrative.

The next chapter encompasses a literature review on the theoretical underpinnings and constructs of intrapreneurship.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents a literature review of the core constructs and theories underpinning the concept of intrapreneurship, and provides insight into the ongoing dialogue in the literature with respect to this phenomenon, thereby providing direction for the research objectives, and ultimately, the answering of the research questions. The first part of this chapter provides insight into the origins and dimensions of the concept of *intrapreneurship*, reviews *innovation* as an antecedent and an outcome of intrapreneurship, and then examines the construct of *culture* as a driver of intrapreneurship. This part of the literature review therefore illuminates research objective 1 and 3, as reiterated below.

Research objective 1: To evaluate the nature and extent of the case study organisation management's intrapreneurship orientation.

Research objective 3: To investigate the relationship between the case study organisation's intrapreneurship orientation and organisational culture.

The second part of this chapter focuses on selected underpinning theories that influence intrapreneurship, namely the *resource-based view*, *dynamic capabilities theory*, and the *theory of planned behavior*. This part of the literature review therefore illuminates research objectives 2 and 4.

Research objective 2: To identify the strengths and weaknesses that influence the case study organisation's intrapreneurship orientation.

Research objective 4: To explore strategies to augment the case study organisation's intrapreneurship orientation.

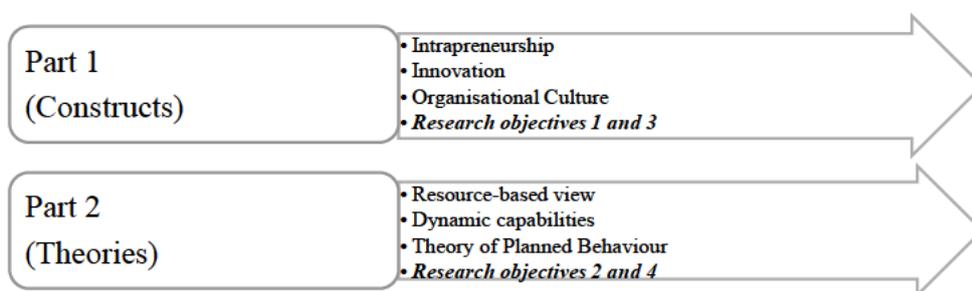


Figure 2.1: Structure of Literature Review

2.2 Overview of Part 1

2.2.1 Section 1: Intrapreneurship

This section acknowledges the multifaceted construct of intrapreneurship, its origins and evolution, and delves into the role of organisations, and subsequently the role of the intrapreneurial employee, as the source of intrapreneurship. Further, this section elucidates the organisational and individual attributes that influence intrapreneurship, and intimates the association with the underpinning theories of the *resource-based view*, and its advancement, the *dynamic capabilities theory*. It further elucidates the dimensions and determinants of intrapreneurship behavior, and intimates the connection of these aspects to the *Theory of Planned Behaviour*.

2.2.2 Section 2: Innovation

This section expounds on the concept of innovation as an outcome of intrapreneurship. Moreover, this section examines the literature on innovation in the context of the global, regional and local pharmaceutical industry, elucidates the archetypes as well as dimensions of innovation, and provides insights on the drivers and barriers impacting organisational innovation. The section concludes by expounding on the Innovation Balanced Scorecard, predicated on Kaplan and Norton's model of the balanced scorecard. This model incorporates the perspectives of innovation inputs, innovation process, innovation outputs and innovation outcomes, thereby assisting leaders in evaluating organisational innovation performance in the context of a volatile business environment, whilst simultaneously identifying appropriate innovation and intrapreneurship competencies that would augment its competitive advantage.

2.2.3 Section 3: Culture

This section elaborates on the construct of culture, and provides insight to the *content* and *structure* of culture. The review of the content of culture illuminates the elements of accumulated shared learning, basic taken-for-granted assumptions, external adaptation and internal integration, as well as the contribution of perceptions, thoughts, feelings and behavior to the content of culture. Conversely, the review of the structure of culture views culture through the lens of Schein's Culture Model, as fundamentally comprising of artifacts, beliefs and values, and deep-seated assumptions. Additionally, the relationship between culture and leadership is illuminated, with the section concluding with an exposition of the caveats to consider when analysing organisational culture.

2.3 Intrapreneurship

2.3.1 Defining intrapreneurship

Intrapreneurship is a complex, multi-faceted construct that eschews a simple definition. The extant literature confers credence to this assertion. The term “intrapreneurship”, a contraction of the phrase “intraorganisational entrepreneurship”, was initially coined by Pinchot (1987) to describe the process of innovation-driven organisational growth. Subsequently, Birkenshaw (2003) perceived intrapreneurship as the propensity of individual employees to act in an entrepreneurial way.

Similarly, Antoncic (2007) defined intrapreneurship as the act of “entrepreneurship” within an organisation. Notably, the emergence of the construct of corporate entrepreneurship as synonymous with the construct of intrapreneurship occurred around this period. Fischer (2011) described this construct as a corporate renewal process in mature organisations, with the objective of increasing profitability, facilitating strategic renewal and fostering innovativeness. Thereafter, Kuratko et al. (2014) described intrapreneurship as constant innovation with respect to products, processes, administration as well as structures within an organisation, and contended that intrapreneurship is imperative for effective competition in the 21st century global economy.

Garcia-Morales et al. (2014) alluded to the individual-level construct of intrapreneurship by defining intrapreneurship as an organisational process wherein individuals embark on new actions and deviate from the routine in pursuit of new opportunities. Similarly, Vargas-Halabi et al. (2017) defined intrapreneurship as a process within an existing organisational framework, wherein individuals or groups identify, pursue and exploit opportunities for innovativeness in order to establish or renew an organisation, or to introduce product and process innovations. More recently, Cullen et al. (2018) defined intrapreneurship as a process whereby individuals or groups identify, pursue and promote innovation within an organisation.

Neessen et al. (2018: 551) posited an alternative definition that integrated the individual and organisational aspects to reflect the multi-dimensional nature of intrapreneurship. They defined intrapreneurship as *“a process whereby employee(s) recognize and exploit opportunities by being innovative, proactive and by taking risks, in order for the organisation to create new products, processes and services, initiate self-renewal or venture new businesses to enhance the competitiveness and performance of the organisation.”*

2.3.2 Characteristics of intrapreneurship

In advancing their definition, Neessen et al. (2018) identified opportunity recognition and exploitation, proactiveness, risk-taking, and deviation from existing practices as themes constituting the *characteristics* of intrapreneurship. This notion resonates with that of Klofsen et al. (2021) who assert that intrapreneurship entails the extension of an organisation's competence and the proliferation of its opportunities through the creation of new organisations, new products or services or combining new resources.

In the context of its strategic significance, a plethora of research has been conducted in the area of intrapreneurship, encompassing its antecedents, conditions and consequences (Blanka, 2019; Ireland, 2009; Neessen, 2018). In these empirical studies, intrapreneurship has either been posited as a “top-down” organisation-level construct, or a “bottom-up” individual-level construct (Antoncic and Hisrich, 2003; Kuratko et al. 2005; Neessen et al., 2018). However, Blanka (2019) contends that the corporate entrepreneurship (“top-down”) and intrapreneurship (“bottom-up”) constructs are unequivocally linked. This is corroborated by Menzel et al. (2007: 734) who articulates that “*there will not be any innovation without the individual being involved*” and it “*also involves the organisation as a given process parameter*”. Further, this is consistent with the requirement for an amalgamated view on intrapreneurship as a phenomenon, as well as the requisite integration of individual and organisational constructs (Bouchard & Basso, 2011). Arguably, the role of middle managers is at the nexus of these perspectives, linking these constructs within organisations

Notably, despite empirical evidence suggesting that intrapreneurship is intrinsically connected to the survival, growth and performance of an organisation, the domain is still evolving, and there is currently no concurrence on the dimensions of intrapreneurship, its antecedents or conditions, warranting further empirical investigation. To this end, Neessen et al. (2018) contend that although a significant volume of research on intrapreneurship has focused on intrapreneurship as an organisational *characteristic*, elucidating the relationship between entrepreneurial orientation (EO) and organisational performance, these studies arguably centred around the “climates” of intrapreneurship, as opposed to the diverse attributes and determinants of intrapreneurial behavior among individuals, underpinning the “bottom-up” process for the implementation of novel ideas and innovation.

Based on a systematic literature review of the empirical research on intrapreneurship, Neessen et al. (2018) posited an integrative framework of intrapreneurship, as depicted in Figure 2.2. For the purpose of this literature review, the elements of this framework will be systematically elucidated.

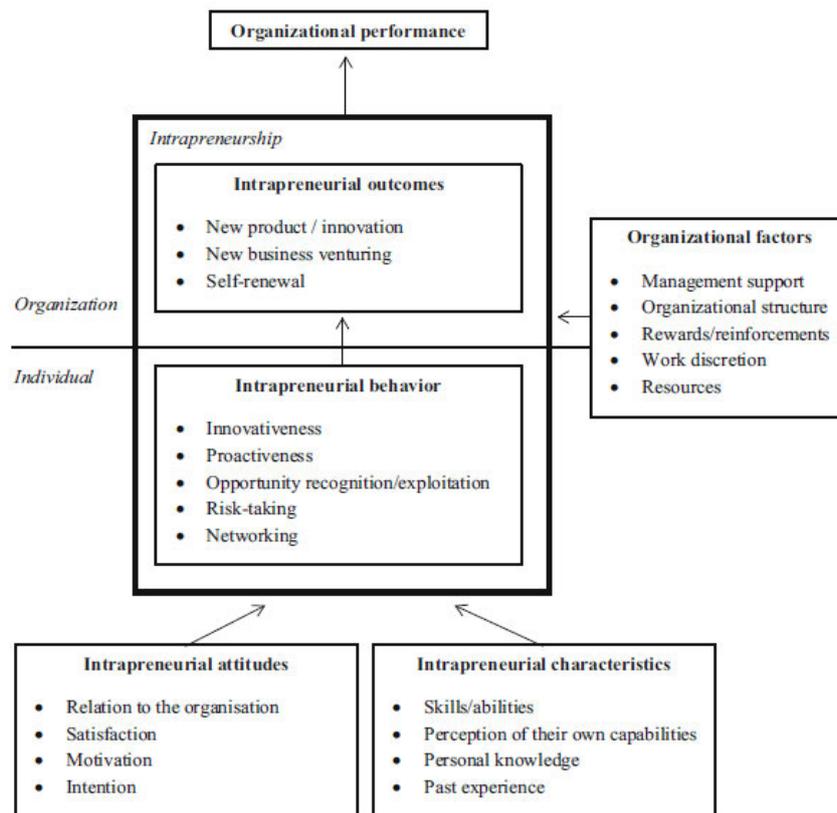


Figure 2.2: An Integrated Framework of Intrapreneurship (Neessen et al., 2018: 561).

2.3.3 The intrapreneurial employee

Neessen et al. (2018) posit that the employee role has changed over the years, with the decentralization of decision-making processes and greater employee discretion and responsibility. Commensurate with this trend, is the expectation that employees are more flexible, proactive and innovative. Indeed, employees are expected to accept the roles of “innovators” as well as “differentiators”, while adapting to and navigating a dynamic and complex business ecosystem (Teece, 2006). Further, employees are required to vigorously explore and exploit opportunities and accept risks to initiate change. Indeed, employees are progressively expected to embrace additional *intrapreneurial* ways of engaging and initiating the organisational changes that impact an organisation’s strategic direction.

2.3.3.1 Characteristics of intrapreneurial employees

Characteristics exhibited by intrapreneurial employees include their skills, their self-perception or beliefs about their capabilities, referred to as self-efficacy, their past experiences as well as their personal knowledge (Neessen et al., 2018). Urbano et al. (2013) observed that entrepreneurial behavior, the identification of opportunities and performance with respect to product development were superior in the presence of higher reported employee self-efficacy. Further, Urbano et al. (2013) observed that

past entrepreneurial experience were positively associated with superior intrapreneurial activity outcomes. Moreover, Wang et al, (2013) observed that the knowledge acquired from previous experiences enhance opportunity recognition, whilst personal knowledge, acquired from exposure to education and training, was associated with the propensity to become an intrapreneur. This is consistent with the finding that intrapreneurs possess a higher level of education and training relative to their counterparts (Urbano & Turro, 2013).

2.3.3.2 Dimensions and determinants of intrapreneurial behaviour

Employee intrapreneurial behavior has emerged as a strategic imperative for organisational performance (Neessen et al., 2018). To this end, Neessen et al. (2018) identified *characteristics* such as innovativeness (creativity, new idea development), proactiveness (assertiveness, personal initiative), risk-taking (failure tolerance), opportunity exploration and exploitation, as well as networking as critical behavioural dimensions of intrapreneurship, which are congruent with behaviours proposed in the definition of intrapreneurship. Further, Neessen et al. (2018) posited that the determinants of intrapreneurial behavior encompass characteristics such as the presence of a certain skillset (resilience, absorptive capacity, persistence, problem-solving), self-capability perception, personal knowledge, and previous experience.

Empirical studies on the intrapreneurial behavior focused primarily on the dimensions of innovativeness, opportunity detection and exploitation, proactiveness, risk-taking and internal- as well as external networking (Neessen et al., 2018). Urbano and Turro (2013) showed that for product, process or organisational innovation, an individual must recognize opportunities and leverage their knowledge and other resources to actively exploit the opportunities. Risk-taking, innovativeness and proactiveness are demonstrated in the context of organisational support for intrapreneurial managers, with managerial proactiveness positively correlated with the organisational intrapreneurial climate (Sebora & Theerapatvong, 2010). Baggen et al. (2016) observed a positive correlation between perceived self-efficacy and opportunity recognition.

Apart from the focus on individual operational level employees, an emerging research stream is focused on the intrapreneurial behavior of managerial employees, with particular emphasis on the influence of middle-level managers' personalities and behavior in relation to intrapreneurship (Blanka, 2019).

The distinctive function of middle managers as a bridge between top managers' intrapreneurial insights and lower managers's intrapreneurial activities was acknowledged by Kuratko et al. (2005). Further, Kuratko et al. (2005) found that middle managers endorse, refine and steer intrapreneurial opportunities, as well as facilitate the identification, acquisition and deployment of the required resources for the pursuit of intrapreneurial opportunities. To this end, Kuratko et al. (2005) aver that middle managers ratify intrapreneurial insights emanating from the executive echelon and "sell" the intrapreneurial value proposition to lower managers who are the primary implementers of these strategies.

Further, in their study that developed a conceptual model of middle-level managers' entrepreneurial behaviour, Kuratko et al. (2005) identified management support, work discretion, autonomy, rewards, reinforcements, time availability, and organisational boundaries as the organisational antecedents to intrapreneurial behaviour.

The *attitudinal dimensions* of intrapreneurship include a relationship- and identification with the organisation, satisfaction, motivation as well as the intention to act intrapreneurially (Neessen et al., 2018; Reuther et al., 2017). Empirical research indicates that the relationship with the organisation, specifically commitment to the organisation, is positively related with employee conceptions with respect to innovativeness, proactiveness as well as risk-taking (Neessen et al., 2018). Moreover, identification with the organisation, as manifested by a sense of belonging, was positively correlated to employee intrapreneurial behavior (Valsania et al., 2016). Additionally, job satisfaction, as a dimension of attitude, was positively associated with intrapreneurial behaviour (Antoncic & Antoncic, 2011).

Further, with respect to managerial employees, empirical research indicates that the *attitudes* and *personalities* of managerial employees are key factors that drive intrapreneurial behaviours among operational-level employees (Bouchard & Basso, 2011). Further, empirical findings with respect to managers' *behavior* found that middle-level managers positively influenced intrapreneurial behavior within organisations (Kuratko et al., 2005).

2.3.3.4 Intrapreneurial behavioural outcomes

Intrapreneurial behavioural outcomes encompass individual as well as organisational outcomes, such as innovation, organisational renewal, and individual- and organisational performance as well as achievements (Baggen et al., 2016; Rigtering & Weitzel, 2013).

Kuratko et al. (2005) contend that middle managers may be characterised as intrapreneurs as a consequence of their role and tasks in employee motivation, resource acquisition and the communication of innovative ideas across managerial levels. They further contend that middle managers behave in an intrapreneurial manner with a corresponding individual-level behavioural outcome, and when this behavior is observed and positively evaluated by employees, it influences their perceptions and results in enhanced future engagement in intrapreneurship. To this end, the function of middle managers is critical in employee motivation, as employees emulate the modelled behavior. Indeed, apart from supporting intrapreneurial activities of employees at operational level, they act as a catalyst for intrapreneurship, offering valuable impulses for intrapreneurship, as well as serving as role models for aspiring intrapreneurs

2.3.4 Organisational factors influencing intrapreneurship

Undoubtedly, an intrapreneur's success is underpinned by the organisational context. Indeed, the organisation can either encourage or impede intrapreneurial behaviour (Neessen et al., 2018). To this end, the extant literature have identified the key organisational factors that influence intrapreneurs as comprising of management support; organisational structure; rewards and reinforcements; work discretion and autonomy; resources and capabilities (Hornsby et al., 2002; Kuratko et al. 1990; Rigtering & Weitzel, 2013; Van Wyk & Adonisi, 2011).

Management support was deemed critical to employees who were keen on undertaking intrapreneurial activities (Neessen et al., 2018; Van Wyk & Adonisi, 2011). However, managerial support, as an organisational condition for intrapreneurship is multi-dimensional. The dimensions of managerial support include the facilitation and promotion of intrapreneurship by management, encouraging and recognizing that activities may encompass some risk-taking, as well as the creation of a climate and culture that supports innovation (Garcia-Morales et al., 2014).

Organisational structure, as an organisational factor for intrapreneurship is similarly multi-faceted. Indeed, the dimensions of organisational structure allude to organisational flexibility, flow of information through open communication channels and de-centralised decision-making structures (Van Wyk & Adonisi, 2008), which promote intrapreneurial activities and enhances employee self-efficacy (Neessen et al., 2018). To this end, Blanka (2019) avers that the implementation of an organisational structure that facilitates autonomy and de-centralised decision-making is a critical success factor as it results in employee empowerment. She contends that empowerment, in turn, promotes intrapreneurial behavior, because it enables the development of proactive employee behavior (Blanka, 2019).

Moreover, according to Menzel et al. (2007), organisational factors that promote intrapreneurship include the provision of an appropriate physical environment that facilitates physical proximity and promotes collaboration. Further, flatter structures with reduced bureaucracy are necessary to promote the sharing of knowledge and the collaborative development of ideas (Menzel et al., 2007).

Rewards and reinforcements, as organisational factors for intrapreneurship were found to increase employee willingness to engage in intrapreneurial activities, and rewards were further found to lead to job satisfaction (Urban & Nikolov, 2013).

Neessen et al. (2018) found that intrapreneurial activities were increased in the presence of work discretion, and employee autonomy, as organisational factors for intrapreneurship. Similarly, the availability of the right resources, such as time, as well as financial resources, were found to be critical for advancing intrapreneurship (Neessen et al., 2018).

Finally, Morris et al. (2011) posited that the cornerstones of intrapreneurship encompass flexibility, speed, innovation and entrepreneurial leadership. This resonates with and develops the notion that the solution to the current hyper-competitive milieu is agility, adaptability, resilience, tenacity and innovativeness, which Morris and Kuratko (2002) earlier asserted as the tenets of intrapreneurship.

Arguably, due to their nature, many organisations inadvertently impede intrapreneurship, effectively inhibiting intrapreneurial behavior through structural constraints such as bureaucratic routines (Morris et al., 2011; Ireland et al. 2006). Birkenshaw (2003) contends that all organisations have established systems and structures that constrain employees from acting in an entrepreneurial way, and therefore individuals should be ready to actively challenge those structures and systems. In contrast, Kuratko (2009) argues that an intrapreneurial climate can be constructed, facilitating the development of new products and services, augmenting firm growth, as well as enabling firms to maintain their competitive posture as a result of an innovative high performance workforce that is motivated and committed to organisational success. To this end, Morris et al. (2011) posit that in order to ensure sustainable intrapreneurship, organisations are in need of an “*entrepreneurial spirit*” which is assimilated into its mission, objectives, strategies, structures, systems, processes, and values.

Cullen et al. (2018), whose empirical research was undertaken in a pharmaceutical manufacturing company, located in the Eastern Cape, advanced a framework encompassing thirteen constructs or themes that subjugated the extant literature to elucidate the organisational, as well as individual, antecedents of intrapreneurship. These thirteen constructs, discussed below, formed the basis for the current inquiry, as it responded to the call for future research as postulated by Cullen et al.

2.3.4.1 Strong customer orientation

A customer-oriented organisation has the propensity to enhance creativity which in turn augments organisational innovativeness (Im & Workman, 2004; Nasution et al., 2011; Johnson et al., 2017). Further, Hitt et al. (2011) contend that an entrepreneurial organisation, through its strong customer orientation, creates value for its customers.

2.3.4.2 Entrepreneurial leadership

Entrepreneurial leadership has been defined as a unique leadership style focused on leveraging synergies from diverse talents in a creative and innovative manner that responds to an ambiguous business milieu with coherent strategies and innovative outcomes (Fontana & Musa, 2017).

Spinelli and Adams (2012) characterise effective entrepreneurial leaders as those that exhibit a superior work ethic, honesty, integrity as well as fairness that attracts and retains the best talent. Further, entrepreneurial leaders possess creative talents to recognize and leverage opportunities that instills a sense of confidence in their followers (Spinelli & Adams, 2012). To this end, entrepreneurial leaders may be considered as transformational leaders who established the most conducive managerial conditions for intrapreneurship, thereby nurturing innovation and creativity of followers (Moriano et al., 2011).

Cohen (2004) asserts that entrepreneurial leaders create the vision for the organisation and thereafter establish the strategy, structure, systems, protocols along with the culture that permit individuals within the organisation to proactively achieve the vision. This notion resonates with Moriano et al. (2011) who aver that leaders are considerably more successful at facilitating entrepreneurial behavior in the context of a shared vision and mission. Fontana et al. (2017) extends this notion by asserting that entrepreneurial leaders influence their followers to identify opportunities and promote a shared vision of organisational success and sustainability.

2.3.4.3 Resource availability and accessibility

Pinchot (1985) posited that resources needed to be made available for organisations to promote intrapreneurship. Further, Kuratko et al. (2005) demonstrate how the pursuit of intrapreneurial opportunities require the deployment of resources. Teng (2007) extended this notion employing the *resource-based view* theory to elucidate the concepts of resource conditions and resource gaps, to demonstrate that resource availability was an antecedent for success in the context of intrapreneurship. Intrapreneurial resources are described as the people, finances, assets and organisational business plan (Spinelli & Adams, 2012).

Hitt et al. (2011) contend that firms can create unique resource portfolios through the accumulation of resources such as knowledge, skills, and reputation, but also through the acquisition of complementary resources. Further, the orchestration of these resources towards innovation is critical in order to create sustained competitive advantage and ensure superior organisational performance (Johnson et al., 2017).

Indeed, according to Hitt et al. (2011), resource orchestration which describes the actions taken by leaders to effectively manage an organisation's resources include the structuring of the organisation's resource portfolio, the bundling of resources into capabilities, as well as leveraging these capabilities to create stakeholder value, all of which augment innovation and intrapreneurship, and lead to the competitive advantage of the organisation.

Resource orchestration was found to be positively associated with intrapreneurial activity (Hitt et al., 2011). In particular, Hitt et al. (2011) contended that financial capital is critical for the acquisition or creation of resources for opportunity exploration and exploitation, thereby supporting intrapreneurship.

2.3.4.4 Innovation and creativity encouraged

Morris and Kuratko (2002) purport innovation as one of the solutions to the current hyper-competitive business milieu, and a critical constituent of intrapreneurship. Indeed, innovation is central to various intrapreneurship frameworks (Hornsby et al., 2013; Kuratko et al., 2014; van Wyk & Adonisi, 2011). To this end, innovation is a key component of the definition of intrapreneurship posited by Kuratko et al. (2014:30): "*Intrapreneurship, a significant form of corporate innovation, is envisioned to be a process that can facilitate organisations' efforts to innovate constantly and cope effectively with the competitive realities organisations encounter when competing in world markets.*"

Further, Ireland et al. (2006) aver that the extent of intrapreneurship reveals the degree to which an organisation's endeavors are construed as innovative, risky and proactive. Here, the concept of innovativeness alludes to the pursuit of creative, atypical or novel responses to existing challenges and demands (Ireland et al., 2006), with organisational innovativeness generally accepted as a characteristic conferring competitive advantages leading to enhanced performance (Kraiczy et al., 2015).

2.3.4.5 Diverse and empowered teams

Teamwork is described as an integral element in intrapreneurship (Gupta & Srivastava, 2013; Kuratko et al., 2014). Indeed, collaboration is vital to intrapreneurship and there should be a balance between teamwork recognition and individual incentives (Ireland et al., 2006; Kuratko et al., 2014).

Empowerment is underpinned by autonomy, which refers to the discretion and extent to which employees perceive that they are empowered to make decisions with respect to work performance. In an intrapreneurship orientated organisation, employees are empowered to make decisions when innovating (Hornsby et al., 2002).

2.3.4.6 Risk and failure tolerance

Handling failure, by regarding it as an opportunity to learn from mistakes, and considered risk taking are important entrepreneurial characteristics that stimulate intrapreneurship (Ireland et al., 2006; Neessen et al., 2018). However, the caveat with risk-taking is that risks should be cautiously calculated, with the acknowledgement that intrapreneurship decisions could result in potential gains and losses (Ireland et al., 2006), and the intrapreneur should preserve the best interests of the organisation as well as its customers (Vargas-Halabi et al., 2017).

2.3.4.7 Intrapreneurship champions

The championing of innovative ideas requires a willingness by senior managers to facilitate and promote entrepreneurial behaviour (Kuratko et al., 2014). Championing intrapreneurship incorporates the actions of top level management to coach, protect and marshal resources towards intrapreneurship (Cullen et al., 2018; Goosen et al., 2002). Championing determines the organisational culture and risk appetite, which in turn, influences intrapreneurial behavior (Cullen et al., 2018).

Further, de Villiers-Scheepers (2012) asserts that management support, through championing, creates the perception that intrapreneurship is valued, and promote intrapreneurial behaviour by encouraging employees to proactively seek opportunities and solve organisational problems in innovative ways.

2.3.4.8 Discretionary time and work

Discretionary time and the space to work on an individual's own ideas that advance the organisation is an integral element of intrapreneurship (Gupta & Srivastava, 2013). To this end, organisations that facilitate innovation provide people with the freedom to utilize a portion of their time to explore new ideas, at their own discretion (Neessen et al., 2018).

In their study on intrapreneurship, van Wyk and Adonisi (2011) found that adequate time availability significantly enhanced intrapreneurship. Further, Kuratko et al. (2014) found that employees endowed with work discretion have a higher propensity to identify intrapreneurial opportunities as they are supported in their innovation endeavours.

2.3.4.9 Rewards and reinforcement

Apart from recognizing and celebrating the achievements of intrapreneurs, the conferring of appropriate rewards and reinforcements provide a signalling effect and emphasise the desirability of intrapreneurial behavior (Menzel et al., 2007).

However, an effective recognition and rewards system that promotes intrapreneurship must be cognisant of the intrapreneurial goals, feedback, individual roles and responsibilities, as well as positive reinforcements, and generate results-driven incentives (Hornsby et al., 2002; Kuratko, 2009; Cullen et al., 2018).

2.3.4.10 Conducive organisational structures

Antoncic & Hisrich (2001) contend that the innovation process is impeded when people fail to speak a common language or when communication is impaired by structural silos which impede information flows. To this end, organisations characterised by diminished hierarchy as well as decreased structural silos contribute to enhanced employee initiative, transparent communication, and ultimately a robust sense of belonging (Cohen, 2004; Rigtering & Weitzel, 2013; Van Wyk & Adonisi, 2011).

Further, Hornsby et al. (2002) aver that a supportive organisational structure and organisational boundaries provide the processes for idea evaluation, selection and implementation. Conversely, bureaucratic organisational structures leads to the perception of boundaries that preclude employees from identifying opportunities beyond their ambit of responsibility (de Villiers-Scheepers, 2012).

Moreover, de Villiers-Scheepers (2012) contends that the intrapreneurial capacity of established organisations for innovativeness, risk-taking and proactiveness is frequently constrained by legacy structures, systems and processes instituted at the inception and during phases of organisational growth, to achieve efficiency and effectiveness.

2.3.4.11 *Link to vision and strategic intent*

Morris et al. (2011) contend that in the presence of a clear vision of the desired future, employees are able to direct their actions to realise the innovation imperative. To this end, Johnson et al. (2017) construe the alignment of intrapreneurial initiatives and strategy as a prerequisite for success.

2.3.4.12 *Continuous learning*

Improvements in overall organisational learning, including learning from mistakes and failures are the antecedents for the development of new competencies (Cullen et al., 2018; Kuratko, 2009; Wang, 2008). Further, Wang (2008) asserts that an organisation's learning orientation encapsulates a commitment to learning, open-mindedness and a shared vision, that influence its propensity for knowledge creation and utilisation. To this end, a learning organisation focuses explicitly on the acquisition of potentially useful knowledge with the purpose of refining existing knowledge and routines, referred to as *adaptive learning*, or with the purpose of questioning prevailing mental models to develop new ways of thinking, referred to as *generative learning* (Wang, 2008). Unlike adaptive learning which is focused on the present, generative learning is future-focused, and hence reduces the frequency and magnitude of major disruptions.

In his research, Wang (2008) found that learning orientation was positively associated with organisational performance. This was attributed to the observation that organisations that engage in generative learning establish collaborative relationships with customers, suppliers and other key constituencies. Successful organisations demonstrated enhanced agility, and were able to swiftly

respond to reconfigure their structure as well as renew resources and capabilities to focus on emergent opportunities or threats (Wang, 2008).

2.3.4.13 Management support

Intrapreneurship is strongly influenced by management and organisational support (Antoncic & Hisrich, 2003; Neessen et al., 2018). Management support encapsulates the encouragement and willingness of managers to facilitate intrapreneurial activities within the organisation, and can manifest in various forms, encompassing the championing of innovative ideas, the provision of required resources to support idea development and opportunity exploration, as well as the institutionalisation of intrapreneurship within the organisation's systems and procedures (Hornsby et al., 2002).

Arguably, it is the top level manager's responsibility to create a conducive work environment for intrapreneurship and the enactment of intrapreneurial behaviours, by their willingness to endorse intrapreneurial behavior, support innovative ideas and by the provision of the required resources to augment innovation and intrapreneurial behavior (Ireland et al., 2006; Neessen et al., 2018).

However, empirical research conducted by Kuratko et al. (2005) indicates that both top- and middle management support is crucial for intrapreneurship. Indeed, middle managers are pivotal to merging the insights of top management with the initiatives of employees. It is therefore imperative that organisations are cognisant of this "*bridging role*" and leverage this by giving middle managers an active role in creating a culture of innovation.

Hence, the contribution of middle managers to intrapreneurship is expansive, ranging from the motivation of employees to think and act intrapreneurially, to presenting opportunities for idea realisation, and to supporting and serving as role models to employees.

2.4 Innovation

It is salient from the myriad expositions of the extant literature that intrapreneurship is underpinned by innovation. Innovation is construed as an essential antecedent, as well as outcome, to entrepreneurial development (van Wyk & Adonisi, 2011; Kuratko et al., 2014). Indeed, the seminal research conducted by Schumpeter (1934) emphasised the conception of innovations leading to market disruption and economic progression. Subsequently, Damanpour (1992) perceived the construct of innovation as an element that is unique to the espousing organisation. Thus, the concept of innovation evolved to a multi-faceted construct.

As defined by the OECD (2015), innovation refers to the development and execution of a novel or significantly enhanced product, process, marketing- or organisational method in businesses. This definition is underpinned by the caveat that the improvement or novelty must be commercialised, and confer a competitive differential in order to be considered as an innovation (Prata et al., 2017).

2.4.1 The pharmaceutical industry innovation imperative

The pharmaceutical industry invests significantly in R&D and firms in this industry are considered among the most innovative in comparison to other industries (Prata et al., 2017). As a result of this innovative capacity, effective therapies have been developed for several diseases, thereby reducing morbidity and mortality, and enhancing the quality of life for patients. The critical role of the pharmaceutical industry in society is therefore indisputable, and emanates from its joint responsibility with the medical fraternity for the preservation of health through the development and production of medical therapies to meet patient healthcare needs (Prata et al, 2017).

Subsequent to the crisis in new drug development and productivity declines of the past decade, where the emphasis was on cost reduction and improvements in efficiency and productivity in order for organisations to survive (Khanna, 2012), the emergence of the digital era has highlighted the need for pre-competitive collaboration and open innovation in order for companies to both survive and thrive (Hunter, 2014; Khanna, 2012). Woodcock (2010) described pre-competitive collaboration as scientific endeavours involving collaboration with typical commercial competitors, whereas open innovation alludes to the proactive exploitation of an organisation's intellectual property through collaborative partnerships that facilitate development and commercialisation of new products. Pre-competitive and open innovation promote both internal and external sources of innovation, and requires strong senior managements support and a conducive culture. Khanna (2012) referred to this notion of partnerships in innovation as a "*symbiotic model of innovation*".

Khanna (2012) posits that the all-encompassing “Symbiotic Model of Innovation” addresses the fundamental concerns in drug development failure whilst bolstering the current discovery process. The model has resulted in collaborations between large pharmaceutical companies, biotechnology companies and academia to mitigate the risk of failures and improve opportunities for emerging drug candidates, by enabling partners to access the requisite external expertise, technological advancements and diverse skills for the drug discovery journey (Khanna, 2012).

2.4.2 Innovation in the global pharmaceutical industry

Khanna (2012) asserted that innovation has been the bedrock of the pharmaceutical industry. He averred that the industry has since its inception delivered novel treatment options to serve unmet medical needs, enhance the quality of life and improve life expectancy. He further referred to the 1990s as the golden era as it produced multiple blockbuster drugs, catapulting the revenues generated by large pharmaceutical companies (“big pharma”), particularly in the US and Europe. This era was further characterised by high R&D expenditure for pharmaceuticals as compared to any other industrial sector.

However, clinical failures leading to lack of patient efficacy as well as serious side effects and adverse reactions, lead to the emergence of more stringent regulations and new safety and efficacy- determining protocols for marketed drugs. These protocols resulted in extended approval times and additional developmental costs. Coupled with diminishing pipelines as well as the anticipated loss of revenues from patent expiries, many pharmaceutical companies were relegated from “*thriving*” to “*surviving*” mode (Khanna, 2012). The industry reacted by curtailing expenses, including R&D, and pursued viable options to substitute expiring blockbuster products, as well as *drug repositioning approaches* that advocated novel uses for existing or clinically discontinued drugs, but with reduced development cycles, lower development cost, along with reduced uncertainty with respect to pharmacokinetic and drug safety profiles. However, these did not lead to enhanced productivity, and arguably stifled innovation (Khanna, 2012).

In the current innovation era, especially in the context of the prevailing COVID-19 pandemic, it is imperative for pharmaceutical companies to embrace the notion of open innovation and identify as well as leverage external sources of knowledge and information to sustain a flow of innovative medicines in their product pipelines (Prata et al., 2017; Simpkin et al., 2019). To this end, the tangible and intangible benefits of open innovation encompass the reduction in the cost of failure, exploitation of intellectual property, access to knowledge networks and the building of trust and transparency among stakeholders and social partners, including patients (Hunter, 2014; Prata et al., 2017).

2.4.3 Innovation in the African pharmaceutical industry

The African region comprises 15% of the global population, yet accounts for 25% of the global disease burden. Despite this, a mere 1.1% of global investments in R&D in 2016 were accounted for by the continent (Simpkin et al., 2019). Further, Africa is characterised by significant inequalities across its nations, with countries such as Egypt, Nigeria and South Africa funding 65.7% of the total expenditure on R&D. Clearly, R&D pipelines to address diseases that disproportionately affect African countries are grossly inadequate (Simpkin et al., 2019).

Simpkin et al. (2019) assert that R&D is a sentinel indicator for economic policy. To this end, a nation's relative GDP committed to R&D endeavours, referred to as "*gross expenditure on research and development*" (GERD), is used as a measure of R&D intensity. Conventionally, R&D is measured as the ratio of GERD to GDP. Generally, the GERD to GDP ratio of most developed economies exceeds 2%. However, this ratio is less than 1% in Africa, despite a commitment by African Union member countries, as far back as 2007, to invest a minimum of 1% of GDP on R&D (Simpkin et al., 2019). This may be attributed to an amalgamation of regulatory and financial hurdles that constrain commercialisation, inadequate intellectual property rights, deficiencies in basic infrastructure, political instability, corruption and maladministration, all of which hinders private sector investment (Simpkin et al., 2019).

Undoubtedly, the marked disparities in R&D capacity within the continent intimates the untapped value of collaborative innovation networks among African nations, with partnerships leveraging the significant impetus of existing R&D activities (Simpkin et al., 2019). To this effect, the pharmaceutical industry in Africa is fundamental to the development of health science R&D. Simpkin et al. (2019) note that although thirty-seven African countries are engaged in some form of pharmaceutical manufacturing, only a handful of countries have the capabilities to manufacture active pharmaceutical ingredients and intermediates, which form the basis of marketed medicines. Additionally, limited domestic capabilities constrain the value chain, with weaknesses in production and manufacturing overshadowing any gains in terms of clinical trials capabilities. Moreover, despite Africa's wealth of raw materials, domestic manufacturing is heavily reliant on the availability of imported active ingredients. Further, as African manufacturers build capabilities to develop and produce medicines, there is a concurrent requirement for regulatory expertise on the continent.

It is anticipated that domestic medicine production in Africa would increase the affordability of essential medicines, create employment, attract investments and reduce foreign dependency (Simpkin et al.,

2019). This can be achieved through a collaborative approach that ensures African leadership and ownership. To this end, organisations such as the “Coalition for Research and Innovation” (CARI) and the Alliance for “Accelerating Excellence in Africa” (AESA) are Africa-centric collaborative platforms that were established for the purpose of addressing developmental challenges and fostering leadership in science, research and innovation (Simpkin et al., 2019).

2.4.4 Innovation in the South African pharmaceutical industry

Based on the results of the Global Innovation Index (GII) 2021, which presented the most recent global innovation ranking of 132 economies, including the impact of the COVID-19 pandemic on innovation, South Africa was placed in 61st position on the global ranking, and 2nd in the sub-Saharan African region, after Mauritius (WIPO, 2021). Further, South Africa ranked highest in the sub-Saharan region in *market sophistication* (23rd globally), *business sophistication* (51st globally) and *knowledge and technology outputs* (61st globally). This indicates that South Africa needs to advance its innovation agenda in order to compete globally, and needs to heed the recommendations of the GII 2021 report to shape its policies and design an actionable agenda for innovation excellence that effectively transforms innovation inputs into outputs.

The GII 2021 results indicate that although the pharmaceutical industry in South Africa is construed as a knowledge-intensive sector, with fairly erudite consumers, excellent clinical skills, exceptional infrastructure, and a robust policy and regulatory framework (DTI, 2020), the industry has grappled under formidable challenges to firms’ competitiveness and long term sustainability. These challenges include low margins and growing competition, especially for generic medicine manufacturers, exacerbated by weak economic growth; regulated medicine prices; an excessive reliance on imports; counterfeits; volatile supply chains; and importantly, sub-optimal R&D and innovation capabilities (DTI, 2020; Lorenzini et al., 2018). Undoubtedly, this has hindered innovation in the South African pharmaceutical industry.

2.4.5 Archetypes and dimensions of innovation

2.4.5.1 Product, process, marketing and organisational innovation

In order to acquire a competitive advantage and ensure superior performance, companies need to engage in product, process, marketing and/or organisational innovation (Prata et al., 2017). *Product innovation* encompasses the leveraging of new knowledge and technologies to introduce new products or significantly improve the functional or utilisation attributes of current products in the pursuit of enhanced business performance (Prata et al., 2017).

Process innovation, on the other hand, may be described as the introduction of new processes, operational procedures, equipment or resources that enhance method, production and distribution performance, along with incremental or continuous improvements to current processes. Therefore, even process optimisation, in so far as it facilitates quality improvement, reduces unit costs, improves delivery times, as well as increases economies of scale and flexibility, may be construed as process innovation, and consequently confer a competitive advantage (Prata et al., 2017).

Johnson et al. (2017) aver that the comparative prominence of product- and process innovation usually varies as industries evolve. Typically, product innovation, predicated on new features, dominates the initial stages of an industry. These industries subsequently converge towards a dominant design, represented by a standard configuration of key attributes. Upon establishment of the dominant design, innovation shifts to process innovation, as competition centres around the most efficient production of the dominant design. Finally, the cycle is likely to commence again when the dominant design is challenged by some significant innovation.

Conventionally, new and emerging industries have an affinity for product innovation since competition is focused on defining the product or service features, whereas mature industries prefer process innovation as competition is focused on the efficient production of the dominant design. Further, small new entrants typically exploit opportunities presented prior to the establishment of the dominant design, in comparison to larger established companies which conventionally exploit opportunities presented when the dominant design is established and stable, since it is then that economies of scale and process innovation becomes particularly advantageous (Johnson et al., 2017).

Marketing innovation encompasses significant improvements with respect to the design, packaging, placement, promotion or pricing of a product. The objectives of marketing innovation are primarily to increase customer satisfaction, to re-position the brand to increase market share, or in the case of packaging design, to reflect corporate citizenship and credibility through the use of green and sustainable packaging (Prata et al., 2017).

Organisational innovation may be described as the enhancement, or initiation of a novel organisational procedure that confers a competitive advantage on the organisation through increased productivity and performance, or reduced operational expenditure (Prata et al., 2017). Further, methodologies that enhance learning and knowledge sharing are also regarded as organisational innovations (Prata et al., 2017).

2.4.5.2 Incremental, significant improvements and “big bang” innovations

Higgins (2005) posited three dimensions of innovation, namely *incremental and continuous improvement*; *significant improvements*; and *“big bang” innovations* that fundamentally change the perception and appropriation of products or services by end-users. This resonates with Saaksjarvi’s (2003) categorisation of innovation into three archetypes, namely *continuous*, incorporating minor modifications in incumbent products; *continuous dynamic*, incorporating new product development or current product modification; and *discontinuous*, incorporating the creation of a novel product that necessitates significant learning.

2.4.5.3 Incremental, semi-radical and radical innovation

Sidin and Sham (2015) posit three innovation scales, namely *incremental*, *semi-radicals* and *radicals*, contrasting with the four types proposed by Garcia and Calantone (2002), namely *radical*, *really new*, *discontinuous* and *imitative*, categorised by the extent of novelty involved.

For the purpose of clarity and consistency, innovation will be categorised as *incremental*, *semi-radical* and *radical* in this study. In this context, *radical innovations* refer to those innovation that reformulate behavior and the prevailing market structure by introducing an entirely new product with distinctive attributes, that necessitates new skills among producers and consumers, and the leveraging of technology. By its nature, radical innovations should lead to obsolescence of existing products through disinvestment (Prata et al., 2017).

In the pharmaceutical industry, a radical innovation could be created as a result of new medicine discovery and development, or through a novel therapeutic method that is deemed to be superior in its efficiency and effectiveness, consequently leading to the substitution of existing treatment regimens (Prata et al, 2017). Examples of radical innovations would therefore encompass the development and production of the COVID-19 vaccines, using novel technology, in an unprecedented time frame.

In the pharmaceutical industry, *semi-radical innovations* may be considered as new medicines which incorporate a novelty that creates competition and market displacement. However, semi-radical innovations do not lead to rival product discontinuity. These include *“me too”* medicines, conventionally referred to as *“generic medicines”* or *“biosimilars”*, which although chemically distinct,

have a similar mechanism of action to the innovator medicine. Although “*me too*” drugs may not confer additional advantages, they create a competitive environment that results in reduced market share for incumbent medicine manufacturers (Prata et al., 2017).

Incremental innovations incorporate products emanating from substitution or addition of a specific technical attribute or essential competence that impacts its manufacture or utilisation. To this end, medicines characterised as incremental innovations possess enhanced properties resulting in the gradual substitution of existing medicines. Notably, incremental innovations usually enjoy greater implementation success rates, accompanied by a reduction in the associated risks, effort and resources in comparison to the radical and semi-radical archetypes. Although incremental innovations have the potential to cause considerable market displacement similar to semi-radical innovations, their difference is notably that unlike, semi-radical innovations which represent novelty, incremental innovation represent modifications (Prata et al., 2017).

2.4.5.4 Open and closed innovation

The traditional approach adopted by the pharmaceutical industry, referred to as closed innovation, embraced the internal generation of innovation within specialised R&D units (Johnson et al., 2017). However, the disadvantages of this approach were that, on the one hand, there was always significant external innovation initiatives occurring concurrently among competitors to which the organisation was not privy, and, on the other hand, internally generated innovation often did not lead to commercialisation, and the realisation of its associated competitive advantage. This has led to the emergence of a paradigm shift towards open innovation models which complements traditional internal innovation with externally generated innovation, resulting in new and enhanced products and services, in a much shorter time frame than closed innovation (Chesbrough & Bogers, 2014; Hodson, 2016; Johnson et al., 2017; Yeung et al., 2021).

The shift to open innovation models has resulted in organisations transitioning from being fixated on intellectual property protection to engaging in multi-disciplinary and cross-industry collaborations with academia, biotechnology firms, as well as public and private partnerships (Yeung et al., 2021). Based on the direction of new knowledge flows, Gassmann and Enkel (2004) distinguished three archetypes of open innovation processes, as depicted in Figure 2.3. The “*outside-in (inbound) process*”, characterised by the integration of an organisation’s internal knowledge with externally-derived knowledge; the “*inside-out (outbound) process*”, characterised by the transferal of internally generated knowledge to external entities with the purpose of generating profits; and “*coupled*” process which combines the inbound and outbound processes through establishing alliances with complementary external entities (Gassmann & Enkel, 2004).

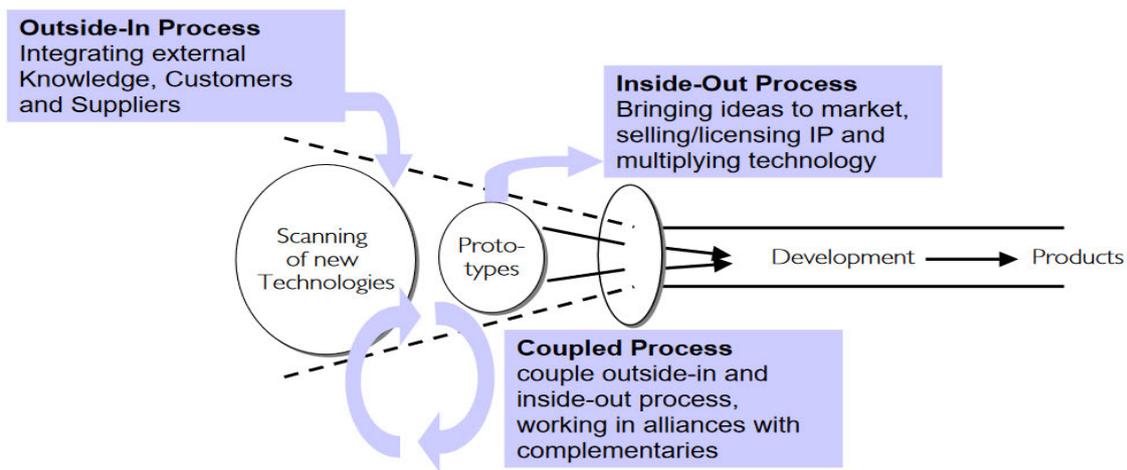


Figure 2.3: Archetypes of open innovation processes (Gassmann & Enkel, 2004: 7)

Open innovation within pharmaceutical companies varies dependent on the nature of the partnerships, incentives and goals that are involved (Schumacher et al., 2013; Yeung et al., 2021). Further, technological advancements has facilitated remote collaboration, and resulted in the formation of virtual organisations and collaborative platforms (Camarinha-Matos et al., 2006; Johnson et al., 2017). Moreover, crowdsourcing, as an open innovation approach has gained traction as a mechanism to expeditiously develop scientific and medical solutions through leveraging the collective intelligence and resources of diverse participants (Johnson et al., 2017). With respect to medical research, crowdsourcing approaches that have resulted in breakthrough innovations include innovation challenges, hackathons, and online systems for collaboration (Tucker et al., 2019; Yeung et al., 2021).

However, the caveat is that in order to leverage the opportunities presented by open innovation models, participants must be open to the evolving landscape, purposefully and passionately adopt and adapt to new collaborative models, and remain cognisant that the real quest is the pursuit of innovations that would ultimately enhance human health (Yeung et al., 2021).

2.4.5.5 Innovators versus imitators

Imitative innovations, as the term suggests, refers to imitation or replication, and may be perceived as the antithesis of novelty (Prata et al., 2017). This is usually the archetype involved in the production of generic or biosimilar medicines, often through technology transfer from the originator, and thereafter through incremental product and process improvements. Although this archetype has the lowest risk of failure, with significant cost advantages, Prata et al. (2017) caution that it should not be underestimated as it has the potential to disrupt and displace markets, and alter their direction, leading to adverse economic impacts for the first innovative company.

Johnson et al. (2017) posit that a fundamental decision confronting managers is whether to lead or to follow with respect to innovation. In the context of the popularised S-curve concept, leadership in innovation is promoted as first-movers benefit from easy sales and rapid growth, swiftly establishing a dominant position, although, in some instances, first-movers may also fail, due to deficient *market-pull*. Further, Johnson et al. (2017) aver that first-mover benefits include the experience-curve insights that are accrued; scale benefits as they establish the large volumes initially required; pre-emption of scarce resources such as raw materials and skilled labour; exploitation of buyer switching costs by locking in customers through establishing and exploiting a dominant design or standard; and, finally the reputation of being a first-mover confers credence and brand integrity. Conversely, the two main potential benefits of late-movers are *free-riding*, which allows them to imitate innovations at considerably less expense than innovators; and *learning*, which allows late-movers to observe and learn from the mistakes of first-movers in order to get it right first time (Johnson et al., 2017).

Johnson et al. (2017) assert that there are three factors that require consideration when selecting between innovation and imitation, namely, profitability, complementary assets required for production scale-up, as well as innovation marketing, and the existence of fast-moving arenas. Notably, the first two factors favour first-movers, whilst the third factor favours late-movers (Johnson et al., 2017).

2.4.6 Drivers of innovation

Despite the collaborative innovation initiatives of the recent past, Lorenzini et al. (2018) contend that innovation as a *process* is underdeveloped, whereas innovation as an *outcome* has been extensively studied. They further argue that while innovation as an outcome is underpinned by the question of “*what is the magnitude of the innovation that has been generated?*” innovation as a process is underpinned by the question, “*how is innovation driven?*”

According to Lorenzini et al. (2018), an innovation driver alludes to a stimulus that compels an organisation to abandon the status quo and commit towards surmounting the prevailing challenge in an attempt to acquire a competitive advantage. As such, drivers of innovation may range from internal- to contextual factors. To this end, innovation may be technology-driven, legislation-driven, market-driven, or sustainability-driven (Johnson et al., 2017).

2.4.7 Barriers to innovation

From an industry perspective, the causes of innovation deficits in pharmaceutical manufacturing are complex. They include an industry culture in which manufacturing, *per se*, unlike investments in R&D, or sales and marketing, has not been perceived as a generator of competitive advantage. Further, the industry has been restrained by regulatory barriers and a lack of effective incentives for manufacturing innovation. Therefore, regulatory reform and incentives that reward innovation in manufacturing are necessary to spur innovation (Price, 2021).

In the past decade, as the boundaries for collaboration have expanded, companies such as Pfizer, AstraZeneca, GlaxoSmithkline and Takeda have actively leveraged their internal expertise and resources to expand their collaborative networks and gain access to new partners and technologies that serve as a catalyst for innovation and drug discovery and development (Hunter, 2014). Further, companies such as Pfizer and Roche Diagnostics have also used crowd sourcing to assist in drug discovery, increase efficiency and reduce cost to milestones (Hunter, 2014).

From an organisational perspective, arguably, one of the most salient barriers to innovation is organisational culture (Khanna, 2012). In order to realise the creativity and productivity benefits of innovation, it is imperative to create an innovation-driven culture. This necessitates supportive and inspirational leadership that is also driven by passion and purpose towards advancing the innovation agenda (Khanna, 2012).

It is always a challenge to harness employee knowledge, and promote collaboration and knowledge sharing in an environment fraught with barriers and silo mentalities (Hunter, 2014), but it is arguably a challenge worth pursuing in order to attain the desired innovation outcomes. Moreover, open innovation ecosystems necessitate transparency and open information flows to optimally leverage the collective wisdom, specialised skills and expertise that generates innovation (Khanna, 2012; Johnson et al., 2017). To this end, robust systems are needed to maintain the knowledge base and optimise

connections between the external and internal environment of the organisation. In the context of the current open innovation milieu, effective pharmaceutical companies are required to function as hubs at the core of collaborative networks, focusing internally on their core competencies, whilst simultaneously facilitating network-wide interactions to stimulate the development of innovation ecosystems (Hunter, 2014). Counter-intuitively, this *collaborative* approach underpins their *competitive* advantage.

From an individual perspective, it is clear that human capital represents a key element of innovation input. Indeed, business processes and technologies are enhanced in contexts where motivated employees absorb and create new knowledge, and further convert that knowledge into new and innovative products and services (Yan, Lin & Maresova, 2021). To this end, innovation may be perceived as a complex human process driven by appropriately qualified and competent individuals. Therefore, to augment open innovation, organisations are required to create conducive workplaces that support the notions of continuous learning, knowledge sharing and the generation of creative ideas (Yan, Lin and Maresova, 2021).

Arguably, innovation as a process, similar to intrapreneurship or corporate entrepreneurship, is underpinned by opportunity recognition. Johnson et al. (2017) aver that opportunity recognition incorporates the interdependent components of the entrepreneur or entrepreneurial team, the environment, and the organisation's resources and capabilities. Further, Johnson et al. (2017) contend that the innovation agenda is led by opportunity-driven entrepreneurs who identify environmental macro- and megatrends as well as marketplace gaps, and consequently configure resources and capabilities to facilitate the creation of new products or services (Johnson et al., 2017). To this end, it is vital for organisations to provide a favourable entrepreneurial ecosystem that promotes intrapreneurial behavior which, in turn, will augment the competitive advantage conferred by innovation (Johnson et al., 2017).

2.4.8 The Innovation Balanced Scorecard

The *Balanced Scorecard*, originally developed by Norton and Kaplan in 1992, was conceptualised to convert managerial strategies and insights into a comprehensive collection of performance metrics (Norton & Kaplan, 1992). Therefore, as a performance measurement instrument, the primary intention of the Balanced Scorecard is to enable the realisation of the vision and strategic objectives of an organisation by translating those objectives into specific, measurable, achievable, realistic and time-

bound (SMART) goals to direct organisational performance (Kaplan & Norton, 1992; Zambon et al., 2019).

The innovation balanced scorecard is predicated on Kaplan and Norton’s model, with an adaptation of its perspectives to suit the innovation construct. To this end, the adapted balanced scorecard, depicted in Figure 2.4, encompasses four essential innovation perspectives for superior organisational performance, namely, *innovation outcomes*, *innovation outputs*, *innovation process*, and *innovation inputs* (Davila et al., 2006; Grobler et al., 2013; Morady, 2013).

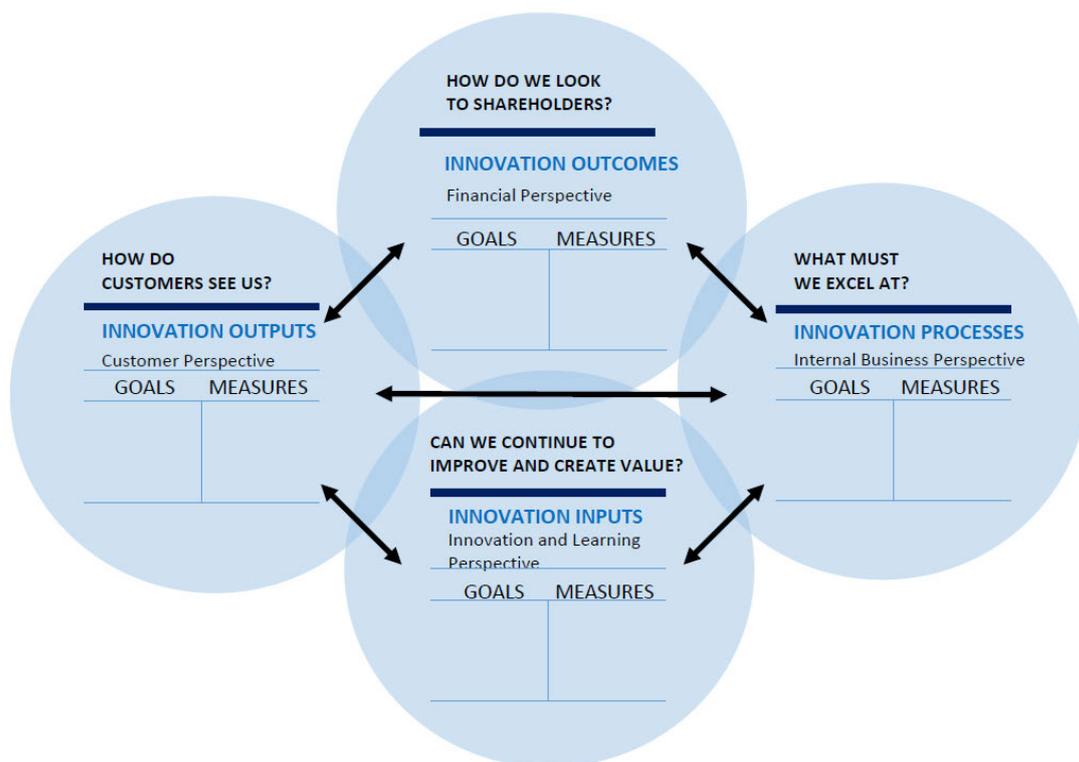


Figure 2.4: Innovation Balanced Scorecard Perspectives (Adapted from Kaplan and Norton, 1992)

2.4.8.1 Innovation Outcomes

The *innovation outcomes* perspective is synonymous with Kaplan and Norton’s “Financial Perspective” which addresses financial and business sustainability, and describes *value creation* (Davila et al., 2006; Zambon et al., 2020).

This perspective captures how the innovation initiatives have translated into value for the company, as well as the net amount of the value contribution through value measurements such as residual income and key outcome metrics such as project profitability, profitability of customers and products, return on investment and long-term value captured (Davila et al., 2006).

2.4.8.2 Innovation Output

The *innovation output* perspective is synonymous with Kaplan and Norton's "Customer Perspective" which underscores the results of the innovation efforts and focuses on quality, quantity and timeliness (Grobler et al., 2013; Zambon et al., 2020).

From an innovation perspective, output measures describe the innovation effort deliverables, and are focused on key attributes such as enhanced R&D performance, customer acquisition or customer loyalty. Further, this perspective incorporates measures such as technology leadership, as gauged by patents, knowledge acquisition, technology licenses as well as adoption rates, project completion rates, new product introduction, business process improvement as well as market leadership (Davila et al., 2006).

2.4.8.3 Innovation Processes

The *innovation processes* perspective is synonymous with Kaplan and Norton's "Internal Business Perspective" and utilises metrics to enable managers to understand how the firm's operations translate to products and services that satisfy customer need (Davila et al., 2006; Zambon et al., 2020).

In the context of innovation, the innovation process perspective reviews how effectively and efficiently innovation inputs are transformed. These are real-time measures that track the organisation's progress toward the creation of outputs, and which can be used to help keep its innovation initiatives on course. Here, the exemplars encompass creative processes (tracks the quality of ideas, the ability to explore them and the conversion rate of ideas into projects and value), project execution (tracks the evolution of projects currently underway in dimensions such as time, costs, technology performance and estimated value generated), integrated execution (tracks the aggregate performance of all projects) and the balanced innovation portfolio (tracks the mix of projects within the innovation matrix and its alignment with the organisation's strategy) (Davila et al., 2006).

2.4.8.4 Innovation Inputs

The *innovation inputs* perspective is synonymous with Kaplan and Norton's "Learning and Growth Perspective" and encompasses elements such as employee training and a culture of individual and collective learning and development (Davila et al., 2006; Zambon et al., 2020).

The innovation inputs perspective reviews resources that are dedicated to the innovation effort. Here, exemplars encompass tangible resources such as human-, financial-, and physical resources, as well as intangibles resources such as motivation and organisational culture. Innovation inputs may also consist of the organisation's existing innovation structure, innovation strategy, external network of strategic partners, lead customers and critical suppliers, as well as innovation systems such as those utilised for recruitment, training, continuous learning, innovation execution and value creation (Davila et al., 2006).

2.4.8.5 Implications for intrapreneurship

A fundamental benefit attributed to the Innovation Balanced Scorecard is its ability to assist leaders to evaluate current innovation-orientated performance in comparison to its organisational strategy in the context of a volatile business milieu. The scorecard also facilitates the identification of appropriate adaptations that are necessary in the pursuit and development of strategic innovation and intrapreneurship competencies to augment the organisation's competitive advantage (Grobler et al., 2013; Zambon et al., 2020). Therefore, the balanced scorecard enables an organisation to gauge its intrapreneurial orientation and intensity.

2.5 Culture

Cultures may be described as “*learned patterns of beliefs, values, assumptions, and behavioural norms that manifest themselves at different levels of observability*” (Schein & Schein, 2017:18). These levels of “observability” are categorised based on the extent to which the observer can see and sense those cultural elements within a group or an organisation, and encompass cultural *content* such as observed behavioural patterns, organisational climate, rituals, espoused values, group norms, rules of engagement, identity and self-image, embedded skills, mental models, language and shared meanings which reflect the cognitive or evaluative response, as well “root metaphors” or integrating symbols, reflecting the emotional and aesthetic response (Schein & Schein, 2017).

Further, the concept of culture suggests *structural* stability, encompassing the patterning or integration of its constituent elements into a broader and deeper paradigm or “*gestalt*” that creates order and meaning (Schein & Schein, 2017). This stems from the notion that culture is pervasive and permeates all aspects of organisational life, influencing its strategy, its core business, and its various environments (Johnson et al., 2017). Moreover, culture is a learned phenomenon for the organisation, much the same as personality and character are learned phenomena for individuals (Schein & Schein, 2017). However, as new conditions emerge and new individuals with diverse beliefs, values and norms enter the organisation, invariably both reinforcement and change will occur. Culture is therefore both stable and dynamic (Johnson et al., 2017; Schein & Schein, 2017).

Hence, the *content* and *structure* of culture are distinguished, and warrant further review to illuminate the implications for intrapreneurship orientation.

2.5.1 The content of culture

2.5.1.1 Accumulated shared learning

Culture is a shared product of collective learning. This leads to several significant outcomes that render culture a complex construct (Johnson et al., 2017). Indeed, to completely comprehend an organisation’s culture requires insight of the nature of learning that has occurred over a defined period, as well as the nature of the leadership hegemony during those periods. In practice, it is therefore feasible and productive to commence cultural analysis with an historical inquiry (Schein & Schein, 2017).

Schein and Schein (2017) contend that in the context of shared learning, all the organisation forces of identity creation and cohesion act to stabilise that learning, which then serves to define the organisation’s *identity* and *purpose*. The diverse elements constituting the learning subsequently

becomes a pattern of beliefs and values that confer meaning to the pursuits and efforts of the organisation. When an organisation is internally well organised and is successful in achieving its purpose, these beliefs and values with their associated behavioural norms will be taken for granted, and will be instilled in new recruits as the “*way to think, feel and behave*” (Schein & Schein, 2017). This perceived sense of organisational identity is comprised of an external element representing the manner in which the organisation portrays itself externally, as well as an internal component portraying its own sense of identity (Johnson et al., 2017; Schein & Schein, 2017).

2.5.1.2 Basic taken-for-granted assumptions

Schein and Schein (2017) assert that the earliest collective or shared learning in an organisation confers meaning and stability and develops into what may be perceived as the “cultural DNA”, the beliefs, values, and desired behaviours that resulted in organisational success, and therefore emerged as invariable and taken-for-granted basic assumptions. These assumptions, albeit unconscious, tend to become increasingly stable, providing a platform for future ways of doing things and expanding the culture. Notably these basic taken-for-granted assumptions are largely immutable in the absence of a comprehensive organisational culture change (Johnson et al., 2017; Schein & Schein, 2017).

2.5.1.3 External adaptation and internal integration

Empirical studies have demonstrated that the performance and learning of effective organisations pivot on both the task orientation and people-orientation dimensions of leadership. Schein and Schein (2017) propose that organisations should be perceived as “socio-technical systems”, comprised of integrated and aligned internal and external environments. Therefore, culture-change programmes should focus on both external adaptation and internal integration (Johnson et al., 2017; Schein & Schein, 2017).

2.5.1.4 Perceptions, thoughts, feelings and behaviours

As the growth and success of an organisation emerges over time, a sense of identity is developed which leads to the broadening of the shared learning process, transcending the normative behavior, to a language and a way of perceiving, thinking and feeling that symbolises the essence of the shared experience (Schein & Schein, 2017). The more established an organisation, the greater the shared thoughts and emotions of its members are anticipated to be. Therefore, it is apparent that organisational culture implicitly guides behavior and shapes decisions, and by inference, discerning organisational culture cannot ignore the history that is always present (Johnson et al., 2017; Schein & Schein, 2017)

2.5.2 The structure of organisational culture

Organisational culture may be construed as comprising of layers or levels, each building on the other, ranging from intangible to tangible (Johnson et al., 2017). Although many models have been proposed to elucidate this construct, Edgar Schein’s model of organisational culture, initially introduced to explain *why* people behave differently in various organisations, *how* they think and feel, and *how* they perform, continues to be the foundation for other models because, as a model, it is clear and concrete, and amenable to adaptation depending on the particular needs of an organisation (Johnson et al., 2017).

2.5.2.1 Schein’s Cultural Model

Edgar Schein’s Cultural Model, as depicted in Figure 2.5, provides a structural analysis of culture at different levels, with the term “level” alluding to the extent of visibility of the cultural phenomenon, which range from the very tangible, overt manifestations to the intangible, deep-seated, basic assumptions that constitute the essence of the culture (“cultural DNA”). Amidst these layers reside the diverse espoused beliefs, values, norms and rules of behavior that define the culture.

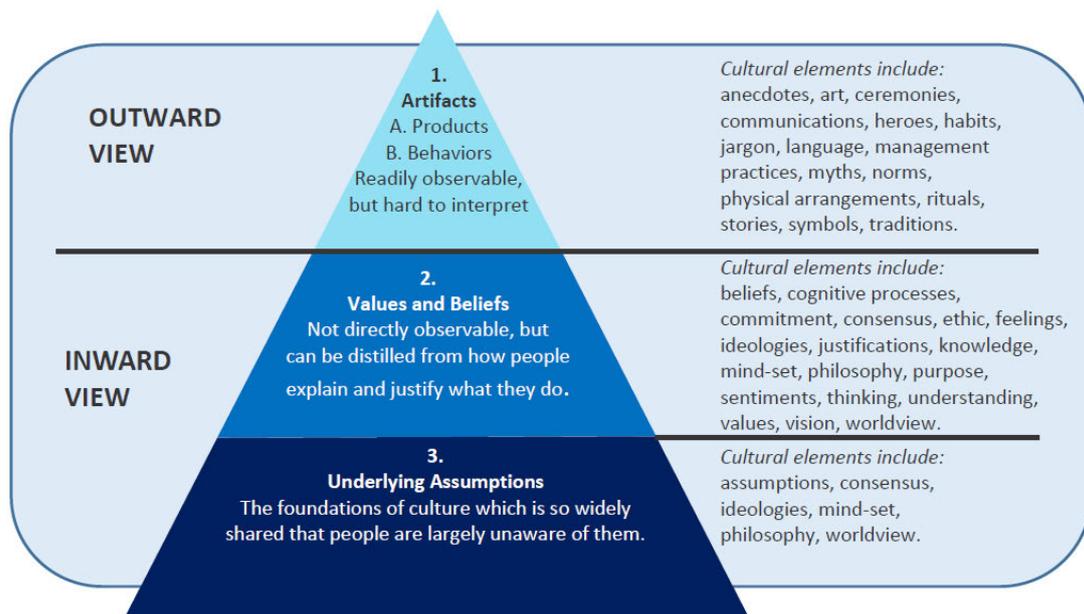


Figure 2.5: Edgar Schein’s Culture Model (Schein, 1995: 102)

Schein's Three Levels of Culture

1. Artifacts

Artifacts refer to phenomena that can be seen, heard and felt within the organisational culture, and encompass visible effects of the organisation, such as its physical structure and style, climate, language, stories, charters, as well as its observable rituals and ceremonies. However, despite being easily observable, artifacts are difficult to decipher. To this end, Schein and Schein (2017) caution against attempting to deduce deep-seated assumptions from artifacts alone, as the resultant interpretations will inexorably be projections of the observer's own cultural background. However, with increased association and familiarity with the organisation, the meanings of artifacts are gradually uncovered and members of the organisation may explain the rationale underpinning the artifacts, and elaborate on "*why we do it that way?*"

2. Espoused beliefs and values

Espoused beliefs and values allude to the principles, goals and ambitions of an organisation, as well as its ideologies and rationalisations (Schein & Schein, 2017; Johnson et al., 2017). As such, they are conscious and are explicitly articulated, serving the normative role of guiding the organisation in addressing specific scenarios, and inducting new recruits with respect to their expected behavior (Schein & Schein, 2017).

However, espoused beliefs and values often do not completely explain behavior, inferring the existence of another inconspicuous element in the structure of culture. Indeed, to attain deeper insight, decipher the pattern and predict future behavior, basic underlying assumptions need to be comprehensively elucidated.

3. Basic underlying assumptions

Basic underlying assumptions allude to the intrinsic, taken-for-granted beliefs and values which ultimately guide the behavior, perceptions, thoughts and feelings of members of an organisation (Johnson et al., 2017; Schein & Schein, 2017). To this end, culture, as a set of basic assumptions, defines what people focus on, the meanings they assign, their emotional reactions, as well as their actions or behaviour in diverse scenarios (Johnson et al., 2017; Schein & Schein, 2017).

Hatch and Schultz (2004) assert that culture, at the level of shared basic underlying assumptions, bestows organisational members with a basic sense of identity, as well as defines their behavior and values that, in turn, confers self-esteem. Schein and Schein (2017) contend that the power of culture emanates from shared assumptions that are mutually reinforced. Indeed, implicit, unconscious assumptions are potent and often deal with fundamental aspects of life and human nature that arises from the macroculture in which the organisation is embedded or from subcultures that traverse and infuse organisations. Therefore, expectedly, in practice, any culture-changing programme will evoke considerable anxiety in established organisations where members will perceive a disruption to their mental models and ways of being and doing (Schein & Schein, 2017).

2.5.3 Culture and Leadership

Schein and Schein (2017) posit that *leadership is the management of culture*. The caveat, however, is that this notion of leadership has to be interpreted in the context of the stage of organisational growth. To this end, when leaders create new organisations, they *create new cultures*, by imposing their beliefs, values, assumptions, and behavioural rules on their subordinates. If the organisation becomes established and is successful, these values, assumptions and behavioural norms would become taken for granted assumptions underpinning the culture, and will subsequently define the leadership archetype that will be valued and tolerated. The leadership role subsequently transitions from culture creation to culture maintenance and consolidation. Paradoxically, although *leaders* originally defined the organisational culture, the *culture* subsequently defines the preferred leadership attributes.

However, organisational culture itself is nested within macrocultures and is influenced by subcultures that are dynamic and changing. In this context, in some instances, organisational beliefs, values, norms and basic underlying assumptions may be rendered dysfunctional, and necessitate some form of “culture change.” It then becomes incumbent on leadership, yet again, to evaluate how the current culture will facilitate or impede the required changes, in order to inform and initiate a culture change programme. Therefore, yet again, the leadership role transitions from maintaining and consolidating the existing culture to *managing the direction of the cultural evolution*.

To this end, with globalisation, as well as the emergence of the knowledge- and digital era, with its associated ubiquitous connectivity and hypercompetition, it is imperative that organisations and their constituents embrace perpetual learning. However, when presenting the issue of perpetual learning in the context of cultural analysis, a paradox emerges in that culture, by its nature, is a stabiliser, a conservative force, and a way of establishing meaning and predictability. Conversely, in the context of

an increasingly turbulent business landscape that necessitates more flexibility and learning, the apprehension arises as to whether strong cultures will represent liabilities. Alternatively, the question arises as to whether culture should be re-imagined to be learning orientated, adaptive, and flexible, while still maintaining a sense of stability.

In response to these dilemmas, Schein and Schein (2017) assert that it is conceivable to imagine culture to be learning-orientated, adaptive, and flexible, whilst concurrently maintaining a sense of stability. To this end, they postulate the characteristics of a learning culture as one that embodies proactive and inclusive problem-solving underpinned by systemic thinking; a commitment to “*Learning to Learn*” accompanied by the provision of resources and timely feedback to facilitate learning. This is also complemented by the ability to generate learning opportunities, and tolerance for errors and failures as part of the learning process; positive assumptions about human nature embodied in faith and trust in the inherent good in people. Further, a commitment to truth through the processes of inquiry and dialogue while acknowledging the existence of multiple truths and multiple sources of truth is an important enabler to a learning-orientated culture (Scharmer, 2007; Senge, 1990). Moreover, an acknowledgement of the leader’s own lack of expertise and knowledge and embracing a shared responsibility towards learning (Schein, 2016); a positive future orientation; a commitment to open and transparent communication; and an appreciation of cultural diversity underpinned by cultural intelligence all contribute to the inculcation of a culture of learning (Johnson et al., 2017; Schein & Schein, 2017).

Ultimately, the function of a learning-orientated leader in a VUCA environment is to advance these espoused cultural assumptions, by first embracing these assumptions themselves, and subsequently developing the capacity to acknowledge and reward subordinate behavior predicated on these espoused cultural assumptions. Arguably, in a VUCA environment, the learning leader must not merely have a vision, but must also clearly articulate, impose as well as evolve it contingent on the circumstances. To this end, learning leaders must possess and develop the capacity to listen attentively and be mindful of disconfirming information emanating from diverse environmental sources, evaluate its implications for the organisation’s future, and take decisive actions to navigate the problems the organisation may encounter. Therefore, this envisaged leader requires patience and persistence, tempered by agility and resilience (Schein & Schein, 2017).

2.5.4 Organisational Culture: Caveats to Consider

Many organisations have long histories that are embedded in its culture, and therefore shapes its strategic options and decisions. Occasionally, the cultural heritage of an organisation confers a unique

advantage, however, it may conversely also become a significant impediment to transformation. Nevertheless, in order to adequately understand an organisation's strategy, it is important to understand its historical and cultural influences (Schein & Schein, 2017).

History shapes culture, and both these constructs are relevant to the capabilities that are prevalent in an organisation, particularly those that have gradually developed and are now idiosyncratic. Further, the power and influence of leaders and other stakeholders likely have historical origins. The influence of history may be explicated by the concept of *path dependency*, where previous events and decisions create 'policy paths' with enduring effects on later events and decisions. Therefore, the concept of path dependency is associated with behavior that has its origins in the past and which is subsequently so entrenched that a "lock-in" occurs, constraining any attempt at change (Johnson et al., 2017). However, although historical lock-in may create rigidities, conversely, history can also serve as a valuable managerial resource. Indeed, managers can use history to learn from the past by analysing historical trends and cycles, to build capabilities that lead to the creation of new ideas and innovation, and to legitimise intrapreneurial strategy by alluding to past successes that effected strategic change, and encouraging commitment to future changes and innovation (Johnson et al., 2017).

Further, it must be borne in mind that generalisations about culture cannot be advanced without specifying the age, size and core technology of the organisation, since each of these aspects perform a pivotal role in the formation of organisational culture (Johnson et al., 2017; Schein & Schein, 2017). Moreover, since the presence of the founder represents a robust culture stabilising force, generalisations about culture cannot be made without specifying whether it refers to a first- or a second-generation company still managed by the founder or about a company run by board-appointed general managers who have progressed up the managerial ladder (Schein & Schein, 2017). Notably, the founder's deep assumptions and beliefs that permeate the organisation, are extremely onerous to change. Clearly, the formidable influence of founders and historical circumstances are evident in an organisation's culture. To this end, cultural assumptions have their origins in the patterns of success and failures experienced by organisations. Consequently, a mature organisation is culturally distinctive with respect to its size, age, and managerial attributes (Schein & Schein, 2017).

Arguably, when an organisation has an established history, its culture may then be construed as more of a "cause", rather than an "effect" of its strategy, in that the culture then influences the strategy, and becomes authoritative with respect to the perceptions, thoughts, and feelings of organisational members, influencing their behavior (Johnson et al., 2017; Schein & Schein, 2017). Therefore, if managers intend

on developing strategies that are different from past strategies, such as the pursuit of intrapreneurship and innovation, they need to have the capabilities to challenge as well as change the organisational culture underpinning the strategy. Undoubtedly, this necessitates the capability to conduct a cultural analysis to inform the organisational strategy and manage strategic change, using tools such as Schein's Culture Model.

2.5.5 Implications for intrapreneurship

The success of intrapreneurship is underpinned by the existence or establishment of an organisational intrapreneurship culture (Blanka, 2019). To this end, empirical research by Hagedorn and Jamieson (2014) have demonstrated that development of an intrapreneurial mindset enables the fostering of an intrapreneurship culture and also facilitates organisational change. Blanka (2019) contends that since innovators are characterised by their open-mindedness which allows the collaboration and generation of ideas beyond organisational borders, a learning-orientated culture, encompassing learning by “trial and error” is required. Further, a learning-orientated culture fosters the development of an intrapreneurial mindset, as well as the creation and presentation of opportunities for experimentation and iterative refinement.

Since intrapreneurship is a process, it should not be perceived as a solitary event, but rather as a constituent of the organisational culture. The level of intrapreneurship will vary in intensity, dependent on the prevailing organisational culture and the innovative nature of the organisation's activities (de Villiers-Scheepers, 2012).

2.6 Overview of Part 2

2.6.1 Section 1: Resources Based View

The first section reviews the resource-based view and distinguishes the concepts of *threshold* and *distinctive* capabilities. It firmly establishes distinctive capabilities as those that are required to attain a sustained competitive advantage and superior performance, and elaborates on what these distinctive capabilities may entail in the context of intrapreneurship and innovation.

2.6.2 Section 2: Dynamic Capabilities Perspective

The second section reviews the dynamic capabilities perspective, as an extension of the resource-based view, and the use of the dynamic capabilities framework as an effective tool to evaluate the competitive advantage of an organisation embedded in a dynamic environment. Further, it reviews how the dynamic capabilities dimension also facilitates the development and management of intrapreneurial capabilities, underpinned by the notion that innovation is a dynamic capability with the potential to renew organisational resources and capabilities.

2.6.3 Section 3: The Theory of Planned Behaviour

The third section elaborates on the theory of planned behavior (TPB) which contends that perceived behavioural control, along with behavioural intention, aid in the prediction of human behaviour. In this section, the theory of planned behavior is used as a conceptual framework for understanding the complexities of intrapreneurial behaviour.

2.7 Resourced-Based View

Organisations are heterogenous with diverse resources and capabilities, rendering it arduous for rivals to acquire or imitate these resources and capabilities. Therefore, it is imperative that managers understand and leverage organisational resources and capabilities in order to attain competitive advantage and enhanced performance. These concepts underpin the *resource-based view (RBV) theory*, sometimes referred to as the “capabilities view”, which was pioneered Jay Barney at the University of Utah (Barney, 1991). Barney contended that competitive advantage and superior organisational performance are attributed to the distinctiveness of an organisation’s resources and capabilities (Barney, 1991).

In order to fully understand the resource-based view theory, Johnson et al. (2017) aver that an exposition of the definitions of resources and capabilities is warranted. To this end, *resources* refer to assets acquired by an organisation that can be called upon, whereas *capabilities* refer to the ways in which, or by which, those assets are utilised or deployed. Stated otherwise, resources refer to “what the organisation *has*” whereas capabilities refer to “what the organisations *does well*” (Johnson et al., 2017).

Undoubtedly, the availability of resources are vital to an organisation. However, the utilisation and deployment of these resources are arguably equally important (Johnson et al., 2017). Indeed, the efficiency and effectiveness of tangible and intangible resources are dependent on the systems and processes through which they are managed, the collaborative relationships between employees, customers and suppliers, their adaptability and innovative capacity, as well as the experience and learning with respect to what works well and what does not (Johnson et al., 2017).

However, resources are not homogenous in their value. Indeed, Barney (1991) distinguishes between *threshold* resources and capabilities, which are required to merely compete and achieve parity with market rivals, and *distinctive* resources and capabilities which have the potential to confer competitive advantage and result in superior performance. Further, Hamal and Prahalad (1990) contend that *distinctive* resources and capabilities are typically unique and maintain this status since they are composed of a *bundle* of constituent skills and technologies, as opposed to a solitary, discrete skill or technology. To this end, these idiosyncratic resources and capabilities are referred to as *core competencies* with the focus on the integrated collection or *bundle* of resources, capabilities, skills as well as actions (Hamal & Prahalad, 1990).

Distinctive resources and capabilities can be evaluated in terms of four key attributes with respect to their potential for conferring a competitive advantage, namely their **v**alue, **r**arity, **i**nimitability and **o**rganisational support, commonly referred to by the acronym, VRIO. Firstly, *valuable* resources and capabilities allow an organisation to mount appropriate responses to threats and opportunities in the environment, thereby resulting in the creation of a product or a service that provides value to customers. Secondly, *rare* resources and capabilities refer to unique or idiosyncratic resources and capabilities which potentially confer sustained competitive advantage. Thirdly, *inimitable* resources and capabilities are onerous and expensive for competitors to imitate, acquire or substitute, primarily because barriers to imitation are deeply embedded in interconnections between activities, skills and people within the organisation creating *complexity*, *causal ambiguity* and inexplicable *cultural* constraints. Finally, *organisational support* as apparent in an organisation's structure, as well as management control systems are imperative attributes that enable the leveraging of resources and capabilities to confer sustained competitive advantage (Johnson et al., 2017).

Johnson et al. (2017:105) assert that a good exemplar of how the combination of resources and capabilities produce competitive advantage is provided in the notion of *organisational knowledge*, defined as “*organisation-specific, collective intelligence, accumulated through formal systems and people's shared experience.*” These authors further aver that the distinction between *explicit* and *tacit organisational knowledge*, which was earlier conceptualised by Nonaka and Takeuchi (1995), helps explain the reason for its importance. To this end, explicit knowledge is usually construed as objective and is formally and systematically transmitted, whereas, tacit knowledge is perceived as subjective, contextual, and consequently onerous to formally communicate. Organisational knowledge is therefore not only distinctive to the organisation, but, as a valuable intangible asset, also onerous to imitate or acquire (Johnson et al., 2017).

2.7.1 Implications for intrapreneurship

The deployment of resources are necessary for organisations to pursue intrapreneurial opportunities (Kuratko et al., 2005; Pinchot, 1985). Intrapreneurial resources are described as the people, finances, assets and organisational business plans that are required for successful intrapreneurial outcomes (Spinelli & Adams, 2012; Teng, 2007). Further, according to Hitt et al. (2011), resource orchestration which describes the actions taken by leaders to effectively manage an organisation's resources has diverse elements. These include the structuring of the organisation's resource portfolio, the bundling of resources into capabilities, as well as leveraging these capabilities to create stakeholder value, all of which augment innovation and intrapreneurship, and lead to the competitive advantage of the organisation.

2.8 Dynamic Capabilities

In order for resources and capabilities to confer a sustained competitive advantage in a dynamic business environment, they cannot be static; they must be amenable to change (Teece, 2007). The concept of dynamic capabilities was introduced by David Teece, from the University of California Berkeley, as a reference to an organisation's capacity to renew and rebuild its resources and capabilities to address the requirements of a dynamic environment (Johnson et al., 2017). Teece contends that the "ordinary" resources and capabilities required for efficient operations, are unlikely to be adequate to sustain competitive advantage and superior performance, since there is the persistent threat of these resources and capabilities being imitated by competitors (Teece, 2007).

Subsequently, the dynamic capabilities perspective, which is intuitively an expansion of the resource-based perspective, has acquired traction, with the emergence of the dynamic capabilities framework as an effective instrument to explain an organisation's competitive advantage in a dynamic environment, and to assist managers in developing and managing intrapreneurial capabilities (Johnson et al., 2017; Klofsen et al., 2021; Teece, 2007). To this end, dynamic capabilities are focused towards strategic change and are described as "*the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments*" (Teece et al., 1997: 515). Hence, these capabilities are dynamic to the extent that they can create, extend or modify an organisation's existing ordinary capabilities. To this end, Teece posits three generic constructs of dynamic capabilities. Hence, the dynamic capabilities framework starts with "*sensing*" (scanning, searching and exploring opportunities across diverse markets and technologies), followed by "*seizing*" (exploitation of the opportunity to develop new products and services) and is concluded by "*reconfiguring*" (renewal and redeployment of organisational capabilities to realise strategic objectives) (Johnson et al., 2017; Teece, 2007).

However, Barreto's (2010: 271) definition of dynamic capabilities as an aggregate multidimensional construct representing "*the firm's potential to systematically solve problems, formed by its propensity to **sense** opportunities and threats, to make timely and market-oriented decisions [**seize**], and to change its resource base [**transform**]*" is arguably more relevant with respect to intrapreneurship. Figure 2.6 depicts the Dynamic Capabilities Framework, with the constructs of "*sense*", "*seize*" and "*transform*".

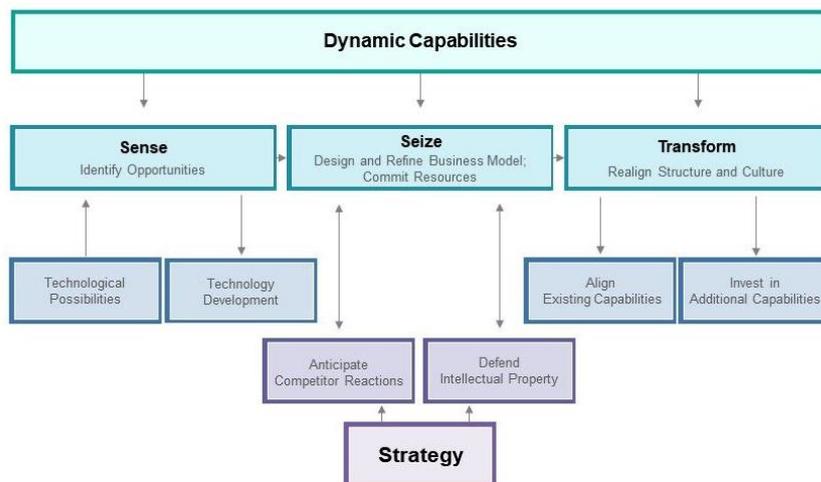


Figure 2.6: Dynamic Capabilities Framework (Barreto, 2010: 272.)

From an organisational perspective, the leveraging of dynamic capabilities warrants collaborative approaches, embracing open platforms and open innovation to assist organisations in the generation of new ideas (the “sense” dimension), the development of improved products, problem solutions, as well as the promotion and funding of projects (the “seize” dimension). Further, in order to enhance their access to external ideas, organisations are required to be increasingly agile, flexible as well as responsive to novel ways of creating value (the “transform” dimension). Stated otherwise, organisations need to leverage their intrapreneurial capabilities (Teece et al., 2012; Klofsen et al., 2021).

2.8.1 Implications for intrapreneurship

Klofsen et al. (2021) contend that overcoming the challenges of the current VUCA business milieu, characterised by public health crises such as the COVID-19 pandemic, and political instability, requires the development and leveraging of intrapreneurial capabilities. They postulate that intrapreneurial capabilities may be optimally understood as an organisation’s capacity to react swiftly and innovatively to changes within its external or internal environment in an attempt to adapt to as well as shape new environments (Klofsen et al., 2021).

Indeed, an organisation’s business success is contingent upon its ability to identify opportunities to creatively combine and leverage its assets and capabilities, and to adopt novel agile practices at both the tactical and strategic level, consistent with the underpinnings of the dynamic capabilities framework. To this end, an intrapreneurship orientation resonates with the dynamic capabilities theory, as it infers

a process wherein organisational employees act entrepreneurially in pursuit of new opportunities (“*sense*”) to innovate and profit from its knowledge assets, as well as to enhance its competitiveness.

With respect to management’s role in augmenting the dynamic capabilities and intrapreneurial orientation, Leih and Teece (2016) assert that the entrepreneurial attitudes of managers can bolster dynamic capabilities to stimulate firm competitiveness. Klofsten et al. (2021) assert that entrepreneurial managers are critical role players in both enterprise transformation as well as shaping of the business ecosystem. Moreover, Teece (2016) posits that intrapreneurial managers are integral for effecting improved resource allocation (“*seize*”), and in promoting innovation and firm’s performance.

Skarmeas et al. (2016) propose four distinct dimensions of intrapreneurship as critical resources that when combined with dynamic capabilities within the firm alter and enhance its performance (“*transform*”). These dimensions encompass new business venturing, innovativeness, self-renewal and proactiveness (Skarmeas et al., 2016).

Zahra et al. (2006) aver that the orchestration of diverse dynamic capabilities within established organisations can augment the organisation’s capacity to constantly create, define, discover and exploit entrepreneurial opportunities. Similarly, Macpherson et al. (2015) accentuate the role of intrapreneurs in the development of dynamic capabilities as well as the transformation of the organisational learning path through continual resource accumulation and integration.

Klofsen et al. (2021) assert that both dynamic capabilities and intrapreneurship are particularly relevant in the current business milieu, and further suggest that intrapreneurship could be a significant and plausible solution for the deficiency in capabilities with respect to innovativeness. This could be juxtaposed with competitiveness within established firms based on their evaluation of the manner in which dynamic capabilities are applied to develop more entrepreneurial firms. To this end, Klofsten et al. (2021) posit that dynamic capabilities facilitate intrapreneurship and complement intrapreneurial orientation, thereby augmenting organisational performance.

Moreover, Jardon (2016) posits that innovativeness, described as the ability of an organisation to modernise, is an integral dynamic capability, acquired through developing, integrating and realigning resource packages. Commensurate with the notion that dynamic capabilities are a collective of the

resources and competencies directed towards firm performance, *innovativeness* alludes to the amalgamation of the culture, processes, resources and capabilities of an organisation that are directed towards innovation and value creation (Jardon, 2016).

Further, consistent with the concept that organisations are dependent on their human capital for innovation, the core dynamic capability associated with organisational employees is human capital management. Moreover, in the context of intrapreneurship and innovation, capabilities also refer to the expected behaviours of employees in order to attain the organisation's innovation objectives (Jardon, 2016; Johnson et al., 2017). To this end, engaged, dynamic, innovative, entrepreneurial and motivated individuals who are committed to achieve organisational and individual objectives, underpin intrapreneurial behaviour. Therefore, Jardon (2016) avers that it is imperative that human capital management focus on developing and leveraging both employee competencies (knowledge, skills and abilities), as well as employee commitments (willingness to work towards innovative outcomes) to enable human capital to both innovate and compete.

Moreover, Jardon (2016) contends that organisations need to adopt human capital management to realise dynamic capabilities, amalgamating the diverse elements of human capital with organisational capabilities to augment their innovativeness. This resonates with Teece's assertion that *micro-foundations* of individual's behavior underlie dynamic capabilities (Teece, 1991). The focus of Teece's alternative perspective is therefore on the beliefs, preferences, interests, activities and social interactions of individuals. This has particularly emphasis for those in managerial and leadership positions, and how these shape organisational resources and capabilities. To this end, Teece avers that it is these individuals' decisions and behaviour that regulate organisational capabilities, strategy and performance (Teece, 1991; 2007).

2.9 The Theory of Planned Behaviour

The theory of planned behavior, developed by Ajzen to predict and explicate human behavior, may be leveraged to orientate the determinants of entrepreneurial behavior (Neessen et al., 2018). According to this theory, individual behavioural intention may be explained by three factors, namely, the *attitude* of the individual towards the particular behaviour, the *subjective norm* which allude to others' opinions of the particular behavior, and the *perceived behavioural control* which alludes to perceptions of self-efficacy towards the particular behavior (Ajzen, 1991).

The theory of reasoned action was originally used to explain human behavior (Ajzen & Fishbein, 1980). However, due to its limitations, the theory of planned behavior was posited to address behaviours over which individuals had limited volitional control. A pivotal element in the theory of planned behavior is the individual's *intention* to perform a particular behavior, which is underpinned by the assumption that intention encapsulates the motivational factors that direct behavior. Generally, the weaker the intention to participate in a particular behavior, the less likely is the anticipated performance.

However, the caveat holds that behavioural intention will translate into behavior, provided the given behavior is under volitional control. Although this criterion may be satisfied by some behaviours, the performance of most behaviours is contingent, to some extent, on non-motivational factors such as the availability of required opportunities, as well as resources such as time, finances, skills, and collaborative relationships. Collectively, these elements denote a person's *actual* control over their behavior, such that to the degree that an individual has the requisite opportunities and resources at their disposal, and is intent on performing a given behavior, the individual should succeed in such performance (Ajzen, 1991; Tornikoski & Maalaoui, 2019).

Therefore, the significance of *actual* behavioural control is manifest: the resources and opportunities accessible to an individual must, to a certain extent, determine the probability of behavioural achievement. However, arguably, of greater psychological interest than *actual* behavioural control, is the *perceived* behavioural control and its influence on intentions and actions. To this end, perceived behavioural control, a reference to a person's perception of the simplicity or complexity of performing a given behavior, occupies a central role in the theory of planned behavior. However, the caveat here is that perceived behavioural control is often contingent on the *context* of the behavior (Ajzen, 1991; Tornikoski & Maalaoui, 2019).

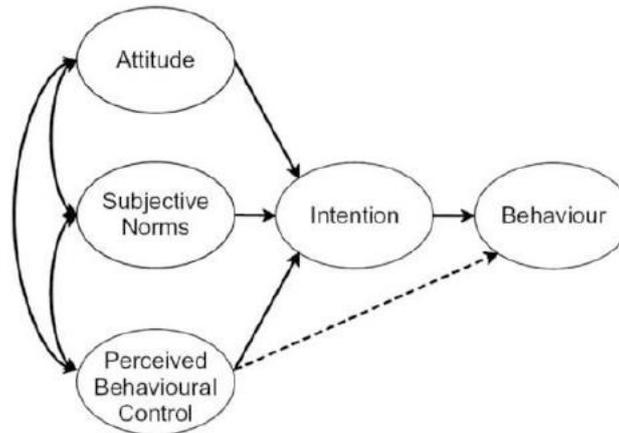


Figure 2.7: Theory of Planned Behaviour (Ajzen, 1991)

According to the model depicted in Figure 2.7, *attitudes*, *subjective norms* and *perceived behavioural control* predict the *intention*, which in turn, predicts the actual *behaviour*. Background variables, such as demographic factors, are postulated to influence the behavior through the three determinants and the intention. The theory also posits that the perceived behavioral control is an estimate of the skills needed for expressing the behavior and the possibility to overcome barriers. Therefore, a direct influence of perceived behavioural control on behavior is postulated. Ultimately, the actual behavior leads to feedback about the expectations of the behavior (Ajzen, 1991).

Further, the theory of planned behavior, as depicted in Figure 2.7, posits that perceived behavioural control, along with behavioural intention, can be directly utilised to predict behavioural achievement. As such, the theory of planned behavior offers a valuable conceptual framework for addressing the intricacies of human social behavior, particularly as it pertains to intrapreneurial behaviour.

2.9.1 Implications for intrapreneurship

In the context of the intrapreneurial employee, the prevailing perspective of perceived behavioural control resonates with the notion of perceived self-efficacy posited by Bandura (1982). To this end, self-efficacy beliefs potentially influence the selection of intrapreneurial actions, as well as the preparation and level of effort expended during performance of an activity (Neessen et al., 2018).

Further, drawing from the theory of planned behaviour, Neessen et al. (2018) classify the determinants of employee intrapreneurship into ‘behaviour’, ‘attitudes’ and ‘characteristics’. As such, Neessen et al.

(2018) perceive *attitudes* as the extent to which an individual appraises intrapreneurial behavior as positive or negative, *perceived behavioural control* as an element that also influences intrapreneurial behavior, underpinned by certain individual *characteristics*, and *subjective norms*, the perceived pressure to engage in intrapreneurial behavior as an antecedent for *behavior*.

Therefore, the implications of the theory of planned behaviour with respect to the intrapreneurial behaviour of employees suggests that human behaviour is *complex* and *contextual*, and employees should have access to adequate information to make rational choices with respect to intrapreneurial behaviour (Ajzen, 1991; Neessen et al., 2018; Tornikoski & Maalaoui, 2019).

2.10 Synthesis of constructs and theories underpinning intrapreneurship

2.10.1 The co-existent constructs

The constructs of intrapreneurship, innovation and organisational culture are inherently and inexorably linked. Indeed, intrapreneurship has been defined as as “*a process whereby employee(s) recognize and exploit opportunities by being innovative, proactive and by taking risks, in order for the organisation to create new products, processes and services, initiate self-renewal or venture new businesses to enhance the competitiveness and performance of the organisation.*” (Neessen et al., 2018, p. 551).

Hence, it is evident from this definition, as well as the extant literature that innovation is both an antecedent and outcome of intrapreneurship. Therefore, the Innovation Balanced Scorecard has been posited as a tool that allows an organisation to establish its performance with respect to the translation of *innovation inputs*, through *internal innovative processes*, to *innovation outputs* and *outcomes* that create stakeholder value and augment the organisation’s competitive advantage.

Further, the extant literature indicates that the success of intrapreneurship is underpinned by the existence or establishment of an organisational intrapreneurship culture (Blanka, 2019). To this end, empirical research by Hagedorn and Jamieson (2014) have demonstrated that development of an intrapreneurial mindset enables the fostering of an intrapreneurship culture and also facilitates organisational change. Moreover, Blanka (2019) contends that since innovators are characterised by their open-mindedness which enables collaborative idea generation beyond organisational borders, the required culture is characterised by a learning orientation, encompassing learning by trial and error, the development of an innovative mindset and the creation and presentation of opportunities for experimentation and iterative refinement.

In addition, de Villiers-Scheepers (2012) contends that since intrapreneurship, like innovation, is a process, it should not be perceived as a solitary event, but rather as a constituent of the organisational *culture*, with the level of intrapreneurship intensity varying contingent on the prevailing organisational culture and the innovative nature of the organisation's activities.

2.10.2 The tethered theories

The theories underpinning the phenomenon of intrapreneurship are similarly intertwined. To this end, the application of the *resource-based view theory* is evident in the extant literature which indicates that the deployment of resources, such as people, finances, time, and other assets, are necessary for organisations to pursue intrapreneurial opportunities, and are prerequisites for successful intrapreneurial outcomes (Kuratko et al., 2005; Spinelli & Adams, 2012; Teng, 2007).

Further, Hitt et al. (2011) describe the role of resource orchestration in augmenting innovation and intrapreneurship, and enhancing the competitive advantage of the organisation. He describes resource orchestration as the actions taken by leaders to effectively manage an organisation's resources including the structuring of the organisation's resource portfolio, the bundling of resources into capabilities, as well as leveraging these capabilities to create stakeholder value (Hitt et al., 2011).

Similarly, the application of the *dynamic capabilities theory* in the context of innovation is evident in the extant literature. To this end, Teece (2007) contends that in a globalised, dynamic and hypercompetitive business environment, the acquisition and ownership of scarce, unique and difficult-to-imitate resources is necessary, but not sufficient to ensure sustained competitive advantage and superior financial performance. He advocates the need for unique and difficult-to-imitate dynamic capabilities which can be leveraged to continuously generate, expand, augment, protect and update the organisation's unique asset base.

Dynamic capabilities are classified into the capacity to "(1) sense and shape opportunities and threats, (2) to seize opportunities, and (3) to maintain competitiveness through enhancing, combining, protecting, and, where necessary, reconfiguring the business enterprise's intangible and tangible assets." (Teece, 2007: 1319). To this end, dynamic capabilities necessarily encompass difficult-to-imitate organisational capabilities to adapt to changing and emerging micro-, macro- and market-environment opportunities. Further, dynamic capabilities augments the organisation's capacity to shape its business ecosystem, and create new products and processes, as well as plan and execute feasible

business models. Therefore, Teece (2007) posits that proficiencies in these “orchestration” capacities underpins an organisation’s ability to innovate, and create adequate value to facilitate superior financial performance in the long-term.

The sensing, or shaping, of new opportunities entails scanning, searching and exploring across markets, the iterative probing of customer needs and technological prospects, and the ability to discern latent demand, market and industrial evolution, and anticipate supplier and competitor responses (Teece, 2007). Further, enterprises must search the core and periphery of their business ecosystems, and include potential innovation activity collaborators, such as customers, suppliers, and complementors (industry peers), with the aim of generating solutions to address customer needs. This requires the capacity to thoroughly analyse the value chain to establish the optimal approach to deliver on customer needs in a cost-effective, timely manner, and resonates with the tenets of the Innovation Balanced Scorecard, from a value chain process perspective.

Moreover, Teece (2007) asserts that the seizing dimension of the dynamic capabilities framework is associated with opportunity exploitation, which is an antecedent for intrapreneurship and innovation, while the reconfiguring dimension necessitates the (re-) allocation and (re-) combination of resources and assets in order to create and sustain competitive advantage (Teece, 2007). Here, the link to organisational culture is apparent in that path-dependent routines, assets and strategies, especially ones based on historical successes, lead to risk-averse mindsets that are constraints to leveraging dynamic capabilities for innovation (Teece, 2007).

Finally, the application of the *theory of planned behavior* in the context of the intrapreneurial employee is underpinned by the prevailing perspective that perceived behavioural control resonates with the notion of perceived self-efficacy, posited by Bandura (1982). To this end, self-efficacy beliefs potentially influences *intrapreneurial behaviour*, as well as the preparation and level of effort expended during performance of an activity (Neessen et al., 2018).

Further, drawing from the theory of planned behaviour, Neessen et al. (2018) classify the determinants of employee intrapreneurship into ‘behaviour’, ‘attitudes’ and ‘characteristics’. As such, Neessen et al. (2018) perceive *attitudes* as the extent to which an individual appraises intrapreneurial behavior as positive or negative; *perceived behavioural control* as an element that also influences intrapreneurial behavior, underpinned by certain individual *characteristics*; and *subjective norms*, the perceived pressure to engage in intrapreneurial behavior, as an antecedent for *behavior*.

Therefore, the implications of the theory of planned behaviour with respect to the intrapreneurial behaviour of employees suggests that human behaviour is *complex* and *contextual*, and employees should have access to adequate information to make rational behavioural choices (Ajzen, 1991; Neessen et al., 2018; Tornikoski & Maalaoui, 2019).

2.11 Chapter Summary

This chapter critically examined the concept of intrapreneurship and its associated constructs, the theories underpinning it, its origins and positioning in the broader corpus of literature, as well as noted ambiguities in definitions and offered new perspectives.

It is apparent that the extant literature on intrapreneurship demonstrates a paucity of data on intrapreneurship orientation in the pharmaceutical industry in South Africa, particularly in the presence of a prevailing pandemic. Herein lies the gap that this research aims to close. This study augments the body of research knowledge on this phenomenon, and adds to the understanding of the theories underpinning intrapreneurship and innovation, by extending the discourse to include intrapreneurship orientation in a developing country context with limited resources and capabilities, in the midst of a global health crisis and an increasingly dynamic business environment.

The next chapter provides an elaboration on the research methodology of this study.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The research methodology provides the detailed procedure that the researcher employed in order to collect, process and analyse the data pertaining to the phenomenon under study. Therefore, the research methodology is underpinned by the research questions that articulated *what* the research is about, and the research objectives that articulated *how* the researcher oriented the research process to operationalise and answer the research questions.

This chapter presents the research paradigm and methodological approach adopted by the researcher towards conceptualising the intrapreneurship orientation of the case study organisation and provides the rationale for its selection. Aspects about the sequential exploratory mixed methods research design, the study population and sample framework of the quantitative and qualitative phases, as well as the methods employed for data collection are elucidated. Descriptive and inferential statistics are presented as the quantitative method of analysis, whereas thematic content analysis is presented as the qualitative method of analysis. Finally, the chapter concludes with a focus on the ethical considerations of the study.

3.2. Research Paradigm

Lincoln et al. (2011) assert that the term “paradigm” alludes to the philosophical assumptions that direct the actions and describe the researcher’s worldview. Introduced by Thomas Kuhn in 1970, this term was initially employed to deliberate the mutually-held perceptions, beliefs, and values of communities of practice concerning the nature of reality and knowledge (Cresswell & Plano Clark, 2011). The term “worldview” is purported to be synonymous with a paradigm and was initially defined as “*a way of thinking about and making sense of the complexities of the real world*” (Patton, 2002: 69).

Essentially, paradigms and worldviews are philosophies that encompass five common elements within the research context. Firstly, *ontology*, which alludes to assumptions concerning the nature of reality. Secondly, *epistemology* which alludes to assumptions concerning the nature of knowledge. Thirdly, *methodology* which alludes to the mutual understanding of the optimal methods for acquiring knowledge concerning the world. Fourthly, *axiology* which alludes to the beliefs concerning the role of ethics and values in research. Lastly, *rhetoric* which alludes to the mutual understanding of the research language (Cresswell & Cresswell, 2018; Lincoln et al., 2011). To this end, paradigms may be perceived

as conceptual and pragmatic “tools” employed to find solutions to particular research problems, depending on the ontological, epistemological, methodological, axiological or rhetorical perspective that it offers (Kaushik & Walsh, 2019).

The two predominant research paradigms or worldviews are the positivist paradigm and interpretivist paradigm. *Positivism* is generally associated with quantitative methods, characterised by logical and meticulously defined steps, objective knowledge claims underpinned by deductive reasoning, and formal rhetoric focused on accuracy, replicability, reliability, and generalisability (Cresswell & Cresswell, 2018; Kaushik & Walsh, 2019). Conversely, *interpretivism* is conventionally associated with qualitative methods, perceives the world as constructed, interpreted and experienced by individuals in their socio-cultural context, and is characterised by subjective knowledge claims underpinned by inductive reasoning, and literary and informal rhetoric (Cresswell & Cresswell, 2018; Cresswell & Plano Clark, 2011, Guba & Lincoln, 1985). Therefore, it is apparent that positivism and interpretivism are located at opposite ends of what may be perceived as a *paradigm continuum*, both they could have elements of robust and pragmatic complementarity. Notably, *pragmatism* is purported to be the paradigm that bridges the divide between these opposing paradigms, purporting to offer the “*best of both worlds*” (Cresswell & Plano Clark, 2011; Kaushik & Walsh, 2019).

3.2.1 The Pragmatist Paradigm

This study is rooted in the philosophical paradigm of *pragmatism*, as the fundamental principles of pragmatism are particularly appropriate to the notion of problem-solving as a human activity (Morgan, 2007). Pragmatism is therefore suited to this research which is aimed at solving an actual problem in an organisational setting, namely the determination of the intrapreneurship orientation of the case study organisation, its enablers and impediments, and the recommendation of effective interventions to augment the determined intrapreneurship orientation.

The term “pragmatism” has its origins in the Greek word “*pragma*”, meaning action. Hence, action represents the pivotal notion of this philosophical movement. To this end, pragmatist philosophy expounds that actions are inseparable from previous experiences and their associated beliefs. Hence, thoughts are intrinsically connected to action. Therefore, actions are taken based on their possible consequences, and outcomes of actions are used to predict the consequences of similar future actions (Kaushik & Walsh, 2019). Morgan (2007) asserts that this is consistent with the philosophical underpinnings of Dewey, who re-orientated philosophy away from the abstract and towards an emphasis on human experience that was contextual, emotional, and social. Dewey’s philosophy holds that

experiences generate meanings by linking beliefs and actions, and necessarily involve a process of continual interpretation since beliefs must be interpreted to produce action, and actions must be interpreted to produce beliefs (Morgan, 2007; 2014a). Further, Dewey's process-based approach to knowledge posits inquiry as a self-conscious decision-making process in the context of a problematic situation, underpinned by the notion that both beliefs and actions are socially constructed, and socially embedded, and that actions, as outcomes of inquiry, form the basis for beliefs (Morgan, 2007).

The pragmatist research paradigm acknowledges the existence of singular or plural realities which are amenable to empirical inquiry, and orientates itself towards solving real-world practical problems (Cresswell & Plano Clark, 2011; Tashakkori & Teddlie, 2010). Although pragmatist scholars acknowledge the existence of an objective reality separate from human experience, they contend that this reality is environmentally situated and can only be engaged through human experience (Morgan, 2014a). Therefore, a significant foundation of pragmatist philosophy is that knowledge and reality are predicated on socially constructed beliefs and customs (Morgan, 2014a).

Moreover, the pragmatist paradigm denounces the conventional philosophical dualism of the ontological constructs of objectivity and subjectivity, enabling the researcher to forsake the contrived dichotomies embodied in the epistemological constructs of positivism and interpretivism (Kaushik & Walsh, 2019). Further, in this approach, empirical is privileged over idealistic, and instead of relegating positivism and interpretivism to two distinct ontological and epistemological schools of thought, pragmatism requires that the researcher focus on both diverse approaches to inquiry, underpinned by the rationale that "meaning is inseparable from human experience" and is contingent upon context (Morgan, 2014b).

To this end, pragmatism advocates that researchers employ the philosophical and/or methodological method that best serves their needs with respect to the investigation of a specific research problem, thus embracing the plurality of methods. Hence, pragmatism is frequently associated with *mixed methods research* where the emphasis is on the research outcomes and answering the research questions, as opposed to the methods *per se* (Cresswell & Plano Clark, 2011; Johnson & Onweugbuzie, 2004; Tashakkori & Teddlie, 2010).

Further, in embracing the plurality of research methods, pragmatism presents a more flexible and reflexive approach to research design. Indeed, the adoption of a pragmatic stance enables the pragmatic

researcher to choose the research design and methodology that are best suited to answer the research question. Moreover, pragmatism facilitates abductive reasoning that coalesces deduction and induction, enabling the researcher to generate both data and theories (Goldkuhl, 2012; Morgan, 2007).

3.2.2 Justification for selection of pragmatist paradigm

Neuman (2003) contends that there is no solitary, absolutely exact methodology to research in social science. Instead, the methodologies represent different worldviews in which the researcher observes, measures, and understands social reality. Further, Merriman (1998) avers that prior to commencing a research project, the researcher must examine their own orientation to basic tenets concerning the nature of reality, the purpose of conducting research, and the type of knowledge anticipated to be generated. In essence, the selection of research methodologies is underpinned by *fitness for purpose*.

To this end, the researcher's rationale for selecting the pragmatist paradigm to frame this study was that this philosophy resonated with the researcher's worldview and was commensurate with the insights acquired by the researcher as a result of socio-cultural experiences, as well as the researcher's personal belief system. To this end, pragmatism presented an experience-based, action-oriented framework aimed at assisting the researcher in understanding how the research participants *experience* and *know* the world from a practical perspective (Hothersall, 2019).

Further, the researcher's affinity for pragmatism was underpinned by the pragmatist focus on the human capacity to learn, deduce, and formulate decisions in specific contexts; to engage with these contexts; and to shape these contexts in diverse ways. These dynamic and iterative processes held particular interest for business research, and enabled the creation of socially useful knowledge (Kaushik & Walsh, 2019; Koenig et al., 2019).

Moreover, a pragmatist approach is aligned with the objective of developing effective interventions since it permits the collation of evidence from diverse sources, as well as its critical appraisal to establish its relevance to the practice setting. In addition, the conceptions of pragmatism may be used as orientating perspectives for critical thinking and purposeful decision-making in real-life scenarios (Goldkuhl, 2012; Kaushik & Walsh, 2019).

3.3 Research Approach

The research strategy for this study was selected cognisant of the research questions and objectives, the cohesiveness with which these relate to the research philosophy, research approach and purpose, as well as pragmatic issues pertaining to existing knowledge, access to participants as well as other data.

3.3.1 Mixed methods research approach

This study employed a mixed methods research approach. Cresswell and Cresswell (2018: 4) define mixed methods research as *“an approach to inquiry involving collecting both quantitative and qualitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks.”*

Originating in the late 1980s and early 1990s, the mixed methods research approach has undergone several iterations of development and growth. Further, the field continues to evolve with respect to emergent procedures (Cresswell & Cresswell, 2018; Cresswell & Plano Clark, 2011; Teddlie & Tashakkori, 2009). Proponents of mixed methods research have been associated with researchers who identify with the pragmatic paradigm, such as Greene and Caracelli (1997), Cresswell (2003), Tashakkori and Teddlie (2003), Johnson and Onwuegbuzie (2004), and Mertens (2005). These proponents and scholars of mixed method research assert that a combination of methods assists researchers in acquiring a more coherent understanding of the nature of social reality. Moreover, mixed methods researchers contend that the pragmatic nature of mixed methods assists in achieving multiple objectives, including, explanation, confirmation, and triangulation in explicating complex social constructs (Tashakkori & Teddlie, 2010; Haq, 2014).

Cresswell et al. (2011) describe the attributes of mixed method research as being focused on research questions that necessitate real-life contextual understandings and multi-level viewpoints. This is also galvanised by cultural stimuli, and employing a rigorous quantitative study to evaluate the magnitude and frequency of constructs. It is further characterised by rigorous qualitative study to explore the meaning and interpretation of constructs; utilising multiple methods; purposefully integrating these methods to exploit the strengths of each method; as well as positioning the research within philosophical and theoretical paradigms.

Therefore, mixed methods research may be construed as philosophically grounded inquiry in which a deliberate mixture of both qualitative and quantitative approaches is utilised within a research study.

This mixture, or the integration of these two approaches, can occur in the philosophical or theoretical framework(s), data collection and analysis methods, overall research design, and/or discussion of research conclusions. Hence, the purpose of mixed methods research is to provide a more coherent and comprehensive understanding of a phenomenon that would be inaccessible with the use of a single approach (Shannon-Baker, 2015; Cresswell & Plano Clark, 2011).

Undoubtedly, a study's purpose or research question should determine the method to use. To this end, the role of qualitative methods is to develop new theory, expand conceptual frameworks, and enhance understanding of social realities, whereas the role of quantitative methods is to test and generalize theory (Cresswell & Cresswell, 2018). Therefore, the quantitative-qualitative linkage through a mixed method design demonstrates the interactivity and interdependence of these components of reflective inquiry; with qualitative data providing deeper exploration and explanations of quantitative results, and enhancing the understanding of contextual factors. Hence, mixed method designs use the strengths of both types of designs and enhance the robustness of the findings (Cresswell & Cresswell, 2018; Toshakkori & Teddlie, 2010). To this end, Greene and Caracelli (1997: 7) assert that “[t]he underlying rationale for mixed-method inquiry is to understand more fully, to generate deeper and broader insights, [and] to develop important knowledge claims that respect a wider range of interest and perspectives”.

3.3.2 Justification for selection of mixed methods approach

The pragmatic approach implicitly appeals for the selection of a research method that will “work best” to meet the practical requirements of a specific inquiry, and thereby assist in answering the research questions. Therefore, the justification for the use of mixed-methods in this business research project is predicated on the pragmatic paradigm which holds that social realities are best understood by employing both quantitative and qualitative data collection and analysis methods (Haq, 2014).

Cognisant that research questions drive the selection of research methods, and in order to substantiate the selection of the pragmatist research paradigm and the mixed methods research approach, the research questions for this study are reiterated as follows:

1. What is the nature and extent of the case study organisation management's intrapreneurship orientation?
2. What are the strengths and weaknesses that influence the case study organisation's intrapreneurship orientation?

3. What is the relationship between the case study organisation's intrapreneurship orientation and organisational culture?
4. What strategies can be employed to augment the case study organisation's intrapreneurship orientation?

Since this research project is concerned with the evaluation of the *extent* of intrapreneurship orientation within the organisation (research question 1), as well as identification of the strengths and weaknesses (research question 2), or stated otherwise, the *factors* or *variables* that influence the outcome of intrapreneurship orientation, a quantitative approach is deemed most appropriate to answer these particular research questions. It is also considered the best approach to utilise for the testing of a theory.

Further, since this research project is concerned with the evaluation of the *nature* of intrapreneurship orientation within the organisation (research question 1), the investigation of the relationship between intrapreneurship orientation and the organisational culture (research question 3), as well as the exploration of strategies to augment the intrapreneurship orientation of the case study organisation's managers (research question 4), a qualitative approach is deemed most appropriate as it is amenable to research questions where a concept needs to be explored and understood. Hence, the rationale for a mixed methods design is predicated on its usefulness when either the quantitative or qualitative approach alone, is not adequate to optimally understand the phenomenon being researched.

Further, at a procedural level, a mixed methods research design is characterised by its *tractability*. To this end, it allows the researcher to collect both quantitative (closed-ended) and qualitative (open-ended) data in response to the research questions, and to both generalize the results to the study population (quantitative approach). Further, it enables the researcher to acquire a comprehensive perspective of the meaning ascribed to the phenomenon being researched by the research participants (qualitative approach), thereby facilitating a more comprehensive understanding of the research problem and questions (Cresswell & Cresswell, 2018).

Moreover, at a broader level, the value of the mixed methods approach is underpinned by its ability to draw on both quantitative and qualitative research approaches. This exercise mitigates the constraints of these individual approaches, whereas at a pragmatic level, it offers a refined and nuanced approach to research that interests researchers who want to challenge the frontiers of inquiry and learning (Cresswell & Cresswell, 2018).

Finally, the researcher's personal experience, background and training has influenced the selection of the mixed-methods approach. The rationale for this selection was also underpinned by the notion that the mixed methods approach allowed the researcher to exercise meticulous control over the quantitative procedures, using a positivist paradigm to test theories, which was familiar since the researcher hailed from a health science background. On the other hand, the qualitative approach, using an interpretivist paradigm to generate theories, created the space for the researcher to view the world of the participants through an interpretive lens, as well as to adopt a more creative, literary-style of writing, which further appealed to the researcher.

3.3.3 Mixed Methods Typology

Several mixed method theorists have developed mixed method typologies to collect and analyse data (Cresswell & Plano Clark, 2007; Greene & Caracelli, 1997; Mertens, 2005; Tashakkori & Teddlie, 2010). Cognisant of the attributes of each type of mixed method design, an explanatory sequential mixed methods approach was selected for this study.

3.3.2.1 Explanatory Sequential Mixed Methods Design

Plano Clark (2011) describes an explanatory sequential design as an approach that first collects quantitative data, followed by qualitative data collection to provide an explanation or elaboration on the quantitative results. In this design, the quantitative data and results provide an overall perspective of the research problem, that is subsequently refined, expanded and explained by the qualitative data collection and analysis (Subedi, 2016).

As depicted in Figure 3.1 below, in the first phase of the explanatory sequential mixed method design, the researcher collects quantitative data and analyses the results. These results are then used to build on the second phase of data collection, namely the qualitative phase, where data is elicited from participants to help explain the findings from the first phase (Cresswell & Cresswell, 2018; Subedi, 2016).

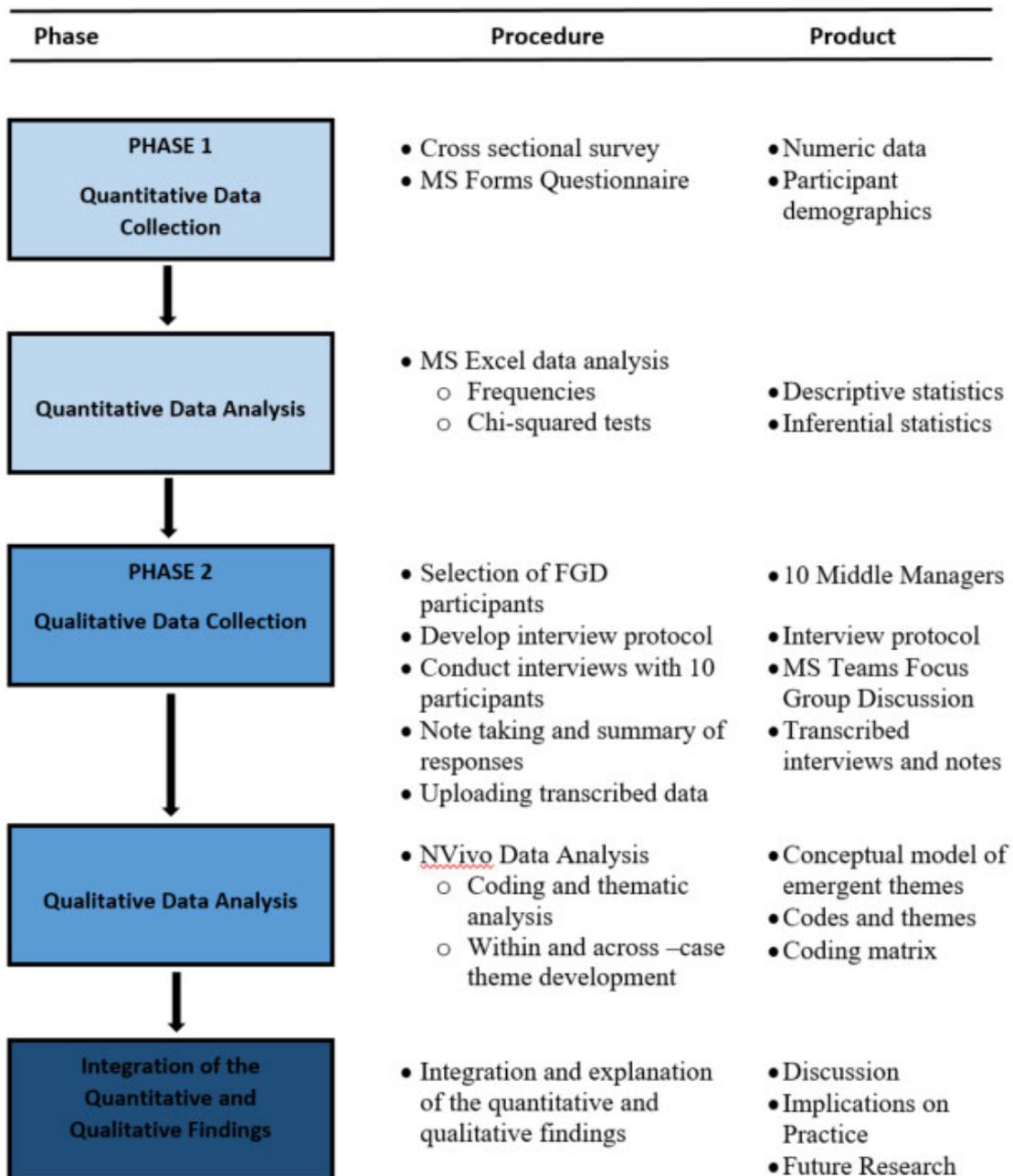


Figure 3.1 Explanatory Sequential Mixed Method Design Procedures (Adapted from Subedi, 2016: 574)

The quantitative research phase is typically perceived as a method to collect and analyse “numerical” data to test hypotheses and establish cause and effect relationships between variables, by employing statistical methods to assess the strength and significance of their association. Therefore, the quantitative methodology enables descripto-explanatory research. Conversely, the qualitative research phase enables exploratory and explanatory research into the perceptions of participants with respect to the phenomenon being researched (Cameron, 2009; Cresswell & Cresswell, 2018; Saunders et al., 2019).

3.3.2.2 Justification for explanatory sequential design selection

The explanatory sequential mixed methods design is attractive to researchers with a strong quantitative background, or from disciplines, such as healthcare, that are relatively new to qualitative approaches, such as the researcher, and encompasses bi-phasic data collection, but where the study commences and is arguably driven by the quantitative phase (Cameron, 2009; Cresswell & Cresswell, 2018; Subedi, 2016).

The selected approach requires considerable time and effort on the part of the researcher, who is a full time employee of the case study organisation, with competing work-life commitments. However, since analysis proceeds independently for each phase, the explanatory sequential mixed method is useful for postgraduate student research and simpler to undertake relative to its counterpart, the convergent mixed methods design, as the data from one phase explains the other. Moreover, the data collection can be spaced out over time.

In this context, the researcher remained committed to the project, despite the challenges with respect to timelines and resources for the data collection and analysis, and adopted the pragmatist philosophical worldview, viewing the researcher problem through the lens of “what works”.

3.4 Phase 1: Quantitative Research Approach

3.4.1 Survey design

The quantitative research approach employed to answer the research questions was the *cross-sectional survey* design. A survey design offers a quantitative description of the attitudes and perceptions of a population, and facilitates tests for association among variables within a population, by examining a sample of that population, at a specific point in time. To this end, survey designs aid in responding to descriptive questions, questions pertaining to relationships between variables, as well as questions relating to predictive variables over time, as in the case of longitudinal studies (Cresswell & Cresswell, 2018).

Further, a survey design assists the researcher in making inferences with respect to relationships among variables, and the generalizability of the results to a broader given population. Finally, a survey research strategy is typically associated with the deductive research approach, and therefore frequently utilised for the purposes of descriptive and explanatory research, as envisaged in this sequential explanatory mixed methods study design (Cresswell & Cresswell, 2018).

The research instrument for the survey is a *questionnaire* due to its ease of application, cost-effectiveness, convenience and acceptability by respondents. However, the caveat is that survey research strategies employing questionnaires typically have low response rates, are devoid of interviewer intervention for purposes of establishing clarity as is the case of self-administered questionnaires, and from a pragmatic perspective, cannot be too lengthy or complex, as this will deter respondents, and result in incomplete responses. Undoubtedly, the questionnaire design will influence the response rate, as well as the reliability and validity of the collected data (Cresswell & Cresswell, 2018).

These caveats were addressed by careful design of the individual questions, the design of a clear and aesthetically appealing questionnaire layout, clear explication of the objective of the questionnaire, pilot testing, and a meticulously planned and executed delivery and return process for completed questionnaires.

3.4.2 COVID-19 Considerations

Due to the restrictions on social interaction to curb the spread of COVID-19, and aversion to paper-based data collection instruments because of their potential for transmission of COVID-19, data was collected through a research instrument in the form of an *internet-based questionnaire* using the *Microsoft Forms* software. *Microsoft Forms* is an online survey, quiz and poll creator, with the functionality to collect survey responses in real time and view automatic charts that enable data visualisation and analysis.

The use of online survey software has proven helpful in accelerating as well as enhancing the survey research process, enabling the efficient creation and dissemination of customized surveys, and the facilitation of data collection into structured Microsoft Excel spreadsheets for data analysis. This is especially valuable in reducing data entry errors as well as accelerating the hypothesis or theory testing (Cresswell & Cresswell, 2018; Sekaran & Bougie, 2016).

The online survey questionnaire, presented in Appendix 3, was generated by the researcher to embody the thirteen constructs identified by Cullen et al. (2018), as well as constructs identified from the extant literature, into a set of questions. The link to the online questionnaire was e-mailed to the potential

respondents, accompanied by the Informed Consent Form, outlining, *inter alia*, the nature, purpose, and objectives of the study, voluntary participation, as well as the assurance of respondent anonymity.

Upon consenting to participate in the study, the respondents were required to provide demographic data and choose responses to questions from a list incorporating a 5-point Likert-scale. The Likert scale, named after its originator, Rensis Likert, is one of the most extensively utilised itemised scales due to the advantages that it confers, such as ease of construction and administration of the scale by the researcher, as well as ease of understanding of the scale by respondents (Sekaran & Bougie, 2016). Further, the Likert scale is amenable to mail, telephonic, personal, as well as electronic surveys.

The main disadvantage of this scale, is that it takes relatively longer to complete than other itemized rating scales, since respondents are required to carefully read the entire statement instead of a short phrase (Malhotra & Peterson, 2006). Further, the 5-point Likert scale data may be distorted by respondent biases. To this end, respondents may present with a *central tendency bias* which alludes to the notion that certain respondents may avoid selecting the most extreme options on the survey. This is usually attributed to respondents not having a clear definition of the extreme options with respect to a specific question. Conversely, some respondents may present with *extreme response bias*, selecting the most extreme options in an attempt to endorse their views, while other respondents may present with *acquiescence bias*, which refers to a respondent's tendency to go along with a statement in an effort to not offend or create contention (Malhotra & Peterson, 2006). Therefore, it was important to clearly articulate the purpose of the survey to the respondents in order to reduce the likelihood of respondent bias. To this end, the purpose of the survey was clearly explained in the Informed Consent letter that was accessible through the online survey link.

3.4.3 Study site

The study site was a pharmaceutical manufacturing company located in Durban, KwaZulu-Natal. All required COVID-19 protocols were adhered to during conduct of the research at the study site. The survey questionnaire was administered online.

3.4.4 Target Population

The study population for this research were the 55 managerial employees at the case study organisation, as explicated in the sampling frame in Table 3.1.

Table 3.1: Sampling Frame for Managerial Employees

Managerial Level	Number of Incumbents
Executive	8
Middle Managers	32
Section Heads/Supervisors	15

3.4.4 Sampling Method

The researcher had access to the names of the managerial employees at each level, and was therefore able to sample the participants directly, using a *single stage sampling procedure*.

The process of sampling necessarily involved the selection of a sufficient number of participants from the target population to ensure the generalisability of analysed results to the population. Of the two types of available sampling methods, probability sampling involves a technique where samples are selected in a manner such that all elements of the target population have a known, non-zero prospect of selection; whereas non-probability sampling alludes to a technique wherein each element of the target population has an unknown prospect of being selected.

It was initially envisaged that the study would employ simple random probability sampling as it was anticipated that simple random sampling would assist in ensuring adherence to the research schedule, whilst still capturing data from a significant proportion of managerial employees. However, the caveats discussed below necessitated a re-consideration of this sampling technique.

3.4.5 Sample size

Predicated on the initial envisaged *simple random probability sampling* technique, the target sample size was established based on a 95% confidence level and 5 % margin of error, using the following equation (Kothari, 2004):

$$S = \frac{X^2 N \cdot P(1 - P)}{e^2(N - 1) + X^2 P(1 - P)}$$

Where:

S – Sample size required

X – Confidence level (CL), or Z value = 1.96 for 95% CL

N – Population size

P – Population proportion, assumed at 0.5

e – Margin of error, assumed at 5%

Employing this calculation, from the sampling frame of 55 managers, the minimum sample required was determined to be thirty-four (34) managers. However, in order to accommodate the lack of participation resulting in poor response rates, as demonstrated in previous studies, as well as the time constraints of the research project, *all* managerial employees were e-mailed, requesting their participation in the study. Therefore the sampling technique subsequently adopted was that of *convenience sampling*.

Convenience sampling is a form of non-probability sampling, involving the use of respondents, based on their availability, who are deemed to be “convenient” to the researcher. In this case, convenience sampling involved the selection of *all* managerial employees as part of the sample population, to solicit their insights, experience, and opinions in an attempt to increase the credibility of the evidence base. Despite the potential major disadvantage of convenience sampling being its inability to draw statistically significant conclusions from the findings that are obtained, convenience sampling offers value in obtaining a range of attitudes and opinions as well as aids in the identification of tentative hypothesis that can be tested more rigorously in future research.

3.4.6 Quantitative Data Collection

Upon completion of the pilot study, outlined in section 3.4.7.1 below, the refined online *Microsoft Forms* questionnaire was sent via an e-mailed link to potential respondents. Further, the Informed Consent Form has been incorporated into the content of the e-mailed document, as well as explicitly presented in the cover page to the Microsoft Forms online questionnaire, as evident in Appendix 3.

Data collection occurred during the period, from 05 October 2021 to 15 October 2021. The researcher utilised e-mail and telephonic reminders to increase the response rate for the electronic survey. At the end of the data collection period, a total of forty-six (46) respondents completed the survey, resulting in a response rate of 83.64 %.

3.4.7 Data Quality Control

3.4.7.1 Pilot Study

The term ‘pilot study’ is a reference to a mini-version of the full-scale study, and is sometimes also referred to as a ‘feasibility study’ (van Teijlingen & Hundley, 2002). An advantage of conducting a pilot study is that it may provide critical insights and an advanced warning of potential problems with the research instrument that could compromise the attainment of the research objectives (Sekaran & Bougie, 2016).

However, problems associated with pilot studies include the possibility of making inaccurate assumptions or predictions based on pilot data, as well as the issue of contamination. Therefore, the caveat to the use of pilot studies is that although pilot studies may offer an indication of the likely response rate in the main survey, they lack a statistical foundation. This is because they are often based on small numbers, and therefore, cannot guarantee success of the full-scale survey.

The pilot study was performed before the main study to pre-test and refine the questionnaire, and provided valuable insights with respect to the appropriateness of the research instrument. To this end, the following pilot study procedures stipulated by Peat et al. (2002:123) were undertaken to improve the *internal validity* of the questionnaire:

1. The researcher ensured that the pilot study questionnaire was administered to pilot study respondents in exactly the same manner of administration as the main study.
2. The researcher requested feedback from the pilot study respondents to assist in the identification of ambiguities and difficult questions. The researcher edited or re-worded difficult or ambiguous questions, as appropriate.

Notably, in this research project, the performance of the pilot study resulted in the researcher re-phrasing and re-wording certain text in the questionnaire to render it more understandable, such as the replacement of the word “solicit” with “*seeks or requests*”.

3. The researcher recorded the time for questionnaire completion and determined that this was reasonable, and would not result in respondent fatigue.
4. The researcher assessed the adequacy of the range of responses for each question, and deemed these appropriate.
5. The researcher established whether responses could be interpreted with respect to the information required and noted these to be satisfactory.
6. The researcher ensured that all questions were answerable. However, the researcher did not categorise any questions as “mandatory”, as these would contravene the respondent’s right to withdraw from participation or to not answer a question that they were not comfortable with.
7. The researcher used the pilot study to refine and revise the online questionnaire prior to dissemination.
8. The researcher prevented data contamination by ensuring that the questionnaire was piloted by respondents that were not part of the study sampling frame, and for whom the research instrument was novel.

In summary, the pilot study of the questionnaire developed for this study provided insight into the appropriateness of the wording by facilitating the identification of problems pertaining to the clarity of the questions asked, as well as the range of questions, and aided in the identification of practical problems with adhering to the research procedure, including aspects pertaining to the electronic distribution of the questionnaire and user-friendliness of the *Microsoft Forms* software. The researcher utilised these insights to refine the questionnaire prior to conducting the research.

3.4.7.2 Reliability and Validity

Research rigour, as determined by the reliability and validity of the research, refers to the extent to which the research phenomenon has been truly measured and the reproducibility of the study (Haq, 2014).

3.4.7.2.1 Validity

The questionnaire was designed to ensure *content validity*, *internal validity*, and *construct validity*, as elucidated by Cresswell and Cresswell (2018). In assessing each of these forms of validity, the researcher reviewed the following aspects during the pilot study in order to establish the effectiveness of the survey instrument:

1. *Content validity*: The researcher assessed whether the items on the questionnaire measured the content that they were intended to measure. The content validity was assured through referencing the 13 constructs identified by Cullen et al. (2018), as well as the constructs identified in the extant literature, and correlating these to the research questions.
2. *Internal validity*: The researcher assessed the inferences regarding cause-effect or causal relationships and assessed the extent to which cause and effect relationships were supported by evidence within the context of the study, in order to rule out systematic error or bias.
3. *Construct validity*: The researcher assessed the ability of the items on the questionnaire to measure the concepts or constructs being researched. As alluded to previously, the questionnaire was predicated on the 13 constructs identified by Cullen et al. (2018) and therefore the construct validity was deemed acceptable. Notably, construct validity encompasses all types of validities, including design-related validity, measurement-related validity, as well as statistical-inference validity (Cresswell & Cresswell, 2018; Haq, 2014).

3.4.7.2.2 Reliability

Reliability alludes to the consistency or repeatability of an instrument. Internal consistency, the degree to which sets of items on an instrument behave in the same way, is the most critical form of reliability for multi-item instruments. The researcher ensured that the questionnaire scale items assessed the same underlying constructs with suitable inter-correlations.

The Cronbach's alpha, a measure of internal item consistency, was employed to test the reliability of each construct. The value of Cronbach's alpha extends between zero (0) and one (1). The optimal Cronbach's alpha value is located between 0.7 and 0.9. Cronbach's alpha results that are above 0.9 may indicate redundancies in questions or constructs (Tavakol & Dennick, 2011).

3.4.8 Data Analysis

Descriptive statistical techniques were employed to present and describe the quantitative data, including frequencies that were used to profile respondents and present the findings, for example, bar graphs, pie charts, and histograms.

Further, inferential statistical techniques were employed for the quantitative data analysis. Inferential analysis refers to a deductive analysis of data and is primarily concerned with the accuracy as well as consistency of the results of the analysed data (Cresswell & Cresswell, 2018).

Since the Likert-scale data was considered to be ordinal, non-parametric tests were employed to perform the inferential statistical analysis. Therefore, the chi-squared test for independence was selected to determine the probability that two categorical data variables are independent. To this end, the respondents' actual responses to statements were compared with expected responses, using cross-tabulation, to evaluate whether a given hypothesis is statistically significant (Hall, 2018). The level of variance provides an indication of the extent to which the results fit the given hypothesis. To this end, the higher the level of variance between the actual and expected responses, the higher will be the corresponding chi-squared statistic (Hall, 2018).

Microsoft Excel was employed to perform the Cronbach's alpha test, descriptive statistics, such as frequencies, and the chi-squared test. The detailed analysis of the quantitative data is presented in Chapter 4.

3.5 Phase 2: Qualitative Research Approach

3.5.1 Focus Group Discussion Interview Strategy

The qualitative research phase commenced following the preliminary analysis of the data collected in the quantitative research phase. In the qualitative research design phase, an *interview research strategy*. This strategy is typically associated with the inductive research approach, and facilitates the exploration of a research phenomenon within the context of real life (Cresswell & Cresswell, 2018). Therefore, the selected research strategy was amenable for business research, such as contemplated in this study, as it enabled research to be conducted in the organisational setting, thereby enhancing its relevance and applicability. Further, in this qualitative research design, the researcher serves as the key instrument and is required to collect data through interviewing and observing participants using open-ended questions to allow participants to freely share their thoughts and feelings, without the constraints of pre-determined scales or instruments (Breen, 2016; Cresswell & Cresswell, 2018).

The specific method of data collection for the interview strategy was a *focus group discussion* which utilised a semi-structured interview protocol to collect data. The researcher served as the moderator of the discussion, and also an integral part of the research instrument, and recorded the data emerging from

the focus group discussion through the utilisation of an audio-recording facility, as well as an observation protocol for recording observations, descriptive and reflexive notes, and demographic information, as appropriate.

3.5.2 COVID-19 Considerations

Due to the restrictions on social interaction and travel imposed by the COVID-19 pandemic, the researcher convened a *virtual* focus group discussion using *Microsoft Teams* and led a semi-structured interview of the participants, using the questions in the interview schedule, as presented in Appendix 5.

The online focus group discussion methodology developed by Menary et al. (2021) was utilised as it was deemed suitable for use in the context of COVID-19 transmission prevention protocols. This methodology and protocol used *Microsoft Teams* as a hosting platform with audio and video recording facilities, as well as synchronous interactive discussion tools, such as the chat function, polls, and electronic whiteboard. However, the researcher did not utilise the video facility in order to preserve the anonymity of the participants.

3.5.3 Sampling method

The qualitative dimension of this study utilised a non-probability sampling method, incorporating *purposive sampling*. This mode of sampling necessitated the exercise of researcher discernment with respect to the selection of participants that would be most appropriate for responding to the research questions, and attain the research objectives.

3.5.4 Sample size

A total of ten (10) focus group discussion participants were purposively selected from the sampling frame, as they were considered knowledge experts with respect to the phenomenon of interest. Further, these selected participants were all middle managers who, by virtue of their positioning at the interface of senior management characterised by their strategic orientation, and junior management characterised by their operational orientation, were deemed as imperative for driving intrapreneurship within the case study organisation.

The selected participants were subsequently invited, via an MS Forms link, to participate in the focus group discussion. The informed consent letter was embedded in the invitation for the focus group discussion.

The demographic profile for the selected participants is presented in Table 3.2 below.

Table 3.2 Demographic Profile of Focus Group Discussion Participants

Pseudonym	Age Group	Gender	Educational Qualification	Experience in organisation (Years)
Participant 1	41-50	Female	Masters Degree	2 years
Participant 2	41-50	Male	Honours Degree	9 years
Participant 3	41-50	Male	Bachelors Degree	13 years
Participant 4	41-50	Female	Doctoral Degree	13 years
Participant 5	41-50	Female	Bachelors Degree	5 years
Participant 6	41-50	Female	Masters Degree	3 years
Participant 7	41-50	Female	Doctoral Degree	9 years
Participant 8	41-50	Male	Bachelors Degree	4 years
Participant 9	41-50	Male	Masters Degree	13 years
Participant 10	41-50	Male	Masters Degree	16 years

3.5.5 Qualitative Data Collection

The online focus group discussion was conducted on 19 October 2021, using Microsoft Teams. The focus group discussion was moderated by the researcher who subsequently prepared the transcript from the audio-recording and *Microsoft Teams* recording for the purposes of coding and thematic analysis.

The *Microsoft Teams* host platform satisfied the following criteria that rendered it suitable for the virtual focus group discussion:

1. Meetings could be audio and video recorded. In this study, audio recordings were conducted.
2. *Microsoft Teams* saved recorded meetings to a secure, encrypted platform called *Microsoft Stream*. This ensured data integrity and security.

3. The platform considered the researcher and participant experience with the software. The researcher was experienced with this platform and this was the standard virtual platform used to conduct meetings, training and workshops at the case study organisation. Therefore, the participants were also experienced with this software.
4. The software or host platform was deemed intuitive to use. In this study, links to access the focus group meeting were circulated to selected participants (purposive sampling) prior to the focus group meeting, as well as provided via *Microsoft Outlook* calendar invitations, along with instructions for joining. Since the functionality was largely intuitive, it was anticipated that participants will encounter minimal challenges. However, an IT technician was on stand-by to assist in the event that participants encountered any technical problems. The participants did not experience technical problems.
5. Screen-sharing functionality could be used to provide visual illustrations and to post discussion points on a virtual whiteboard. The researcher utilised the screen-sharing functionality to optimise the discussion and engagement.
6. *Microsoft Teams* was a widely available platform with good stability and security standards, and was the standard software utilised by the case study organisation.
7. *Microsoft Teams*' chat function, as well as virtual hand gestures, permitted links, messages and non-verbal cues to be shared without interrupting the flow of the discussion. This ensured that the discussion was engaging and interactive.

Further to the considerations cited above, a *back-up audio recorder* was used in the event of technical issues arising that could interrupt the audio recording on *Microsoft Teams*. Moreover, the researcher utilised the *Online Focus Group Check List* developed by Menary et al (2021) before, during, and after the focus group discussion, to ensure that the focus group discussion was efficient and effective and satisfied the researcher's objectives for the qualitative research.

3.5.6 Qualitative data analysis

Qualitative research usually involves inductive analysis of a social reality with a descriptive and exploratory orientation (Haq, 2014). To this end, qualitative researchers view the world of social reality from the perspective of the research participants. Hence, the overarching objective of qualitative research is to generate theory and define new variables utilising rich and deep insights acquired from participants' perspectives.

In the qualitative research phase of this study, thematic analysis of the emergent codes and themes, was conducted to address the research questions. Thematic analysis is a fundamental qualitative data analysis method involving the scrutiny of texts and words for the extraction of recurring themes. Ultimately, the purpose of performing a thematic analysis is to arrange the data into a rational and relevant ensemble of themes. To this end, themes may be construed as “umbrella” constructs that may be identified by the researcher at any time prior to and during the data collection (Welman et al., 2005: 211).

The NVivo software (version 12) was used to code the transcribed data, and develop themes, as well as sub-themes. Further, frequency tests were used to analyse and rank emerging themes from the qualitative data (Saunders et al., 2019) and the researcher generated an interpretive narrative around these themes (Cresswell & Cresswell, 2018).

3.6 Qualitative Data Validation

3.6.1 Validity

Qualitative validity refers to the determination of the accuracy of research findings. The extant literature also characterises validity with terms such as trustworthiness, authenticity and credibility (Cresswell & Cresswell, 2018).

There are five types of validities that are applicable in qualitative research. These include *descriptive validity* which alludes to the factual accuracy of the study. The *interpretive validity*, which refers to the accuracy of the interpretation of the participant’s perspectives is also considered, along with *theoretical validity*, which alludes to the congruence of the data with theoretical explanations. Further, the *evaluative validity* which determines whether an evaluative framework is applicable to the participants; and *generalisability* which refers to whether the research results can be generalised to other contexts is considered in qualitative research (Onwuegbuzie & Johnson, 2006; Haq; 2014).

Multiple validity procedures are recommended to augment the researcher’s ability to evaluate and provide assurance of the accuracy of findings (Cresswell & Cresswell, 2018). To this end, the following validity procedures were used in this study:

1. *Triangulation*: The researcher utilised methodological triangulation by examining the data from the quantitative and qualitative phases of the research and using this data to develop a coherent

justification for the themes, with the convergence of themes enhancing the study's theoretical validity.

2. *Member checking*: The researcher utilised member checking to establish the accuracy of the transcription of the focus group participant's perspectives, as well as the accuracy of the identified themes, thereby enhancing the study descriptive and interpretive validity.
3. *Rich, thick descriptions*: The researcher provided detailed descriptions of the context and offered multiple perspectives on emerging themes, thereby rendering the results as more realistic and richer, thereby augmenting the study's evaluative validity.
4. *Articulation of researcher's role and reflexivity to clarify researcher bias*: Qualitative research is interpretive, and therefore inherently subjective as the researcher is typically engaged in a sustained and intensive experience with research participants. Arguably, this results in the introduction of a range of strategic, ethical and personal issues that need to be adequately addressed. Indeed, the researcher's role and reflexivity during the qualitative phase of the research project held the potential for shaping their interpretations, such as the themes that were advanced, as well as the meanings that were ascribed to data, which could ultimately influence the direction of the study. To this end, the researcher explicitly identified the biases, values, and personal background that shaped the interpretations, and ensured the validity and reliability of the research findings.

3.6.2 Reliability

Qualitative reliability refers to the determination of whether researchers' approaches are reliable or consistent (Cresswell & Cresswell, 2018). Haq (2014) asserts that the pre-requisites to minimise research bias and ensure reliability and rigour include a systematic and conscientious research design; accurate data collection; meticulous data analysis; effective communication with research participants; detailed and meticulous documentation of the research process, as well as the data.

To ensure qualitative reliability, the researcher selected a systematic and purposeful research design, maintained a detailed record of the research procedures, checked the transcripts of the recordings to ensure that it was accurate and free from mistakes, and ensured the consistency of data coding through the creation and use of a qualitative codebook.

3.7 Mixed Methods Data Integration and Triangulation

Triangulation refers to the utilisation of dual or multiple approaches to the investigation of a research question. The objective is to enhance the confidence in the ensuing results, which may be constrained

by the use of a single research method (Carter et al., 2014). Four types of triangulation have been characterised, namely *data source triangulation*, which encompasses the collection of data through several sampling strategies, from different types of participants, in order to gain multiple perspectives and validation of data; *investigator triangulation*, which encompasses the use of multiple field researchers to collect and interpret data, as well as provide conclusions; *theoretical triangulation*, which encompasses the utilisation of multiple theoretical positions in data analysis, and interpretation; and *methodological triangulation*, which encompasses the utilisation of multiple methods for data collection (Carter et al., 2014).

Methodological triangulation is further categorised into *within-method* triangulation, which involves the use of variations of the same method, and *between-method* triangulation, which involves the utilisation of contrasting research methods, such as a questionnaire and focus group discussion. A between-method triangulation approach alludes to the combined use of quantitative and qualitative research to establish the extent to which these approaches arrive at convergent findings, and to deliver a more comprehensive set of findings than could be attained through the administration of a single method.

The explanatory sequential mixed method designs offers the process of triangulation since data are collected from different sources regarding the same phenomenon, or at different points from the same source. Such multi-lens data can be integrated or compared with each other to obtain more reliable outcomes than those derived from single-source or single-point data. Therefore, triangulation reduces uncertainty and improves confidence, while also providing a justification for mixed methods research (Haq, 2014).

3.8 Ethical Considerations

Ethical approval for this study was obtained from the University of KwaZulu-Natal's Humanities and Social Science Research Ethics Committee (Reference: HSSREC/00003331/2021 as indicated in Appendix 1).

A gatekeeper's approval letter was obtained from the case study organisation, providing permission and stipulations for the conduct and publication of the research study (Refer to Appendix 2), and informed consent was obtained from the respondents in the quantitative research phase (online survey) and from the participants in the qualitative research phase (focus group discussion).

The contemplation of ethical issues commences with researcher reflection, and is subsequently deployed in the formulation of the research questions, the study design, as well as in the authoring of publications (Cresswell & Cresswell, 2018). Therefore, it is imperative that researchers are circumspect with respect to their positioning relative to the participants, and the ensuing implications. Further, researchers are required to protect their research participants by maintaining their anonymity; develop trust with research participants; promote research integrity through ensuring proper conduct and guarding against impropriety; and ensure the authenticity and credibility of the research report (Cresswell & Cresswell, 2018; Saunders et al., 2019).

Cognisant of these ethical requirements, the researcher circumspectly crafted the research questions, and carefully considered the “canons of scientific inquiry” for the quantitative phase, and the “authentication criteria” for the qualitative phase of the study to ensure the validity and reliability of the study (Saunders et al., 2019). Further, the researcher maintained respect for participants’ autonomy, dignity and confidentiality.

3.9 Chapter Summary

This chapter provided insights into the research methodology adopted by the researcher to answer the research questions. It presented the reasoned justification for the research framework, encompassing the pragmatist paradigm which informed the mixed methods research approach, and the selection of the explanatory sequential mixed method design. It further elucidated the quantitative and qualitative phases of the study design with their associated data collection, analysis and quality control techniques and processes. The chapter ended with the articulation of the ethical considerations and how the researcher addressed these.

The next chapter provides a discussion based on the deductive analysis of the quantitative data, and the inductive analysis of the qualitative data in the context of the theoretical and conceptual underpinnings of the phenomenon of intrapreneurship.

CHAPTER FOUR: ANALYSIS AND DISCUSSION

4.1 Introduction

The preceding chapter elucidated the most appropriate research methodology for this empirical study. The primary focus of this chapter is the analysis of the data collected in the quantitative phase of the explanatory sequential mixed methods design to establish cause-effect relationships and generalisations that will subsequently be explained and expanded by the analysis of the data collected in the qualitative phase of the study.

4.2 Part 1: Quantitative data analysis

The quantitative data analysis aims to analyse the variables that describe, influence and underpin the phenomenon under study, namely the intrapreneurship orientation of managerial employees at the case study organisation. The questionnaire used in the online survey employed a 5-point Likert scale to establish the level of agreement of the respondents with respect to statements incorporating the 13 constructs identified by Cullen et al. (2018), as well as other constructs identified by the researcher from the extant literature that may be pertinent to the research questions.

For ease of analysis, the statements on the questionnaire were grouped into four categories based on the themes and theories underpinning the construct of intrapreneurship. To avoid duplication, statements were assigned to a single category, deemed the primary category of analysis by the researcher, although they may bear relevance to other categories as well. To ensure a robust analysis, these statements will be analysed in their relevant category as well as the secondary category to which they bear relevance.

4.2.1 Reliability assessment using Cronbach's alpha coefficient

A five-point Likert scale was employed to rate the level of agreement of the respondents to statements in the questionnaire. The Likert-scale responses were sequentially ordered as per Table 4.1, with higher values associated with higher levels of agreement.

Table 4.1 Description of 5-point Likert Scale Responses

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

The Cronbach’s alpha, a measure of internal item consistency, was employed to test the reliability of each construct. The Cronbach’s alpha value ranges between 0 and 1, with optimal values ranging between 0.7 and 0.9. Cronbach’s alpha results that are above 0.9 may indicate redundancies in questions or constructs (Tavakol & Dennick, 2011).

The Cronbach’s alpha was calculated using Microsoft Excel’s statistical package, which used two-factor ANOVA without replication, to generate the Cronbach alpha co-efficient. As indicated in Table 4.2, the statistical calculation yielded a Cronbach alpha co-efficient of 0.91, which indicates a high degree of internal consistency, and therefore confirms the reliability of the survey instrument.

Table 4.2 Cronbach alpha for intrapreneurship orientation survey

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Likert-scale statements	327.5942	45	7.279871	11.38029	4.98E-66	1.379905
Likert-scale scores	453.3362	29	15.63228	24.43723	4.7E-102	1.476222
Error	834.7971	1305	0.639691			
Total	1615.728	1379				
Cronbach's alpha			0.912129			

4.2.2 Descriptive statistical analysis

Descriptive statistics are employed to analyse the different types of variables, namely the nominal, ordinal, interval and ratio variables, and their associated measures of frequency, central tendency, dispersion and position. The rationale for the use of descriptive statistics is that descriptive statistics consolidate the data into simple summaries, thereby enabling decision-makers to evaluate a specific population in a more meaningful and manageable manner (Combs & Onwuegbuzie, 2010; Kaur et al., 2018). Further, descriptive data analysis is a pre-requisite, and provides the basis for the employment of inferential statistics.

4.2.2.1 Variable Types

There are two major types of variables, namely categorical variables which are typically qualitative and discrete in nature, and continuous variables which are typically quantitative and numerical in nature.

The categorical variables are further classified as nominal, ordinal and dichotomous variables. Nominal variables are those that incorporate two or more categories of data that lack intrinsic value. In this study, the position of the respondent within the organisation, such as “Executive”, “Middle Management” and “Supervisor/Section Head” represents an example of a nominal variable.

Ordinal variables are those that incorporate two or more categories of data that are ordered or ranked, with no objective value assigned to the ranking (Kaur et al., 2018). In this study, the use of the 5-point Likert scale, with responses ranging from “Strongly disagree” to “Strongly agree” represents an example of ordinal variables.

Dichotomous variables refer to variables that incorporate only two categories (Kaur et al., 2018). Typically, “Yes” or “No” responses are considered as dichotomous variables. In this study, the selected gender of the respondents, either “Male” or “Female” may be considered as dichotomous variables, since none of the respondents selected the “Non-binary” option.

The continuous variables are further classified as interval and ratio variables. Interval variables are characterised by the fact that although they can be measured along a continuum, they do not have a true zero point (Kaur et al., 2018). In this study, the number of years experience in the organisation, such as “1-4 years”, or “5-10 years” represents an example of interval variables. Ratio variables, in contrast

to interval variables, can be measured along a continuum, but also have a true zero point. Typical examples of these variables are measures of height and weight.

4.2.2.2 Measures of frequency

Absolute frequency refers to the amount of times a specific value occurs in the data set, whereas relative frequency refers to the amount of times a specific value occurs in the data set, relative to the total amount of values for that particular variable. Relative frequencies are typically expressed as ratios, rates, proportions or percentages. Notably, measures of frequency are often visually presented in the form of tables, histograms, or bar graphs.

4.2.2.3 Measures of central tendency

Central tendency refers to the single measurement value that describes the entire data set. As such, the three main measures of central tendency are the mean, which refers to the arithmetic average of the data set; the median which is the middle value in the distribution when the data is ranked either in ascending or descending order; and the mode which refers to the most common value in the data set (Kaur et al., 2018).

Importantly, the mean is conventionally reported with interval and ratio data that are normally distributed in a typical “bell-shaped curve”. This is because the mean is strongly affected by outliers and skewed distributions. In this case, the median is the appropriate measure to report since it is less affected by outliers, which are extreme or unusual values, and skewed distributions. Further, the median is conventionally reported with ordinal data, such as the Likert-scale data used in this study. Moreover, it must be noted that although the mode may be used, it may not accurately represent the centre of the distribution (Kaur et al., 2018).

4.2.2.4 Measures of dispersion

Measures of central tendency do not capture variability within a data set. Therefore, measures of dispersion or variation are utilised to describe the extent to which a variable’s values are similar or diverse. Measures of dispersion are only applied to ordinal, interval and ratio data that can be ranked, and to provide measures such as the range, variance, and standard deviation of the data set. Notably, while the range provides information on the difference between the highest and lowest values in a data set, the standard deviation provides information on how close each observed value is to the mean of the

data set. In a normally distributed data set, 68% of the values are located within one standard deviation of the mean, 95% of values are located within two standard deviations, and 99% of values are located within three standard deviations of the mean.

4.2.2.5 Likert scale data analysis

A Likert scale is typically a 5-or 7-point ordinal scale employed in survey research in order to measure the extent of a respondent's satisfaction or level of agreement with a defined set of statements (Hall, 2018; Sullivan & Artino, 2013).

Despite being ranked or rated, with the scale responses being assigned ordinal numbers, from the lowest category to the highest category, the distance between responses in an ordinal scale cannot be measured (Hall, 2018; Sullivan & Artino, 2013). This is because the differences between "Strongly disagree", "Disagree", and "Undecided" on a level of agreement response Likert scale are not necessarily the same, as they are attitudinal dimensions. Therefore, it cannot be assumed that the difference between responses is equidistant, albeit the numerical values assigned to those response may be equidistant (Sullivan & Artino, 2013).

The extant literature is contentious with respect to whether ordinal data, converted to numerical data, can be treated as interval data, with the debate converging on whether the use of means and standard deviations are useful measures of the data's central tendency with respect to Likert scale responses (Sullivan & Artino, 2013). To this end, non-parametric tests, which do not depend upon normally distributed data, are advocated and often employed in the analysis of ordinal data, with the median used as a measure of central tendency (Hall, 2018; Sullivan & Artino, 2013). However, the drawbacks of non-parametric tests are that they typically require a larger sample size than parametric tests to find a difference between study groups when such a difference actually exists.

Sullivan and Artino (2013) contend that parametric tests, which are conventionally only used for interval and ratio scales, can be used to analyse Likert scale responses, particularly when researchers are attempting to measure less concrete concepts, such as intrapreneurship orientation, in this study, and where a single survey item is incapable of fully capturing the focal concept, with the caveat that the Cronbach alpha or similar test provides evidence of the intercorrelation of the scale components, and that the grouped items do indeed measure the variable it purports to measure. In other words, there is evidence of internal consistency of the scale items. However, the authors advocate the use of a

frequency distribution of responses, rather than a mean which is of limited value in non-normally distributed data (Sullivan and Artino, 2013). Therefore, frequency distributions will be used to provide the basis for the descriptive analysis.

4.2.3 Inferential statistical analysis

Inferential statistics entails analyzing the data to determine if there are cause-effect relationships, or associations among the independent and dependent variables. The independent variable in this study is the phenomenon of intrapreneurship orientation, as gauged from the consolidated Likert score for the respondents, and the sample. The dependent variables are the factors or constructs that have been shown in the extant literature to influence the phenomenon of intrapreneurship, and which are formulated into the Likert scale statements. In this study inferential analysis was performed through cross-tabulation of dependent and independent variables, and chi-squared tests.

4.3 Descriptive analysis of demographic variables

The demographic data collected from the questionnaire included the gender, age group, highest educational qualification obtained, years of experience or service within the organisation, and respondents' positions within the case study organisation.

4.3.1 Gender of Respondents

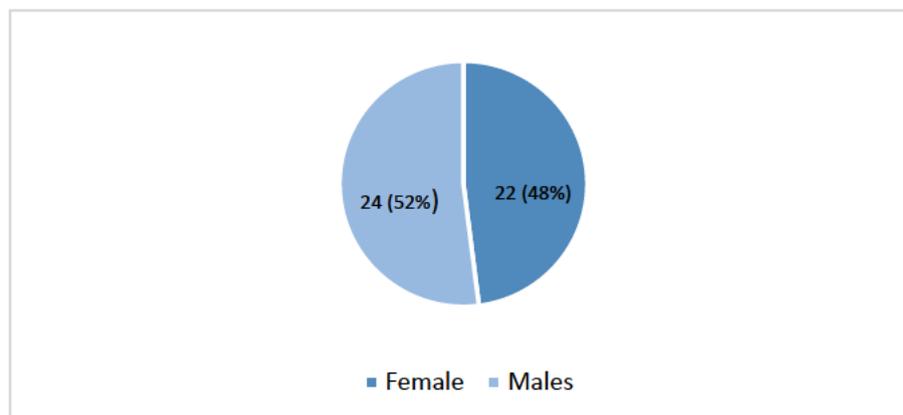


Figure 4.1: Respondents' Gender Distribution

A total of forty-six (46) responses were received, comprising of 22 females, representing 47.83% of the sample, and males, representing 52.17% of the sample. None of the respondents selected the "Non-binary" option.

4.3.2 Respondents' Age Distribution

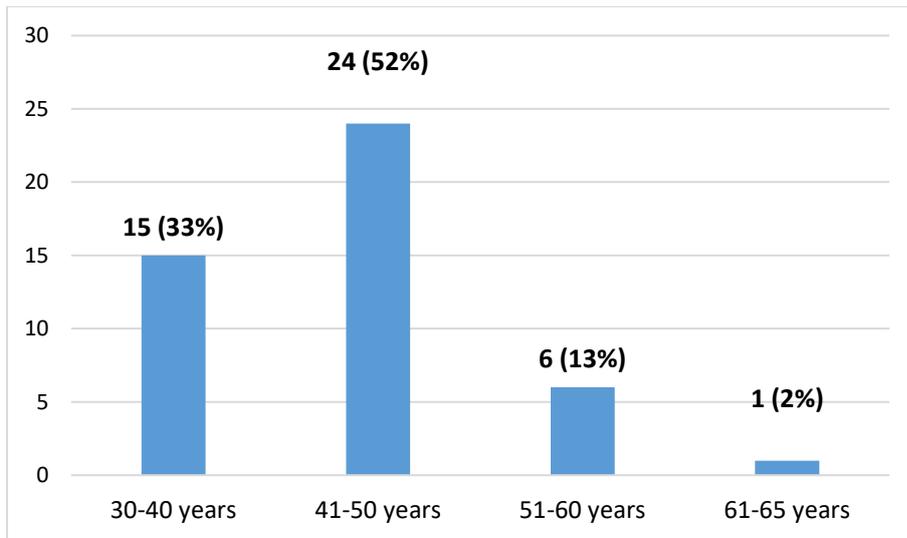


Figure 4.2: Respondents' Age Group Distribution

The age group distribution of the respondents indicates that the majority (52%) of the respondents were in the 41-50 years age group, followed by the 30-40 years age group, which represented 33% of the respondents; the 51-60 years age group which represented 13% of the respondents; and the 61-65 years age group which represented 2% of the respondents.

4.3.3 Respondents' Level of Education

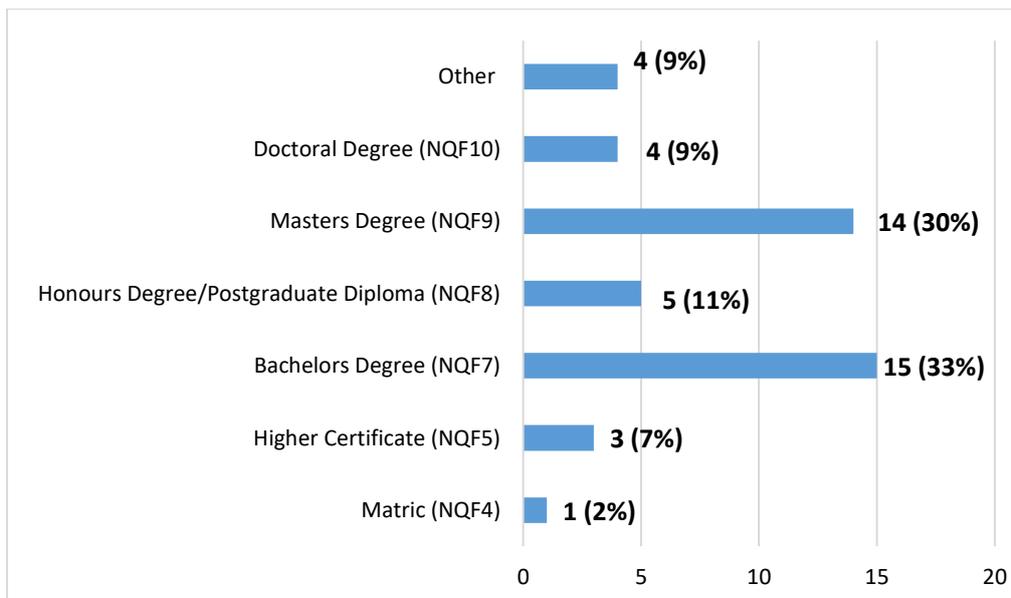


Figure 4.3: Distribution of Respondents' Highest Qualification Level

It is evident from Figure 4.3 that the majority of the respondents (89%) have tertiary qualifications, with only one respondent, representing 2% of the sample, holding matric as the highest qualification level and four other respondents, representing 9% of the sample, having “Other” qualification levels. The knowledge-intensive nature of the pharmaceutical industry, and in particular, the case study organisation, which operates at the nexus of the pharmaceutical and biotechnology industry, is evident in the qualification levels of its managerial employees, with 33% of the respondents holding a Bachelors degree, 30 % holding a Masters degree, and 9% holding a Doctoral degree.

Notably, Wang et al. (2013) observed that personal knowledge, acquired from exposure to education and training, was associated with the propensity to become an intrapreneur. This is consistent with the findings of Urbano and Turro (2013) that intrapreneurs possess a higher education and training level relative to their counterparts. Further, Stam (2013) contended that innovation and knowledge are fundamentally related to intrapreneurship. He further posited that radical innovations are more likely to be acknowledged and pursued by employees with knowledge-intensive organisations.

Therefore, based on the empirical findings in the extant literature, the level of education of the respondents is postulated to be positively associated with their intrapreneurial orientation score, as derived from the questionnaire. This leads to *Hypothesis 1* that will be tested using inferential statistics.

Hypothesis 1: The level of education of managerial employees is positively associated with intrapreneurial orientation.

4.3.4 Respondents’ Years of Organisational Experience (Tenure)

It is apparent from Figure 4.4 below that the majority of the employees have at least five years of service within the case study organisation, with 28% of the respondents having 5-9 years of service, 26% of the respondents having 10-14 years of service, and 30% of respondents having at least 15 years of service. Conversely, 15% of the respondents have less than five years of service in the case study organisation. The respondents’ tenure within the case study organisation indicates high levels of experience of the managerial employees within the case study organisation.

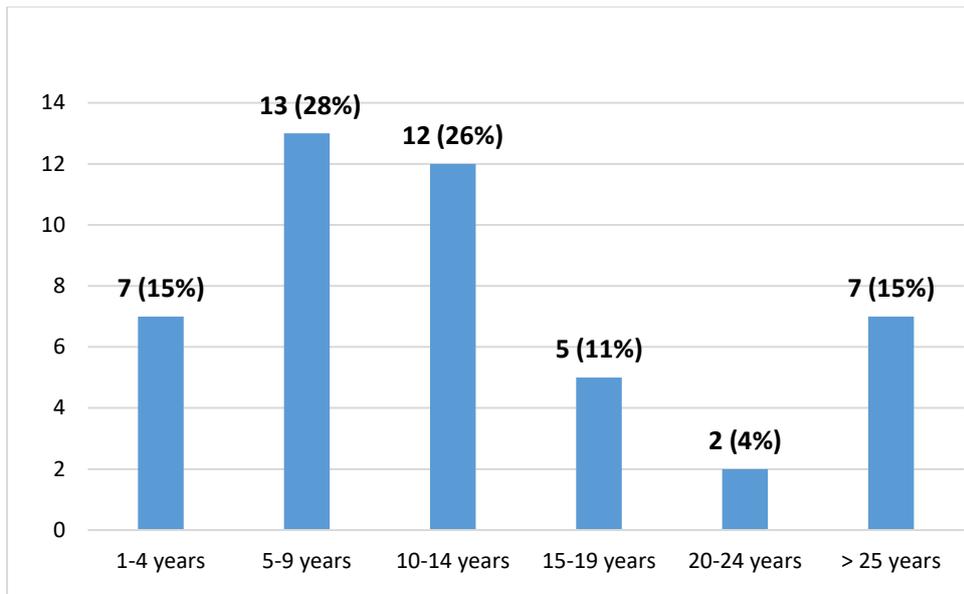


Figure 4.4 Distribution of Respondents' Tenure

Empirical findings in the extant literature indicate that past entrepreneurial experience were positively associated with superior intrapreneurial activity outcomes (Urbano et al., 2013). Further, Wang et al, (2013) observed that the knowledge acquired from previous experiences enhances opportunity recognition, a behavioural dimension of intrapreneurship.

Moreover, research indicates that the relationship with the organisation, specifically commitment to the organisation, as indicated by tenure in the organisation, is positively related with employee conceptions with respect to innovativeness, proactiveness as well as risk-taking, which are the characteristics associated with intrapreneurship (Neessen et al., 2018). Additionally, *identification* with the organisation, as manifested by a sense of belonging, was positively correlated to employee intrapreneurial behavior (Valsania et al., 2016; Neessen et al., 2018). To this end, Moriano et al. (2014) found that organisational identification was positively linked to intrapreneurial behavior, as the employees are highly motivated and engaged, even exhibiting certain “extra-role” behaviours, and consider organisational outcomes of success and failure as personal outcomes.

However, Camelo-Ordaz et al. (2012) contended that an individual's tenure in an organisation is negatively related to intrapreneurship with respect to their innovation performance. They contend that long tenure is associated with a passive approach to decision-making, resistance to change, and consequently, a diminished willingness to display innovative behavior, as well as apply new ideas. This leads to *Hypothesis 2* that will be tested using inferential statistics.

Hypothesis 2: The years of experience (tenure) of managerial employees influences intrapreneurial orientation, either positively or negatively

4.3.5 Respondents' Positions in Organisation

The results from respondents belonging to the Executive and Senior Management Team were combined since, at the time of the survey, the Senior Management Team was transitioning to being merged into an Executive Team, along with the CEO and Financial Director who were designated as Executives in the organisation.

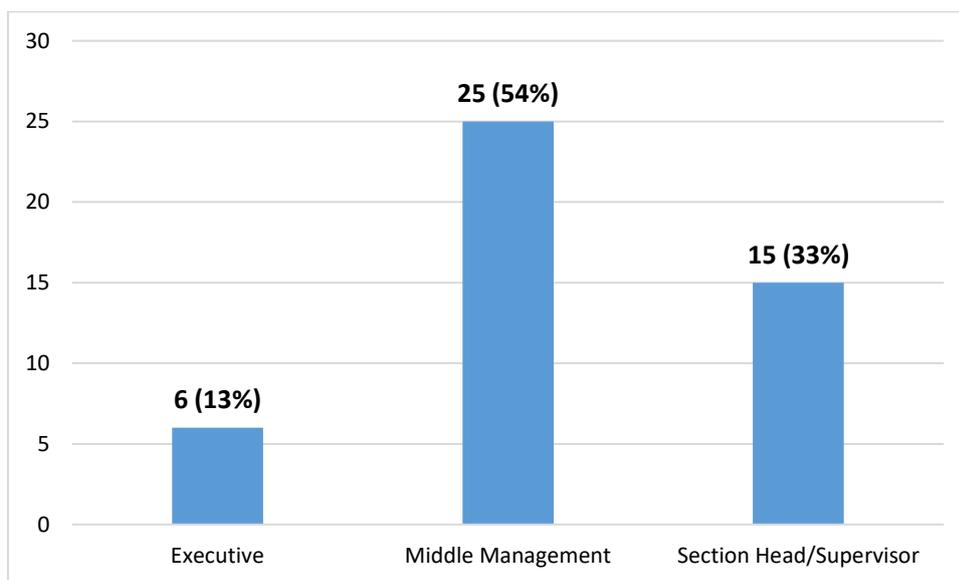


Figure 4.5: Distribution of Respondents' Organisational Positions

As indicated in Figure 4.5 above, the majority of the respondents (54%) were from the middle management level, followed by 33% of the respondents arising from the supervisory or junior management level, and 13% of the respondents emanating from the Executive level.

Notably, a review of the extant literature has revealed that, apart from the focus on individual *operational-level employees*, an emerging research stream is focused on management-related intrapreneurial behavior, with particular emphasis on the influence of *middle-level managers'* personalities and behavior in relation to intrapreneurship (Blanka, 2019). Indeed, empirical research indicates that the attitudes and personalities of managers are key factors that drive intrapreneurial behaviours among operational-level employees (Bouchard & Basso, 2011). Further, empirical findings

with respect to managers' behavior found that middle-level managers positively influenced intrapreneurial behavior within organisations (Kuratko et al., 2005).

To this end, Kuratko et al. (2005) acknowledged the distinctive role of middle managers in establishing a “bridge” between top management's intrapreneurial *perceptions* and lower management's intrapreneurial *initiatives*. Further, Kuratko et al. (2005) found that middle managers endorse, refine and steer intrapreneurial opportunities, as well as facilitate the identification, acquisition and deployment of the required resources for the pursuit of intrapreneurial opportunities. To this end, Kuratko et al. (2005) aver that middle managers endorse intrapreneurial perspectives emanating from the top management level and “sell” the intrapreneurial value proposition to lower managers who are the primary implementers of these strategies. As a consequence of their role and tasks in employee motivation, resource acquisition and the communication of innovative ideas to top management, middle managers may be defined as *intrapreneurs* (Blanka, 2019; Kurtako et al., 2005). This leads to *Hypothesis 3* that will be tested using inferential statistics.

Hypothesis 3: The middle- level management position is positively related to intrapreneurship orientation.

4.3.6 Inferential analysis of demographic variables

The chi-squared test, a non-parametric test will be used as the basis for the inferential statistical analysis. The rationale for this, as discussed above is that the dependent variable, which is the intrapreneurship orientation, is a consolidated score from the Likert scale responses, and is therefore based on ordinal scales. Therefore, the chi-squared test was selected as a suitable test to analyse Likert scale data, as it compares the respondents' actual responses to statements with expected responses to evaluate whether a given hypothesis is statistically significant (Hall, 2018). The higher the level of variance between the actual and expected responses, the higher will be the corresponding chi-squared statistic. The level of variance provides an indication of the extent to which the results fit the given hypothesis.

Hypothesis 1: The level of education of managerial employees is positively associated with intrapreneurial orientation.

Table 4.3 Cross-tabulation chi-square results for differences in responses according to level of education

Demographic variable	Chi-square	df	p
Highest Level of Qualification	11.52	12	0.49

Based on the p-value of 0.49, the hypothesis that the level of education of managerial employees is positively associated with an intrapreneurial orientation, is rejected. There is therefore no statistically significant relationship between the level of education of managerial employees and their intrapreneurial orientation.

This contradicts the findings of Wang et al. (2013), Stam (2013), and Urbano and Turro (2013) that intrapreneurs possess a higher education and training level relative to their counterparts.

Hypothesis 2: The years of experience (tenure) of managerial employees influences intrapreneurial orientation, either positively or negatively.

Table 4.4 Cross-tabulation chi-square results for differences in responses according to tenure

Demographic variable	Chi-square	df	p
Years of experience	7.14	10	0.71

Based on the p-value of 0.71, the hypothesis that the years of experience (tenure) of managerial employees influence their intrapreneurial orientation, is rejected. There is therefore no statistically significant relationship between the years of experience of managerial employees and their intrapreneurial orientation.

This statistical significance of this finding was consistent, even when cross-tabulation and chi-squared tests were performed to analyse the relationship between years of service, categorized as either 10 or more years, or less than 10 years of service, as indicated in Table 4.5 below.

Table 4.5 Cross-tabulation chi-square results for differences in responses according to tenure (10 year benchmark)

Demographic variable	Chi-square	df	p
Years of experience (< 10 years vs ≥ 10 years)	0.76	2	0.69

These findings are inconsistent with the extant literature and empirical research which indicates that tenure, which is associated with commitment and organisational identity is positively related to intrapreneurship (Neessen et al., 2018; Moriano et al., 2014; Valsania et al., 2016). Since the finding did not show a statistically significant relationship between tenure and intrapreneurship orientation, it is also inconsistent with the findings of Camelo-Ordaz et al. (2012) who contend that an individual's tenure in an organisation is negatively related to intrapreneurship due to the adoption of a passive approach to decision-making, resistance to change, and consequently, a diminished willingness to display innovative behavior, as well as apply new ideas.

Hypothesis 3: The middle-level management position is positively related to intrapreneurship orientation.

Table 4.6 Cross-tabulation chi-square results for differences in responses according to level of management

Demographic variable	Chi-square	df	p
Middle-Level Management vs Non-Middle-Level Management	3.43	2	0.18

Based on the p-value of 0.18, the hypothesis that middle-level management is positively associated with an intrapreneurial orientation, is rejected. There is therefore no statistically significant relationship between the level of management and their intrapreneurial orientation.

This finding is inconsistent with the findings in the extant literature which assert that as a consequence of their role and tasks in employee motivation, resource acquisition and the communication of innovative ideas to top management, middle managers have a higher intrapreneurial orientation than their other managerial counterparts (Blanka, 2019; Bouchard & Basso, 2011; Kurtako et al., 2005).

4.4 Intrapreneurship orientation among respondents

4.4.1 Managerial Intrapreneurship Orientation

The mean, standard deviation, mode, range, minimum and maximum values for the 5-point Likert scale statements on managerial intrapreneurship orientation are reflected in Table 4.7.

Table 4.7 Managerial intrapreneurship orientation

Survey Question	Cases (N)	Mean	Standard Deviation (SD)	Median	Mode	Range	Min	Max
1. We have a common understanding of the word "innovation" in my organisation	46	3.65	0.87	4	4	3	2	5
2. Innovation is part of my job	46	3.78	0.94	4	4	4	1	5

The frequency of the responses to the statements on managerial intrapreneurship orientation, using the 5-point Likert scale, are illustrated in Figure 4.6.

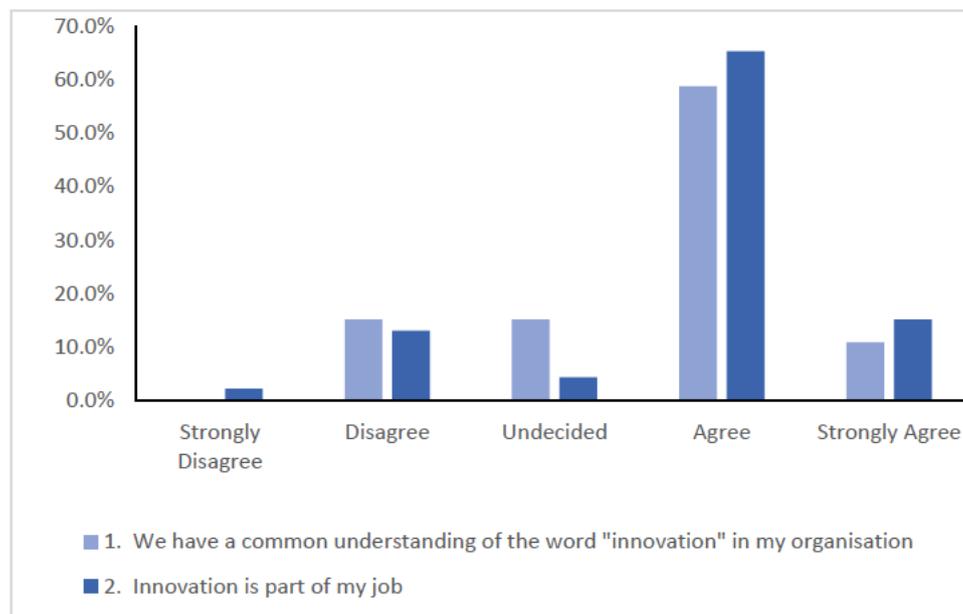


Figure 4.6 Respondents' level of Agreement: Managerial Intrapreneurship Orientation

Insights and implications of statistical analysis

Analysis of the data with respect to the intrapreneurship orientation of managerial employees indicates that there is generally a common understanding of innovation within the organisation, and managerial employees generally agree that innovation is part of their jobs, implying that they have accepted the role of innovator.

These findings support an intrapreneurial orientation within the case study organisation, and resonates with the assertion by Neessen et al. (2018) that the employee role has changed over the years, with the decentralization of decision-making processes and greater employee discretion and responsibility. To this end, employees are expected to accept the roles of “*innovators*” as well as “*differentiators*”, while adapting to and navigating a dynamic and complex business ecosystem (Teece, 2006). Further, with respect to managerial employees, Klofsen et al. (2021) assert that intrapreneurial managers, who by inference are innovation-oriented, are critical role players in both organisational transformation as well as shaping of the business ecosystem. Therefore, by acknowledging that innovation is part of their job, these managerial employees are likely to contribute to the attainment of intrapreneurial outcomes.

4.4.2 Factors influencing intrapreneurship orientation

4.4.2.1 Individual-level factors influencing intrapreneurship

The mean, standard deviation, mode, range, minimum and maximum values for the 5-point Likert scale statements on the individual-level factors influencing intrapreneurship orientation are reflected in Table 4.8 (Statements 1-4).

Table 4.8 Individual-level factors influencing intrapreneurship orientation (Statements 1-4)

Survey Question	Cases (N)	Mean	Standard Deviation (SD)	Median	Mode	Range	Min	Max
1. I collaborate on innovation ideas with my co-workers	46	3.87	0.78	4	4	3	2	5
2. I know what kinds of innovation ideas the company is looking for	46	3.59	0.86	4	4	3	2	5
3. I am committed to continuous learning and the pursuit of innovative ideas	46	4.54	0.5	5	5	1	4	5
4. I have been trained on at least one or more innovation competencies	46	2.89	1.18	3	2	4	1	5

The frequency of the responses to the statements on individual-level factors influencing intrapreneurship orientation, using the 5-point Likert scale, are illustrated in Figure 4.7 (Statements 1-4).

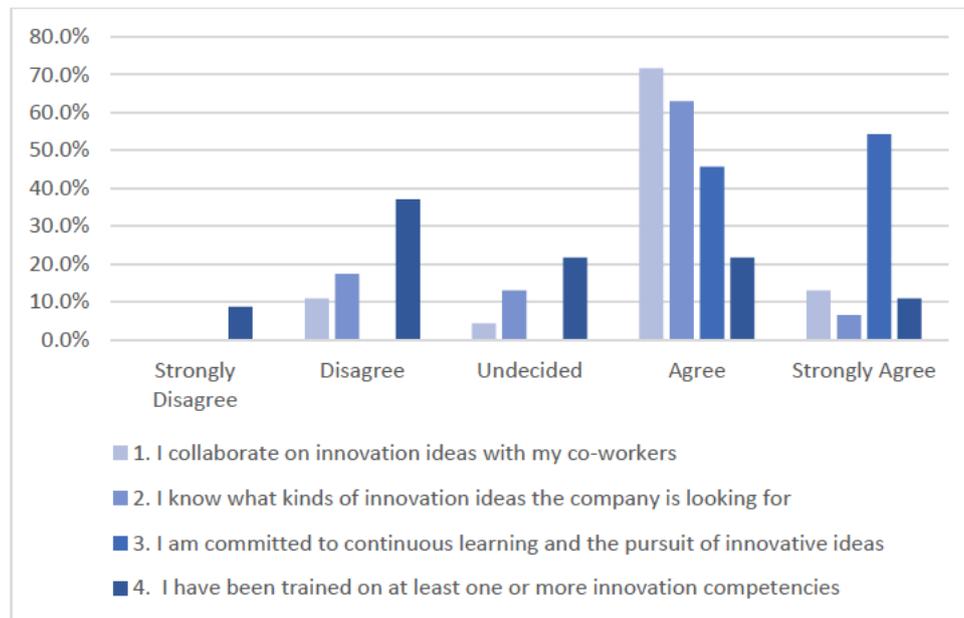


Figure 4.7 Individual-level factors influencing intrapreneurship orientation (Statements 1-4)

Insights and implications of statistical analysis

Analysis of the data with respect to the individual-level factors influencing intrapreneurship orientation indicates that there is a high level of agreement with respect to collaboration (85%), knowledge of the organisation's innovation requirements (70%), as well as a commitment to continuous learning and the the pursuit of innovative ideas (100%). Indeed, with respect to the latter result, the majority of respondents (54%) indicated that they strongly agreed and 46% indicated that they agreed that they are committed to continuous learning and the pursuit of innovative ideas. However, there was a low level with respect to the statement that they have been trained on at least one innovation competency, with the majority of respondents (45%) disagreeing, 22% undecided, and 33% agreeing with this statement.

These findings support an intrapreneurial orientation within the case study organisation, and resonates with the assertion by Kuratko et al. (2014) that teamwork and collaboration are considered vital to intrapreneurship. Further, a commitment to continuous learning and the pursuit of innovative ideas, which are indicative of employees' proactivity and innovativeness, are important intrapreneurial characteristics that promote intrapreneurial behavior (Antoncic & Hisrich, 2001; Neessen et al., 2018).

The low level of agreement with the statement regarding innovation competency training is a cause for concern, as training, which provides knowledge and skills, and develops employee competencies, also results in increased confidence and improves employee self-perceptions, and consequently their tendency to behave intrapreneurially. This resonates with the findings of Urbano et al. (2013) who observed that entrepreneurial behavior, the identification of opportunities, and performance with respect to product development were superior in the presence of higher reported employee self-efficacy. Moreover, Wang et al, (2013) observed that personal knowledge, acquired from exposure to education and training, was associated with the propensity to become an intrapreneur. This is consistent with the findings of Urbano and Turro (2013) that intrapreneurs possess a higher education and training level relative to their counterparts.

4.4.2.2 Organisational factors influencing intrapreneurship

The mean, standard deviation, mode, range, minimum and maximum values for the 5-point Likert scale statements on the organisational factors influencing intrapreneurship orientation are reflected in Table 4.9 (Statements 5-8).

Table 4.9 Organisational factors influencing intrapreneurship orientation (Statements 5-8)

Survey Question	Cases (N)	Mean	Standard Deviation (SD)	Median	Mode	Range	Min	Max
5. Our organisation is a good home for innovators	45	3.09	1.00	3	3	4	1	5
6. People have time to innovate in our organisation	45	2.78	1.04	3	2	4	1	5
7. There is support for taking risks in the organisation	45	2.78	1.04	3	3	4	1	5
8. It is okay to fail sometimes	45	3.6	1.25	4	4	4	1	5

The frequency of the responses to the statements on organisational factors influencing intrapreneurship orientation, using the 5-point Likert scale, are illustrated in Figure 4.8 (Statements 5-8).

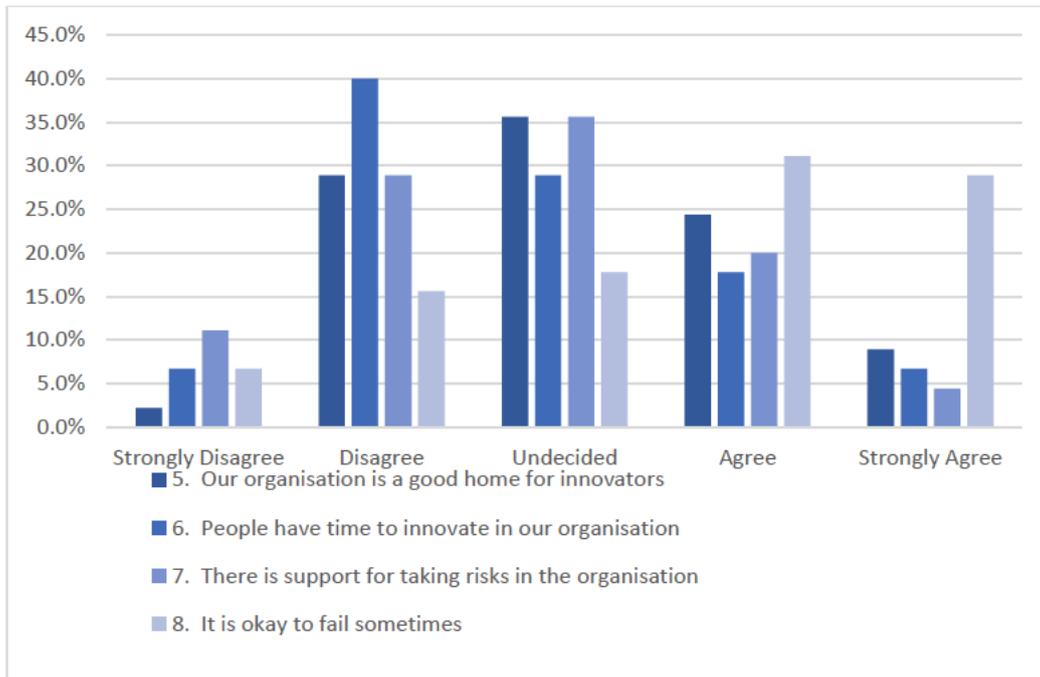


Figure 4.8 Organisational factors influencing intrapreneurship orientation (Statements 5-8)

Insights and implications of statistical analysis

Analysis of the data with respect to the organisational factors influencing intrapreneurship orientation indicates that there was uncertainty and ambivalence regarding whether the organisation is a good home for innovation. Further, there was a low level of agreement with the statement that people have time to innovate, with the majority of respondents (47%) disagreeing, 29% undecided, and 24% agreeing to the statement. Similarly, there was a low level of agreement with the statement that there is support for taking risks in the organisation, with the majority of respondents (40%) disagreeing, 36% undecided, and 24% agreeing to the statement. Conversely, there was a relatively high level of agreement with the statement that it is okay to fail sometimes, with the majority of respondents (60%) agreeing, 18% undecided, and 22% disagreeing with the statement. However, it is ambiguous as to whether the respondents perceived this from an organisational or individual perspective.

Intrapreneurship orientation is underpinned by the organisational context. Indeed, the organisation can either encourage or impede intrapreneurial behaviour (Blanka, 2019; Neessen et al., 2018). Therefore, the finding that employees are essentially split in their perceptions of whether the organisation is a good home for innovation indicates that the environment is not conducive to innovation. To this end, Garcia-Morales et al. (2014) contend that managerial support, as an organisational condition for intrapreneurship is multi-dimensional, and includes the creation of a climate and culture that supports

innovation. Arguably, in order for an organisation to be a good home for innovation, intrapreneurial employees need to feel a sense of belonging, and need to identify with the organisation. Therefore, organisational structure is important as organisations characterised by diminished hierarchy and reduced structural silos promotes employee engagement and initiative, transparent communication, and ultimately a robust sense of belonging (Cohen, 2004; Rigtering & Weitzel, 2013; Van Wyk & Adonisi, 2011).

Further, the finding that managerial employees do not perceive that there is adequate time to innovate in the organisation does not augur well for the intrapreneurship orientation of the organisation as discretionary time and the space to work on an individual's own ideas that advance the organisation's agenda is an integral element of intrapreneurship (Gupta & Srivastava, 2013), and significantly enhances intrapreneurship orientation (Kuratko et al., 2014; Neessen et al., 2018; van Wyk and Adonisi, 2011).

Moreover, the finding that managerial employees do not perceive that the organisation supports risk-taking, alludes to a *risk-averse* organisation. This finding does not support an intrapreneurial orientation as considered risk taking is an important entrepreneurial characteristic that stimulates intrapreneurship (Garcia-Morales et al., 2014; Ireland et al., 2006).

Finally, although the majority of respondents agree that it is okay to fail sometimes, that perception needs to be congruent with the organisation's culture, and all employees should perceive that the organisational environment is safe, and will tolerate failure that can be reasonably justified and where learning from the failure is apparent. To this end, Schein and Schein (2017) postulate that one of the characteristics of a learning culture is tolerance for errors and failures as part of the learning process. Further, this resonates with the assertion of Ireland et al. (2006) that handling failure, by regarding it as an opportunity to learn from mistakes, is an important entrepreneurial characteristic that promotes intrapreneurship. Moreover, improvements in overall organisational learning, including learning from mistakes and failures are the antecedents for the development of new competencies (Kuratko, 2009; Cullen et al., 2018).

4.4.2.3 Leadership factors influencing intrapreneurship

The mean, standard deviation, mode, range, minimum and maximum values for the 5-point Likert scale statements on the organisational factors influencing intrapreneurship orientation are reflected in Table 4.10 (Statements 9-11).

Table 4.10 Leadership factors influencing intrapreneurship orientation (Statements 9-11)

Survey Question	Cases (N)	Mean	Standard Deviation (SD)	Median	Mode	Range	Min	Max
9. Our organisation has an innovation strategy	46	3.5	1.01	4	4	3	2	5
10. Our organisation's innovation strategy is linked to our corporate strategy	46	3.67	0.9	4	4	3	2	5
11. Senior executives drive innovation in our organisation	46	3.61	1.04	4	4	4	1	5

The frequency of the responses to the statements on leadership factors influencing intrapreneurship orientation, using the 5-point Likert scale, are illustrated in Figure 4.9 (Statements 9-11).



Figure 4.9 Leadership factors influencing intrapreneurship orientation (Statements 9-11)

Insights and implications of statistical analysis

Analysis of the data with respect to the leadership factors influencing intrapreneurship orientation indicates that there was a relatively high level of agreement with the statement that the organisation has an innovation strategy, with the majority of respondents (61%) agreeing, 15% undecided, and 24% disagreeing to the statement. Similarly, there was a relatively high level of agreement with the statement that the organisation's innovation strategy is linked to its corporate strategy, with the majority of respondents (65%) agreeing, 22% undecided, and 13% disagreeing with the statement. Consistent with these findings, there was further a relatively high level of agreement with the statement that senior executives drive innovation in the organisation, with the majority of respondents (61%) agreeing, 22% undecided, and 18% disagreeing with the statement.

These findings indicate that the organisational leadership are on the right track with respect to the alignment of the innovation strategy to the corporate strategy, as well as in being perceived to drive innovation within the organisation. These leadership stances serve to enhance intrapreneurship orientation within the organisation. These findings are corroborated in the extant literature, which indicate that in order to propel the organisation's innovation agenda, the innovation strategy must be coherent with its corporate strategy (Fontana & Musa, 2017; Johnson et al., 2017). This is the responsibility of the organisation's leadership and requires a style of leadership referred to as entrepreneurial leadership, which Fontana and Musa (2017) define as a unique leadership style focused on leveraging synergies from diverse talents in a creative and innovative manner that responds to an ambiguous business environment with coherent strategies and innovative outcomes. This further resonates with the conceptions of Morris et al. (2011) who posit that, apart from flexibility, speed and innovation, the cornerstones of intrapreneurship encompasses entrepreneurial leadership. To this end, Cohen (2004) aver that entrepreneurial leaders create the vision for the organisation and thereafter establish the strategy, structure, systems, protocols along with the culture that permit individuals within the organisation to proactively achieve the vision by behaving in intrapreneurial ways.

Arguably, in driving innovation, it is the top level manager's responsibility to create a conducive work environment for intrapreneurship and the enactment of intrapreneurial behaviours, by their willingness to endorse intrapreneurial behavior, support innovative ideas and by the provision of the required resources to augment innovation and intrapreneurial behavior (Ireland et al., 2006; Neessen et al., 2018). To this end, empirical research conducted by Kuratko et al. (2005) indicates that both top- and middle management support is crucial for intrapreneurship.

4.4.3 Intrapreneurship and Balanced Scorecard Perspectives

The mean, standard deviation, mode, range, minimum and maximum values for the 5-point Likert scale statements on intrapreneurship and balanced scorecard perspectives are reflected in Table 4.11. (Statements 1-4).

Table 4.11 Intrapreneurship and balanced scorecard perspectives (Statements 1-4)

Survey Question	Cases (N)	Mean	Standard Deviation (SD)	Median	Mode	Range	Min	Max
1. Innovation and intrapreneurship will contribute towards improved financial performance of our organisation	46	4.46	0.66	5	5	3	2	5
2. Innovation and intrapreneurship results in improved customer satisfaction	46	4.35	0.64	4	4	3	2	5
3. Our organisation has people focused on identifying key future markets, customers, and other insights	46	4.17	0.82	4	4	3	2	5
4. As an organisation, we are constantly looking to improve	46	4.22	0.79	4	4	3	2	5

The frequency of the responses to the statements on intrapreneurship and the balanced scorecard perspectives, using the 5-point Likert scale is illustrated in Figure 4.10.



Figure 4.10 Intrapreneurship and Balanced Scorecard Perspectives (Statements 1-4)

Insights and implications of statistical analysis

Analysis of the data with respect to the intrapreneurship and balanced scorecard perspectives indicates that there was a very high level of agreement with the statement that innovation and intrapreneurship contribute towards improved financial performance, with the majority of respondents (96%) agreeing, 2% undecided, and 2% disagreeing to the statement. This finding indicates a high level of acknowledgement of the anticipated enhanced financial performance of the organisation as a result of the commitment and pursuit of innovation through intrapreneurial actions. Therefore, the respondents acknowledge enhanced financial performance as an *innovation outcome*, which resonates with the findings in the extant literature from an innovation balanced scorecard perspective (Davila et al., 2008)

Similarly, there was a very high level of agreement with the statement that innovation and intrapreneurship result in improved customer satisfaction, with the majority of respondents (96%) agreeing, 2% undecided, and 2% disagreeing with the statement. This finding indicates a high level of acknowledgement of the anticipated enhanced customer satisfaction that emanates from innovation and intrapreneurship, and resonates with the explication in the extant literature that an entrepreneurial organisation creates value for customers (Hitt et al. 2011). Moreover, a customer-oriented organisation, in turn, has the propensity to enhance creativity which augments innovativeness (Nasution et al., 2011; Johnson et al., 2017). Therefore, the respondents acknowledge enhanced customer satisfaction as an *innovation output*, which resonates with the findings in the extant literature from an innovation balanced scorecard perspective (Davila et al., 2008)

Likewise, there was a very high level of agreement with the statement that the case study organisation has people focused on identifying key future markets, customers, and other insights, with the majority of respondents (87%) agreeing, 6.5% undecided, and 6.5% disagreeing. This finding indicates that the case study organisation is actively engaged in opportunity identification and exploration, and supports an intrapreneurship orientation. This resonates with the extant literature which indicates that innovation and intrapreneurship are spurred by opportunity recognition. To this end, Johnson et al. (2017) aver that opportunity recognition incorporates the interdependent components of the entrepreneur or entrepreneurial team, the environment, and the organisation's resources and capabilities. Further, Johnson et al. (2017) contend that the innovation agenda is led by opportunity-driven entrepreneurs who identify environmental macro- and megatrends as well as marketplace gaps, and consequently configure resources and capabilities to facilitate the creation of new products or services.

Finally, consistent with the above findings, there was a very high level of agreement with the statement that the case study organisation is constantly looking to improve, with the majority of respondents (87%) agreeing, 9% undecided, and 4% disagreeing to the statement. These findings indicate that the respondents perceive the organisation to have a strong orientation towards continuous improvement, which further supports an intrapreneurship orientation. This resonates with the extant literature which indicates that continuous improvement necessitates improvements in overall organisational learning, including learning from mistakes and failures, which become the antecedents for the development of new competencies that are required to innovate and compete (Cullen et al., 2018; Kuratko, 2009; Schein & Schein, 2017). Therefore, the respondents acknowledge the impetus for continuous improvement as an *innovation input*, which resonates with the findings in the extant literature from an innovation balanced scorecard perspective (Davila et al., 2008)

Innovation process perspectives

The mean, standard deviation, mode, range, minimum and maximum values for the 5-point Likert scale statements on intrapreneurship and the innovation process perspective of the balanced scorecard are reflected in Table 4.12. (Statements 5-8).

Table 4.12 Intrapreneurship and balanced scorecard perspectives (Statements 5-8)

Survey Question	Cases (N)	Mean	Standard Deviation (SD)	Median	Mode	Range	Min	Max
5. Our organisation has a portfolio of actively managed innovation projects	46	3.43	0.91	4	4	3	2	5
6. We have a formal process for innovation idea selection at our organisation	46	2.72	0.93	3	2	3	1	4
7. We have a formal process for innovation idea funding at our organisation	46	2.72	0.89	3	3	4	1	5
8. We have an innovation idea development process at our organisation	46	2.74	0.93	3	2	4	1	5

The frequency of the responses to the statements on intrapreneurship and the innovation process perspective of the balanced scorecard, using the 5-point Likert scale is illustrated in Figure 4.11.

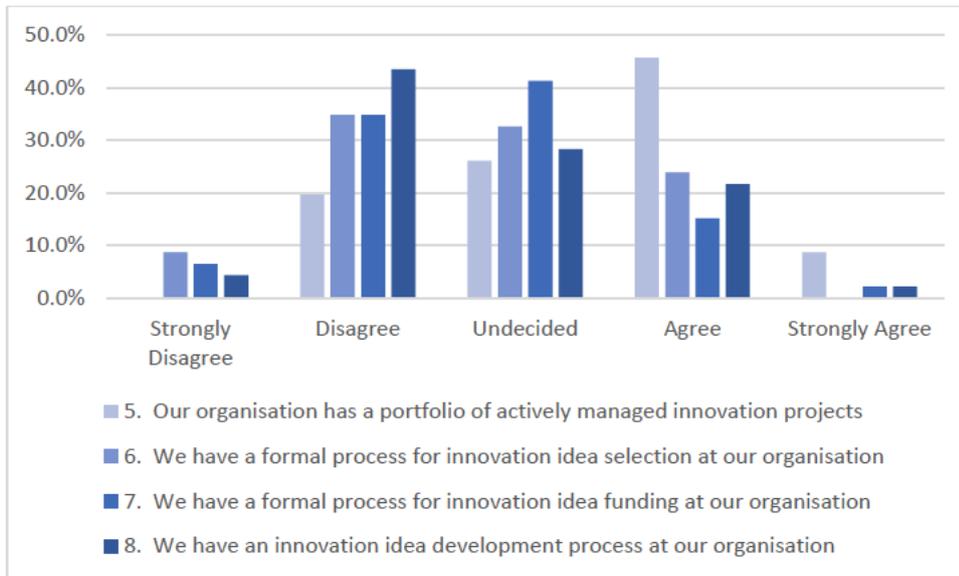


Figure 4.11: Intrapreneurship and Balanced Scorecard Perspectives (Statements 5-8)

Insights and implications of statistical analysis

Analysis of the data with respect to the intrapreneurship and innovation process perspectives, as an element of the innovation balanced scorecard, indicates that there was some ambivalence with respect to the statement that the case study organisation has a portfolio of actively managed innovation projects. This was evident by the findings that the majority of respondents (54%) agreed, 26% were undecided, and 20% disagreed to the statement. This alludes to a deficiency in the innovation management process.

Moreover, there was a relatively low level of agreement with the statement that the case study organisation has a formal process for idea selection, with the majority of respondents (43.5%) disagreeing, 33% undecided, and 24% agreeing to the statement. This alludes to a deficiency with respect to the establishment of formal processes for innovation idea selection at the case study organisation which consequently serves to constrain intrapreneurship.

Further, there was ambivalence with respect to the statement that the case study organisation has a formal process for innovation idea funding, with the majority of respondents (42%) disagreeing, 41% undecided, and 17% agreeing to the statement. This finding reveals that there was considerable uncertainty as to whether a formal process for innovation idea funding was in place at the case study organisation, which, in turn, serves to constrain intrapreneurial activities. Indeed, the extant literature indicates the requirement for processes that orchestrate resources to innovation initiatives. Resource orchestration was found to be positively associated with intrapreneurial activity (Hitt et al., 2011). In

particular, Hitt et al. (2011) contended that financial capital is critical for the acquisition or creation of resources for opportunity exploration and exploitation, thereby supporting intrapreneurship.

Finally, consistent with the responses on the availability of processes for idea selection, there was a relatively low level of agreement with the statement that the case study organisation has an innovation idea development process, with the majority of respondents (48%) disagreeing, 28% undecided, and 24% agreeing to the statement. This represents a constraint to intrapreneurship, as opportunities for idea development are an antecedent for innovation and intrapreneurship (Blanka, 2019; Neessen et al. 2018).

Innovation inputs perspective

In the context of the innovation inputs perspective of the innovation balanced scorecard, Davila et al. (2008) aver that innovation inputs include tangible resources such as human-, financial-, and physical resources, as well as intangibles resources such as motivation and organisational culture. Further, they posit that innovation inputs may also consist of the organisation’s existing innovation structure, innovation strategy, network of strategic stakeholders, as well as innovation systems (Davila et al., 2008).

The mean, standard deviation, mode, range, minimum and maximum values for the 5-point Likert scale statements on intrapreneurship and the innovation inputs perspective of the balanced scorecard are reflected in Table 4.13. (Statements 9-12).

Table 4.13 Intrapreneurship and balanced scorecard perspectives (Statements 9-12)

Survey Question	Cases (N)	Mean	Standard Deviation (SD)	Median	Mode	Range	Min	Max
9. We have the tools for innovation management in place (R&D lab/facilities, software, etc.) at our organisation	46	3.2	0.96	3.5	4	4	1	5
10. We use one or more established innovation methodologies at our organisation	46	3.15	0.89	3	4	3	2	5
11. We have a formal process for staffing innovation projects at our organisation	46	2.87	0.86	3	3	4	1	5
12. We have a clear set of innovation metrics to manage performance at our organisation	46	2.89	0.9	3	3	4	1	3

The frequency of the responses to the statements on intrapreneurship and the innovation inputs perspective of the balanced scorecard, using the 5-point Likert scale is illustrated in Figure 4.12.

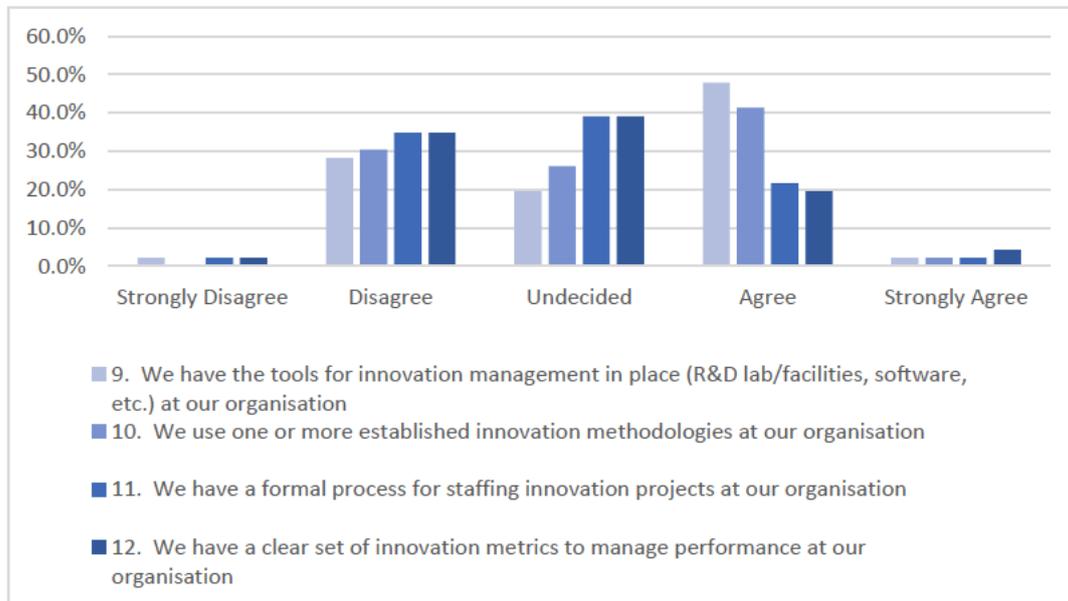


Figure 4.12 Intrapreneurship and Balanced Scorecard Perspectives (Statements 9-12)

Insights and implications of statistical analysis

Analysis of the data with respect to the intrapreneurship and innovation inputs perspective, as an element of the innovation balanced scorecard, indicates that there was some ambivalence with respect to the statement that the case study organisation has the tools for innovation management in place, with 50% of respondents agreeing, 20% undecided, and 30% disagreeing to the statement. This represents a constraint to intrapreneurship as tools for the management of innovation must be readily available and accessible (Cullen et al., 2018).

Similarly, there was also ambivalence with respect to the statement that the case study organisation uses one or more established innovation methodologies, with 44% of respondents agreeing, 30% undecided, and 26% disagreeing with the statement. This finding indicates that the respondents are uncertain or largely unaware of the existence of established innovation methodologies within the case study organisation, essentially pointing to a deficiency that constrains innovation and intrapreneurship. Apart from product and process innovations, which are commonplace in the pharmaceutical industry, radical innovation using open innovation models have emerged as a result of the dynamic and hypercompetitive

business environment (Khanna, 2012; Johnson et al., 2017). Indeed, in the context of the current open innovation milieu, effective pharmaceutical companies are required to function as hubs at the core of collaborative networks, focusing internally on their core competencies, whilst simultaneously facilitating network-wide interactions to stimulate the development of innovation ecosystems (Hunter, 2014). Therefore, in the absence of an established innovation methodology, an organisation cannot leverage the methodologies to stimulate innovation and intrapreneurship.

Consistent with the ambivalence in the responses to the previous statements, there was again ambivalence with respect to the statement that the case study organisation has a formal process for staffing innovation projects, with 24% of respondents agreeing, 39% undecided, and 37% disagreeing to the statement.

Finally, this trend of ambivalence was also evident in the responses to the statement that the case study organisation has a clear set of innovation metrics to manage performance, with 24% of respondents agreeing, 39% undecided, and 37% disagreeing to this statement. This indicates that the case study organisation does not have the capability to manage innovation performance which serves as a constraint because, reiterating the adage of the management guru, Peter Drucker, “if you can’t measure it, you can’t manage it”. Therefore, it is important for the case study organisation to consider a performance management model for innovation that clearly articulates the objectives and metrics to manage performance (Davila et al., 2008).

Innovation inputs, from a balanced scorecard perspective, include the resources and capabilities required to stimulate intrapreneurial actions, the absence of which represents a constraint to intrapreneurship. To this end, Hitt et al. (2011) contend that firms can create unique resource portfolios through the accumulation of resources such as human capital with their knowledge and skills, but also through the acquisition of complementary resources. Further, Kuratko et al. (2005) demonstrated how the pursuit of intrapreneurial opportunities required the deployment of resources. Teng (2007) extended this notion employing the *resource-based view* theory to elucidate the concepts of resource conditions and resource gaps, to demonstrate that resource availability was an antecedent for success in the context of intrapreneurship.

4.4.4 Intrapreneurship and Organisational Culture

The mean, standard deviation, mode, range, minimum and maximum values for the 5-point Likert scale statements on intrapreneurship and organisational culture are reflected in Table 4.14.

Table 4.14 Intrapreneurship and organisational culture

Survey Question	Cases (N)	Mean	Standard Deviation (SD)	Median	Mode	Range	Min	Max
1. We have a process for recognising and rewarding innovators in our organisation	46	2.41	0.78	2	2	3	1	4
2. As an organisation, we request or seek innovation ideas from our employees	46	3.11	1.2	3	4	4	1	5
3. As an organisation, we request or seek innovation ideas from our suppliers	46	3.07	0.8	3	3	4	1	5
4. As an organisation, we request or seek innovation ideas from our partners or industry peers	45	3.22	0.79	3	3	4	1	5
5. As an organisation, we request or seek innovation ideas from our customers	46	3.04	0.76	3	3	4	1	5

The frequency of the responses to the statements on intrapreneurship and organisational culture, using the 5-point Likert scale, are illustrated in Figure 4.13.



Figure 4.13 Intrapreneurship and organisational culture

Insights and implications of statistical analysis

Analysis of the data with respect to the intrapreneurship and organisational culture indicates that there was ambivalence with respect to the statement that the case study organisation has a process for recognising and rewarding innovators, with 42% of respondents agreeing, 50% undecided, and 18% disagreeing to the statement. This indicates that the case study organisation does not have a process for recognizing and rewarding innovation which may pose a constraint to intrapreneurship. This is substantiated in the extant literature, where rewards and reinforcements, as organisational factors for intrapreneurship were found to increase the willingness of employees to participate in innovative activities, and rewards were further found to be a predictor of job satisfaction (Urban & Nikolov, 2013; Van Wyk & Adonisi, 2011). Moreover, the conferring of appropriate rewards and reinforcement is an essential element of the entrepreneurial process, which also heralds desirable behavior among employees (Menzel et al., 2007).

Similarly, there was ambivalence with respect to the statement that the case study organisation requests or seeks innovation ideas from its employees, with 24% of respondents agreeing, 39% undecided, and 37% disagreeing with the statement. This finding holds important implications for intrapreneurship as intrapreneurship occurs at the individual employee-level and these findings therefore suggests that employees are not integral to the innovation process as their ideas are not actively sought or invited. This represents a constraint to the intrapreneurship orientation of the organisation, as corroborated by the extant literature which indicates that organisational factors that promote intrapreneurship include the provision of an appropriate physical environment that facilitates physical proximity and promotes collaboration. Further, reduced hierarchy and bureaucracy are necessary to promote knowledge sharing and collective idea generation, which in turn, promote intrapreneurship (Menzel et al., 2007).

Consistent with the above finding, there was also ambivalence with respect to the statement that the case study organisation requests or seeks innovation ideas from its suppliers, with 48% of respondents agreeing, 17% undecided, and 35% disagreeing with the statement. This finding implies that the organisation is not open to ideas from stakeholders within its value chain, which represents a constraint to intrapreneurship as it suggests the lack of collaborative networks that spur innovation.

Likewise, there was ambivalence with respect to the statement that the case study organisation requests or seeks innovation ideas from its partners or industry peers, with 38% of respondents agreeing, 47% undecided, and 15% disagreeing with the statement. This finding implies that the organisation does not engage in knowledge sharing or collaboration with industry peers, which represents a constraint as it

cannot leverage open innovation opportunities which augment innovation and intrapreneurship (Khanna, 2012). Moreover, open innovation ecosystems necessitate transparency and open information flows to optimally leverage the collective wisdom, specialised skills and expertise that generates innovation (Khanna, 2012; Johnson et al., 2017).

Finally, consistent with all the statements in this category, there was ambivalence with respect to the statement that the case study organisation requests or seeks innovation ideas from its customers, with 24% of respondents agreeing, 57% undecided, and 19% disagreeing with the statement. This has important implications for intrapreneurship as innovation inputs encompass customer insights. Further, the extant literature indicates that a customer-oriented organisation has the propensity to enhance creativity which in turn augments organisational innovativeness (Im & Workman, 2004; Nasution et al., 2011; Johnson et al., 2017).

4.5 Part 2: Thematic Analysis of Qualitative Data

The data analysis for the qualitative research phase involved inductive analysis of the research participant's social reality, and employed a descriptive and explanatory orientation which was aligned to the second phase of the explanatory sequential mixed method design. Thematic analysis was used to identify, analyse and report themes or patterns from the data in the context of the research objectives. The coding and pattern-building process helped the researcher to identify rich sources of codes and themes which formed the foundation for data interpretation and the drawing of meaningful conclusions.

4.5.1 The nature and extent of intrapreneurship orientation in the case study organisation

The themes that emerged from the analysis of the qualitative data with respect to *Research Objective 1* are listed in Table 4.15 below.

Table 4.15 Emerging themes and sub-themes on the concept of intrapreneurship

Themes	Sub-themes
1. Intrapreneurship refers to individual-level innovation	Requires initiative Involves risk-taking Achieve organisational goals
2. Intrapreneurship has wide-ranging benefits	Results in growth Ensures business sustainability improves financial performance Promotes learning by doing Results in process optimization Leads to customer satisfaction
2. Intrapreneurship requires leadership support	Lead by example Encourage innovation Senior Management "buy-in"
3. Intrapreneurship must have an inclusive approach	Across all levels Create opportunities to be heard

1. Intrapreneurship refers to individual-level innovation

Most participants perceived the concept of intrapreneurship to encompass innovation at the level of an individual within an organisation. They further perceive that intrapreneurship requires initiative and risk-taking in order to attain organisational goals. This is illustrated by the excerpts below:

*“It is where an **employee** within [the case study organisation] can be innovative and display entrepreneurship skills to improve the business continuity and success.”* (Participant 4)

*“So, my understanding is that an intrapreneur would be the **person** that is leading, **initiating**, providing innovative ideas within a company, or a department, and also encouraging development of a certain idea and perhaps implementation of this idea, **take the risks**, and drive the success of a project within an organisation, and also lead the brand...”* (Participant 1)

*“Organisational entrepreneurship - meaning the **individuals** within an organisation exhibiting entrepreneurship to **achieve organisational goals**.”* (Participant 5)

This theme resonates with the individual-level construct of intrapreneurship posited by Garcia-Morales et al. (2014) who define intrapreneurship as an organisational process wherein individuals embark on new actions and deviate from the status quo in pursuit of new opportunities. This is also corroborated by Vargas-Halabi et al. (2017) who define intrapreneurship as a process within an existing organisational framework, wherein individuals or groups identify, pursue and exploit opportunities for innovativeness in order to establish or renew an organisation, or to introduce product and process innovations. Moreover, this is consistent with a more recent definition by Cullen et al. (2018) who perceive intrapreneurship as a process whereby individuals or groups identify, pursue and promote innovation within an organisation.

2. Intrapreneurship has wide-ranging benefits

Participants also described intrapreneurship in terms of the perceived outcomes of organisational change and growth, as well as business sustainability, as illustrated by the following excerpts:

*“It is individuals contributing to the **growth** and **change** within the business at all levels of the organisation.”* (Participant 2)

*“It is where an employee within the case study organisation can be an innovative and display entrepreneurship skills to improve the **business continuity** and **success**.”* (Participant 4)

*“The concept of intrapreneurship for me was around business **sustainability** and **growth**.”* (Participant 9)

*“... the more the people have that intrapreneurship spirit within them, they actually **improve the financial performance** of the business, ensuring positive cash flow, or savings.”* (Participant 3)

These perceptions are consistent with Pinchot’s conceptualization of intrapreneurship as a process of innovation-driven organisational growth (Pinchot, 1987). Further it resonates with the outcomes of increased profitability, strategic renewal and innovativeness postulated by Fischer (2011) and the more recent intrapreneurial outcome variables described by Nesssen et al. (2018) which include innovation, business renewal, organisational performance, individual success, as well as productivity.

Participants further identified value-chain benefits of intrapreneurship in terms of **learning by doing**, **process optimisation**, and **customer satisfaction**. This is illustrated in the following excerpts:

“Learning and building skills of employees will assist in implementation of innovation.” (Participant 7)

“Business processes will be streamlined and more efficient when the organisation introduces intrapreneurship.” (Participant 4)

“There's a strong link to customer satisfaction as that determines the direction and objective of innovation which is to meet customer needs.” (Participant 7)

The acknowledgement of value-chain benefits by the participants is congruent with the findings in the extant literature which indicates that human capital represents a key element of innovation input. Further, business processes and technologies are enhanced in contexts where motivated employees absorb and create new knowledge, and further convert that knowledge into new and innovative products and services (Yan, Lin & Maresova, 2021). To this end, innovation may be perceived as a complex human process driven by appropriately qualified and competent individuals, who continue to learn and grow in the context of a dynamic environment (Yan, Lin & Maresova, 2021). Further, learning from mistakes and failures are the antecedents of the development of new competencies (Kuratko, 2009; Cullen et al., 2018).

The link to customer satisfaction, as articulated by Participant 7 is consistent with the findings in the extant literature which shows that a customer-orientated organisation has the propensity to enhance creativity which, in turn, improves the innovativeness of organisations and leads to customer satisfaction (Im & Workman, 2004; Nasution et al., 2011; Johnson et al., 2017).

3. Intrapreneurship requires leadership support

Participants identified leadership support as being central to the concept of intrapreneurship, and extended this notion to leaders leading by example with respect to exemplifying intrapreneurial behaviours. This is expressed in the following excerpts:

*“So, it’s at sort of at the very **highest level**, you know, so the **CEO**, the **Senior Management Team**, will need to **act as intrapreneurs**.”* (Participant 2)

*“And, this is where we need to take that next step and make sure that those that have been exhibiting intrapreneurship behaviour actually get **supported** and can use that to bring it to everybody else and to uplift the whole organisation into that mindset and culture....and, of course, the **exec team** as well, to encourage this.”* (Participant 5)

Participant 2 and Participant 5 allude to the attributes of intrapreneurial leadership which Fontana and Musa (2017) define as a unique leadership style focused on leveraging synergies from diverse talents in a creative and innovative manner that responds to an uncertain business context with coherent strategies and innovative outcomes. To this end, Moriano et al. (2011) contend that entrepreneurial leaders may be considered as transformational leaders who established the most conducive managerial conditions for intrapreneurship, thereby nurturing innovation and creativity of followers.

4. Intrapreneurship must have an inclusive approach

The notion of intrapreneurship being an inclusive approach was identified by Participant 2 and Participant 6, as expressed in the following quotes:

*“So, it’s at sort of at the **very highest level**, you know, so the **CEO**, the **Senior Management Team**, will need to **act as intrapreneurs**. But then it also can exist at a **divisional level**, plus at a **departmental level**, and even lower down at a **team level**, you know. Even **individuals** kind of at the shop floor can display intrapreneurship, even if it doesn’t necessarily impact the business as a whole. It might just play out in their own division. So, that’s just sort of my thoughts; for me its spread **everywhere**.”* (Participant 2)

*“...you know with [Project V]...we do feel supported. We feel like there’s opportunity to be creative, we feel like there’s **opportunity to be heard**.”* (Participant 6)

“Internal people are as much our customers as our patients are. I think sometimes there is a tendency to look after our own turf to the detriment of the organisation and perhaps the greater good.” (Participant 2)

These excerpts indicate that the organisation does not have an inclusive culture, which has led to the participants not feeling supported or valued. People can only grow and develop their intrapreneurial capabilities in a conducive environment. To this end, the importance of an inclusive culture and open communication channels to support intrapreneurial activities and enhance employee self-efficacy has been widely reported in the extant literature (Schein & Schein, 2017; Neessen et al., 2018; van Wyk & Adonisi, 2008).

These themes evoke the notion that participants view and experience intrapreneurship as a “bottom-up” process where employees drive it and take the initiative and the risks, so that the organisational goals, such as growth, profitability and sustainability, may be attained. However, they perceive that the process should be inclusive, and driven by the organisational leadership, who should support the process and provide the opportunity for their views to be heard and considered. This speaks to the organisational culture and structural silos that prevent open and inclusive communication, leading to underlying feelings of isolation and insignificance among employees.

Further, these themes resonate with the extant literature in which Blanka (2019) contends that corporate entrepreneurship, construed as a “top-down” approach, and intrapreneurship, construed as a “bottom-up” approach, are unequivocally linked. This is corroborated by Menzel et al. (2007: 734) who articulate that “*there will not be any innovation without the individual being involved*” and it “*also involves the organisation as a given process parameter*”. Further, this is consistent with the conceptual work of Bouchard and Basso (2011) who indicated the need for an amalgamated perspective on the phenomenon of intrapreneurship, as well as the requisite integration of individual and organisational constructs. Arguably, the role of the participants, as middle managers, is at the nexus of these perspectives, linking these constructs within organisations.

Therefore, in order to promote intrapreneurship within the organisation and to ensure that it is not confined to being an individual-level construct, the leadership of the organisation needs to be open and transparent with respect to their intrapreneurship orientation, and make a concerted effort to lead by example. It is the responsibility of management to create an inclusive culture where intrapreneurship can thrive.

4.5.2 Factors influencing Intrapreneurship Orientation

In this section, the themes that emerged from the analysis of the qualitative data with respect to *Research Objective 2*, are analysed and interpreted. For ease of analysis, the themes have been separated into individual factors influencing intrapreneurship, and organisational factors influencing intrapreneurship.

4.5.2.1 Individual factors influencing intrapreneurship

The themes and sub-themes relating to individual factors influencing intrapreneurship are listed in Table 4.16 below.

Table 4.16 Emerging themes and sub-themes on the individual factors influencing intrapreneurship

Themes	Sub-themes
1. The attributes of an individual	1.1 Self-efficacy 1.2 Learning orientation 1.3 Past experience affects future behavior
2. The attitude of an individual	2.1 Motivation drives action 2.2 A positive attitude promotes intrapreneurship 2.3 Relation to the organisation 2.4 Intention to act intrapreneurially
3. The actions of an individual	3.1 Innovativeness/Creativity 3.2 Proactiveness 3.3 Risk-taking

1. The attributes of an individual

1.1 Self-efficacy

The notion of self-efficacy as an individual-level factor that influences intrapreneurship is evident in the following excerpts from the focus group discussion:

*“The individual should have **self-efficacy**, self-drive, motivation, have vision, be a risk taker, be creative...”* (Participant 4)

“...*perception of your role within the organisation and **perception of the impact you can make.***” (Participant 6)

“*Personality, **confidence and mindset** of an individual.*” (Participant 7)

“*If the first time an innovation was suggested, the feedback was negative or there was any kind of **feeling of inadequacy** by that individual, either intentional or unintentional, due to reactions by colleagues or the manager, you’ll probably find that that will become a huge barrier for that person to ever offer a future innovation again, because they sort of felt that they tried and they failed.*” (Participant 5)

Self-efficacy refers to an individual’s belief in their capacity to perform behaviours necessary to achieve specific performance goals (Bandura, 1982). The identification of self-efficacy as an individual-level factor that influences intrapreneurship is consistent with the observation of Urbano et al. (2013) that entrepreneurial behavior, the identification of opportunities and performance with respect to product development were superior in the presence of higher reported employee self-efficacy. This is further corroborated by Baggen et al. (2016) who observed a positive correlation between perceived self-efficacy and opportunity recognition.

However, conversely, as explicated by Participant 5, negative perceptions of self-efficacy result in disengagement, and is a formidable barrier to future innovativeness. This is consistent with the perspectives posited by Neessen et al. (2018) who contended that the prevailing perspective of perceived behavioural control, as described in the *theory of planned behavior*, resonates with the notion of perceived self-efficacy, as posited by Bandura (1982). Therefore, self-efficacy beliefs potentially influence the selection of intrapreneurial actions, as well as the preparation and level of effort expended during performance of an activity (Neessen et al., 2018).

1.2 Learning orientation

Learning orientation refers to the inclination to increase one’s knowledge and skills. The perception of learning orientation as an individual-level factor that influences intrapreneurship is evident in the following excerpt from Participant 9:

“*It is critical - innovation, collaboration and creativity; building on ideas - all these stimulate learning and growing; when you **learn and grow together** as an organisation you become stronger.*” (Participant 9)

This theme is consistent with the extant literature which indicates that people represent a key element of innovation input (Davila et al., 2008; Grobler et al., 2013). In particular, the ability to learn and acquire new knowledge and skills is critical to organisational performance. Indeed, business processes and technologies are enhanced in contexts where motivated employees absorb and create new knowledge, and further convert that knowledge into new and innovative products and services (Yan, Lin & Maresova, 2021). To this end, innovation may be perceived as a complex human process driven by appropriately qualified and competent individuals. Therefore, to augment intrapreneurship and innovation, organisations are required to create conducive workplaces that support the notions of continuous learning and knowledge sharing to augment the skills and abilities of individuals (Yan, Lin and Maresova, 2021).

Therefore, a learning orientation must be met with opportunities to learn, which arguably, is the role of the organisation's leadership. In the absence of opportunity, and when this learning is not aligned to the organisational vision, people become despondent and disengaged.

1.3 Past experience affects future behaviour

Past experience refers to previous encounters with the concept of intrapreneurship or innovation within an organisation. It is apparent from the sentiments below that past experience may either encourage or impede innovation.

“Past experience to having tried or succeeded with innovation, will play a big role in future innovation.” (Participant 5)

“I just feel that in some instances, especially for people who have been with the company for a very long time, say ten, twenty years plus, the past experiences may not support their engagement with innovation.” (Participant 5)

The identification of past experience as an individual-level factor that influences intrapreneurship is consistent with the empirical observations of Urbano et al. (2013) that past entrepreneurial experience was positively associated with superior intrapreneurial activity outcomes. Moreover, Wang et al. (2013) observed that the knowledge acquired from previous experiences enhances opportunity recognition.

However, the converse may also be true, as articulated by Participant 5. Indeed, a bad experience serves as a deterrent to future intrapreneurial behaviour. It is therefore important that consideration be given to the lived experiences of employees within the organisation and how negative feedback could result in disengagement.

2. The attitude of an individual

2.1 Motivation drives action

It is apparent from the excerpts below that motivation plays a role in intrapreneurial behaviour.

*“On an individual side, you know, there are factors relating to the drive, the **motivation** of the person themselves, their tolerance level to failure.”* (Participant 8)

*“Positive energy, **motivation** and self-fulfillment after goal accomplishment.”* (Participant 3)

Clearly, motivation is an important attribute to foster intrapreneurship, but motivation may be intrinsic or extrinsic. Arguably, both types are needed. Therefore, from an organisational perspective, motivation can be kept alive by recognising and rewarding the intrapreneurial initiatives of employees.

2.2 A positive attitude promotes intrapreneurship

The notion that a positive attitude means not being satisfied with the status quo, and therefore pursuing intrapreneurial actions is illustrated by the following statements by Participant 3.

*“People with **positive attitude** most of the time you find them that they tend to be more entrepreneurial. They tend to want to do more, and people who want to shine, who are **not satisfied** by just doing the ordinary.”* (Participant 3)

“Positive energy, motivation and self-fulfillment after goal accomplishment.” (Participant 3)

The identification of satisfaction as an individual-level factor that influences intrapreneurship is consistent with the extant literature. To this end, job satisfaction, as a dimension of attitude, was positively associated with intrapreneurial behaviour (Antoncic & Antoncic, 2011; Neessen et al., 2018; Reuther et al., 2017). Further, not accepting the status quo has been posited as an intrapreneurial attitude (Neessen et al., 2018).

A positive attitude represents a mindset and it is therefore important to establish an environment where people feel empowered and are able to adopt a positive mindset. This responsibility resides with the organisational leadership to some extent, as they create the organisational climate and culture, either by act or omission.

2.3 Relationship to the organisation

The notion that an individual's attitude affects the way they relate to an organisation is illustrated in the following excerpt:

*“Obviously, the way people **engage** has to do with attitude and that is quite difficult to influence.”*
(Participant 5)

Arguably, the notion of engagement, as expressed by Participant 5, alludes to the way that people relate to each other and the organisation. To this end, empirical research indicates that the relationship with the organisation, specifically commitment to the organisation, is positively related with employee conceptions with respect to innovativeness, proactiveness as well as risk-taking which are all regarded as intrapreneurial behaviours (Neessen et al., 2018). Moreover, Valsania et al. (2016) found that identification with the organisation, as manifested by a sense of belonging, was positively correlated to employee intrapreneurial behavior. This also fortifies the application of the *theory of planned behavior* which holds that attitudes predict intention, which in turn, predicts behavior (Ajzen, 1991).

Therefore, it can be reasonably conceived that an employee's attitude influences their relationship to the organisation, and their commitment to behave intrapreneurially to attain the vision and goals of the organisation. It is important to therefore nurture the right attitude in employees.

2.4 Intention to act intrapreneurially

*“The personality and attitude of the individual will determine to what extent they will **act on their ideas**.”* (Participant 5)

This statement resonates with the *theory of planned behaviour* which holds that an individual's attitude predicts their intention to behave in a specific way (Ajzen, 1991). Further, the attitudinal dimensions of intrapreneurship identified by the focus group participants resonate with those described by Reuther et al. (2017) and Neessen et al. (2018). These include a relationship- and identification with the organisation, satisfaction, motivation as well as the intention to act intrapreneurially.

Therefore, cognisant of the link between attitude and intention, it is important for organisations to nurture the right attitude within individuals to drive the intention to act intrapreneurially.

3. The actions of an individual

3.1 Innovativeness/Creativity

The concept of innovativeness alludes to the pursuit of creative, atypical or novel responses to existing challenges and demands (Ireland et al., 2006), with organisational innovativeness generally accepted as a characteristic conferring competitive advantages leading to enhanced performance (Kraiczy et al., 2015). The perception of innovativeness or creativity as an individual-level factor that influences intrapreneurship is evident in the following excerpt from Participant 9:

*“[U]se your **creativity** and eagerness to learn; be original; lead your **innovative ideas** and influence others towards them, but in line with [the case study organisation's] vision of these concepts.”*
(Participant 9)

The identification of innovativeness as an individual-level factor influencing intrapreneurship is substantiated in the extant literature, and is central to various intrapreneurship frameworks (van Wyk & Adonisi, 2011; Hornsby et al., 2013; Kuratko et al., 2014; Neessen et al., 2018).

However, creativity requires a sense of freedom to explore and learn. Further, creativity requires a conducive environment, which is arguably one that does not impose constraints through structural and functional silos, but one that allows the flow of knowledge and creative exploration across organisational boundaries. Again, the creation of this environment is the role of organisational leadership.

3.2 Proactiveness

The concept of proactiveness refers to self-initiated behaviour where an individual acts in advance of an anticipated problem, need or challenge. Its identification as an individual behavioural dimension that influences intrapreneurship is revealed in the following verbatim statement by Participant 1:

*“...And, if you are a person that is **proactive** than reactive, then chances are that you will initiate things, you will look at processes, you won't carry on as things were before you started.”* (Participant 1)

The identification of proactiveness as an individual-level factor influencing intrapreneurship is consistent with the findings of Seborá and Theerapatvong (2010) who found that managerial proactiveness was positively correlated to organisational intrapreneurial climate. Clearly, employees will only initiate behaviour if they feel that it is safe to do so. Therefore, it is important that the organisational leadership create a safe space for intrapreneurial initiatives.

3.3 Risk-taking

The identification of risk-taking as an individual behavioural dimension that influences intrapreneurship is revealed in the following excerpt from Participant 4:

*“The individual should have self-efficacy, self-drive, motivation, have vision, be a **risk-taker**, be creative...”* (Participant 4)

This finding is consistent with the notion emanating from the extant literature that considered risk taking is an important entrepreneurial characteristics that stimulate intrapreneurship (Ireland et al., 2006; Neessen et al., 2018). However, Ireland et al. (2006) contend that the caveat with risk-taking is that risks should be cautiously calculated, with the acknowledgement that intrapreneurship decisions could result in potential gains and losses (Ireland et al., 2006), and the intrapreneur should preserve the best interests of the organisation as well as its customers (Vargas-Halabi et al., 2017).

Arguably, risk-taking by an individual is also dependent on the organisation’s risk tolerance. If the organisation is risk-averse, intrapreneurship will be constrained as innovation and, by extension, intrapreneurship are inherently risky undertakings.

The themes and sub-themes identified by the participants regarding the individual factors that influence intrapreneurship are consistent with the extant literature (Blanka, 2019; Kuratko et al., 2014; Rigtering & Weitzel, 2013). Further, they resonate with the classification of Neesen et al. (2018), who draw from the theory of planned behavior to categorise the determinants of employee-driven intrapreneurship into ‘behaviour’, ‘attitudes’ and ‘characteristics’. As such, Neessen et al. (2018) perceive *attitudes* as the extent to which an individual appraises intrapreneurial behavior as positive or negative. He perceives *perceived behavioural control* as an element that also influences intrapreneurial behavior which is underpinned by certain individual *characteristics*. And, lastly he perceives *subjective norms*, the perceived pressure to engage in intrapreneurial behavior, as an antecedent for *behavior*.

Undoubtedly, individuals do not function in a vacuum. Therefore, the organisational context for intrapreneurship is an important consideration, as it can either serve as a catalyst or a constraint for intrapreneurship. This will be reviewed in the next section.

4.5.2.2 Organisational factors influencing intrapreneurship

The themes and sub-themes relating to organisational factors influencing intrapreneurship are listed in Table 4.17 below.

Table 4.17 Emerging themes and sub-themes on the organisational factors influencing intrapreneurship

Themes	Sub-themes
1. Leaders must lead	1.1 Management support 1.2 Link to vision and corporate strategy 1.3 Trust and open communication 1.4 Reduce bureaucracy/red-tape
2. Culture must be conducive	2.1 Recognition and Rewards 2.2 Risk and Failure Tolerance 2.3 Learning culture
3. Resource allocation and orchestration	3.1 Platform for innovation 3.2 Tools and technology 3.3 Money, people and time to innovate
4. New and improved capabilities	4.1 Change management 4.2 Human capital management
5. Autonomy and work discretion	5.1 Time and space to innovate

1. Leadership

1.1 Management support

The identification of management support as an organisational factor that influences intrapreneurship is revealed in the following excerpts:

“Support from senior management.” (Participant 3)

*“And, I think that’s one of the things where, as a managerial group, we have huge opportunity to influence and to **encourage people to become more intrapreneurial.**”* (Participant 5)

These empirical findings are consistent with the extant literature which indicates that management support is critical to employees who were keen on undertaking intrapreneurial activities (Neessen et al., 2018; Van Wyk & Adonisi, 2011). However, managerial support, as an organisational condition for intrapreneurship is multi-dimensional. The dimensions of managerial support include the facilitation and promotion of intrapreneurship by management, encouraging and recognizing that activities may encompass some risk-taking, as well as the creation of a climate and culture that supports innovation (Garcia-Morales et al., 2014).

Arguably, management support goes deeper than merely creating the structures and processes for intrapreneurship. Management support entails earning the trust of employees, and winning their hearts and minds by honest and transparent communication, and demonstrating authenticity and integrity. Further, employees must be able to function without fear of punishment or alienation, knowing that they are supported in exploring opportunities and ideas which may not always bear fruition.

1.2 Link to vision and corporate strategy

The identification of the link to vision and corporate strategy as an organisational factor that influences intrapreneurship is revealed in the following excerpts:

*“I think that’s the tipping point we’re at at the moment, is that in the past, intrapreneurship was more informal, and now **we want to make it more formal to reach our company goal.**”* (Participant 5)

*“I think that there needs to be some kind of **vision** and...some **strategic linkage** that we can see through this.”* (Participant 8)

These findings resonate with the contention of Morris et al. (2011) that in the presence of a clear vision of the desired future, employees are able to direct their actions to realise the innovation imperative. Further, these findings are consistent with the assertion of Moriano et al. (2011) that leaders are considerably more successful at facilitating entrepreneurial behavior in the context of a shared vision and mission. Fontana et al. (2017) extends this notion by asserting that entrepreneurial leaders influence their followers to identify opportunities and promote a shared vision of organisational success and sustainability. Finally, the link between vision and strategy is explicated by Cohen (2004) in his assertion that entrepreneurial leaders create the vision for the organisation and thereafter establish the strategy, structure, systems, protocols along with the culture that permit individuals within the organisation to proactively achieve the vision.

Indeed, in order to promote intrapreneurship within the organisation, a clear link must be established between the organisation's vision and its strategy. Moreover, this vision must be shared with employees to ignite an intrapreneurial spirit. Further, managerial employees must be afforded the opportunity to co-create the strategy for innovation and intrapreneurship. This would create a sense of ownership and further serves to cement their commitment to intrapreneurial actions and outcomes.

1.3 Trust and open communication

The identification of trust and communication openness as an organisational factor that influences intrapreneurship is revealed in the following verbatim statements:

*“[J]ust to re-emphasise also on **communication openness** at organisational level. We know that's also key to help people engage freely, you know, and come up with these ideas, and feel important and valued at the end of the day once we do that.”* (Participant 1)

*“The organisation needs to be **open to accepting ideas from all levels.**”* (Participant 2)

*“The organisation can **open doors** by engaging in culture change, **communicating** goals and embracing mistakes as learning opportunities.”* (Participant 5)

These findings are substantiated by Antoncic & Hisrich (2001) who contend that the innovation process is impeded when people fail to speak a common language or when communication is impaired by structural silos which impede information flows. Therefore, organisations characterised by diminished hierarchy as well as decreased structural silos contribute to enhance employee initiative, transparent communication, and ultimately a robust sense of belonging (Cohen, 2004; Rigtering & Weitzel, 2013; Van Wyk & Adonisi, 2011).

Arguably, trust is reciprocal. Employees and the organisational leadership need to trust and be trusted. Honesty builds trust, and therefore consistent, open and honest communication is important to create a conducive environment for intrapreneurship.

1.4 Bureaucracy/red-tape

Bureaucracy, commonly referred to as “red tape”, manifests in organisations as hierarchical structures, legalistic mindsets and rigid, and often conservative, procedures. The identification of bureaucracy as a factor that influences intrapreneurship is revealed in the following verbatim quote:

“Informally individuals will drive this themselves. However they may be hindered by culture and "red tape" in implementation.” (Participant 5)

This finding is consistent with the extant literature which indicates that many organisations impede intrapreneurship through structural constraints such as bureaucratic routines (Ireland et al. 2006; Morris et al., 2011). However, Birkenshaw (2003) contends that *all* organisations have established systems and structures that constrain employees from acting in an entrepreneurial way, and therefore individuals should be ready to actively challenge those structures and systems.

Clearly, in order to promote intrapreneurship, the organisation’s leadership needs to create a structure that limits bureaucracy, and makes the innovation process less arduous within the organisation.

2. Culture must be conducive

Culture is pervasive and permeates all aspects of organisational life, influencing its strategy, core business and its various environments (Johnson et al., 2017). Expectedly, organisational culture emerged as a theme for organisational factors influencing intrapreneurship. The sub-themes identified from the focus group discussion participants include recognition and rewards or reinforcements; risk and failure tolerance; and learning culture.

2.1 Recognition and rewards/reinforcement

The identification of recognition, rewards or reinforcements as an organisational factor that influences intrapreneurship is revealed in the following excerpts:

*“The organisation needs to be **open to accepting ideas** from all levels. Any idea is a good idea. It may spark a process of thinking or encourage others to participate, eventually resulting in the big changes that we want to see.”* (Participant 2)

*“...[T]hen enabling the employees, by providing and training them with the right tools, it could be resources, time, and other tools, and things like that, **recognition and reward** for ideas, for innovation that they come up with.”* (Participant 8)

These findings are substantiated by empirical studies which found that rewards and reinforcements increase the willingness of employees to participate in innovative activities, and rewards were further found to be a predictor of job satisfaction (Urban & Nikolov, 2013; Van Wyk & Adonisi, 2011).

Further, a review of the extant literature revealed that the conferring of appropriate rewards and reinforcement is an essential element of the entrepreneurial process, and also heralds desirable behavior among employees. To this end, it is imperative that an effective recognition and rewards system is cognisant of the intrapreneurial goals, feedback, individual roles and responsibilities, as well as the importance of positive reinforcements, in order to generate results-driven incentives (Hornsby et al., 2002; Kuratko, 2009; Cullen et al., 2018).

2.2 Risk and failure tolerance

The identification of risk and failure tolerance as an organisational factor that influences intrapreneurship is revealed in the following verbatim statements:

*“The organisation can open doors by engaging in culture change, communicating goals and **embracing mistakes as learning opportunities**.”* (Participant 5)

*“On an organisational level, there would be multiple factors that can influence it, including the **tolerance levels** of the organisation itself, towards accepting, you know, different ideas, as well as **failure**, you know, **mistakes** and things like that.”* (Participant 8)

The sub-theme of risk and failure tolerance as an organisational factor influencing intrapreneurship, is consistent with the extant literature on intrapreneurship which indicates that the ability to appropriately handle failure, by regarding it as an opportunity to learn from mistakes, and considered risk taking are important entrepreneurial characteristics that stimulate intrapreneurship (Ireland et al., 2006; Neessen et al., 2018; Vargas-Halabi et al., 2017).

2.3 Learning culture

The identification of learning culture as an organisational factor that influences intrapreneurship is revealed in the following excerpts:

*“[U]nless we start changing the **culture** to say well, you know what, it’s okay if you don’t succeed every single time because we **learn** from our mistakes, then we might be able to encourage that courage to come up with more innovation.”* (Participant 5)

*“[U]se your creativity and eagerness to **learn**; be original; lead your innovative ideas and influence others towards them **BUT** in line with [the case study organisation’s] vision of these concepts.”* (Participant 9)

These findings resonate with the notion that improvements in overall organisational learning, including learning from mistakes and failures are the antecedents of the development of new competencies (Cullen et al., 2018; Kuratko, 2009). Further, Cullen et al. (2018) assert that individual learning and intrapreneurship collectively create the organisational culture and learning processes.

Schein and Schein (2017) postulate the characteristics of a learning culture as one that embodies proactive and inclusive problem-solving underpinned by systemic thinking; a commitment to “*Learning to Learn*” accompanied by the provision of resources and timeous feedback to facilitate learning, as well as the ability to generate learning opportunities, and tolerance for errors and failures as part of the learning process.

3. Resource allocation and orchestration

Resources refer to the tangible and intangible assets acquired by the organisation to achieve its goals (Johnson et al., 2017). Notably, resources need to be distinctive in the sense that they are valuable, rare, inimitable and provide organisational support (VRIO) in order for them to confer a competitive advantage.

Consistent with these notions, the sub-themes identified from the focus group discussion participants include the availability of a platform for innovation, technology and tools, financial resources, human resources, and time to innovate.

3.1 Platform for innovation

The identification of the availability of a platform for innovation as an organisational factor that influences intrapreneurship is substantiated by the following excerpts:

*“It’s really like **creating the platform** within an organisation for people to generate ideas and those ideas feed other ideas, and you get this sort of snowball effect of people contributing even if they only just say a little kind of 2 cents, but it’s the progression of thought that then results in a change ultimately.”* (Participant 2)

*“Some of them, at times, they feel like they don’t have that **platform** to actually air, or to show up, to show their innovative ideas. And, maybe it’s something that as managers we need to improve in terms of engaging more with them how they can, because, once you allow them that **space**, you can see that they are actually capable of doing more.”* (Participant 3)

*“But, just one thing to add to that is to have an **avenue** within the organisation to treat new ideas as business ideas. Just as you would, you know, as entrepreneurs, to have that avenue of being able to collect those ideas, to treat those ideas as business ideas and to be able to process it and develop it to expand the business, as an example.”* (Participant 8)

This finding is corroborated by the extant literature which indicates that in order to augment innovation, organisations need to create conducive workplaces that support the notions of continuous learning, knowledge sharing and the generation of creative ideas (Kuratko et al., 2005; Ireland et al., 2006; Yan, Lin and Maresova, 2021). Further, Johnson et al. (2017) aver that it is vital for organisations to provide a favourable entrepreneurial ecosystem that promotes intrapreneurial behavior which, in turn, will augment the competitive advantage conferred by innovation.

3.2 Tools and technology

The identification of the availability of technology and tools as an organisational factor that influences intrapreneurship is substantiated by the following excerpts:

*“I think one thing that we left out was **technology**. I think it’s very, very important in terms of influencing intrapreneurship, because without being techno-savvy, it can hinder growth and, you know, moving forward.”* (Participant 1)

*“Then enabling the users, enabling the employees, by providing and training them with the **right tools**, it could be resources, time, and other tools, and things like that...”* (Participant 8)

These findings resonate with the assertion of Johnson et al. (2017) that resources, including enabling tools, are required for opportunity recognition.

3.3 Money, people and time to innovate

The identification of the availability of financial and human resources as organisational factors that influence intrapreneurship is substantiated by the following verbatim rhetorical question by Participant 9:

*“Do we have the **financial resources** and/or human resources to achieve the concept of intrapreneurship?”* (Participant 9)

The identification of the availability of time to innovate as an organisational factor that influences intrapreneurship is substantiated by the following verbatim statement by Participant 8:

*“Then enabling the users, enabling the employees, by providing and training them with the right tools, it could be resources, **time**, and other tools, and things like that...”* (Participant 8)

These findings are consistent with the notion that intrapreneurial resources required by organisations include people, finances, assets and organisational business plans (Mahoney & Kor, 2015; Spinelli & Adams, 2012). It also resonates with the assertion by Neessen et al. (2018) that the availability of the right resources, such as time, as well as financial resources, are critical for advancing intrapreneurship.

4. Need for new and improved capabilities

Capabilities refer to the ways in which resources are deployed and managed by an organisation. The identification of the need for new and improved capabilities as a factor that influences intrapreneurship is revealed in the sub-themes of change management and people management that are explicated below.

4.1 Change management

Change management refers to all the approaches deployed to prepare, support and assist employees and organisations in dealing with changes (Grobler et al., 2013). The identification of change management as an organisational capability that influences intrapreneurship is substantiated by the following excerpts:

“How do we deal with change? Are we emotionally intelligent enough to deal with different ideas and change?” (Participant 9)

*“The organisation can open doors by engaging in culture **change**, communicating goals and embracing mistakes as learning opportunities.”* (Participant 5)

Arguably, change management requires organisational agility, and the ability to be flexible and adaptable. To this end, these findings resonate with the assertion by Morris et al. (2011) that the cornerstones of intrapreneurship encompass flexibility, speed, innovation and entrepreneurial leadership. This is consistent with, and develops the notion that the solution to the current hyper-competitive business milieu is agility, adaptability, resilience, tenacity and innovativeness, which Morris and Kuratko (2002) also posited as the tenets of intrapreneurship.

Moreover, change management and the capacity to orchestrate change and re-direct the organisation towards an intrapreneurial orientation requires proficiency in problem solving, networking, vision articulation, and the ability to lead and be led with courage and fortitude. This is the key to winning the hearts and minds of the people in an organisation.

4.2 Human capital management

Human capital management refers to a set of practices designed and employed by organisations for recruitment, management and optimization of employee in order to enhance their value to the organisation. The role of human capital management in intrapreneurship is substantiated by the concept that human capital represents a key element of innovation input. Indeed, business processes and technologies are enhanced in contexts where motivated employees absorb and create new knowledge, and further convert that knowledge into new and innovative products and services (Yan, Lin & Maresova, 2021). To this end, innovation may be perceived as a complex human process driven by appropriately qualified and competent individuals. Moreover, in the current knowledge era, it is the knowledge that is embedded in human capital that constitutes the distinctive resource and, arguably, strategic asset that augments organisational performance and profitability (Lin, 2017).

The identification of the training aspect of human capital management is explicated by the following statement by Participant 8:

*“Then enabling the users, enabling the employees, by providing and **training** them with the right tools...” (Participant 8)*

The identification of the recruitment, talent management, and employee optimisation aspects of human capital management is explicated by the following excerpt:

*“[I]t starts with your **recruitment** in terms of getting the right people, and it goes with your **talent management** throughout the process. So that you will have these **engaged** people, the right kind of people as they have already said, in terms of the right attitude and all of that. But, once people are now in the organisation and then the organisation has to ensure that you **nurture** that talent such that when you are now getting them into the space of getting these creative juices out of them, they are willingly and knowing that the organisation has a conducive environment for them to contribute to that level.” (Participant 10)*

These findings are consistent with the concept that organisations are dependent on their human capital for innovation. Hence, the core dynamic capability associated with organisational employees is human capital management. Moreover, in the context of intrapreneurship and innovation, capabilities also refer to the expected behaviours of employees in order to attain the organisation’s innovation objectives (Jardon, 2016; Johnson et al., 2017). To this end, intrapreneurial behavior is underpinned by engaged, dynamic, innovative, entrepreneurial and motivated individuals who are committed to achieve organisational and individual objectives. Therefore, Jardon (2016) avers that it is imperative that human capital management focus on developing and leveraging both employee competencies (knowledge, skills and abilities), as well as employee commitments (willingness to work towards innovative outcomes) to enable human capital to both innovate and compete.

Further, in the context of the “war for talent”, talent management is arguably critical to organisational success, due to the competitive advantage that is derived from the valuable, rare, inimitable knowledge and skills of talented employees (Kryscynski & Ulrich, 2015; Srivastava, 2015). To this end, effective talent management is predicated on progressive human capital management systems and processes that optimise workforce planning, conduct “talent-gap” analysis, and re-orientate recruitment and selection through establishing an employee value proposition that articulates the vision, values and culture of the organisation and its anticipated employee benefits (Grobler et al. 2013; Lin, 2017). It is also imperative that incumbent talent is engaged, trained, developed, retained and performance managed to realise optimal value from these strategic resources (Lin, 2017).

5. Autonomy and work discretion

Discretionary time and the space to work on an individual's own ideas that advance the organisation is an integral element of intrapreneurship (Gupta & Srivastava, 2013). To this end, organisations that facilitate innovation provide people with the freedom to utilise a portion of their time to explore new ideas, at their own discretion (Neessen et al., 2018).

The identification of work discretion and autonomy or freedom of expression as organisational factors that influences intrapreneurship is substantiated by the following excerpts:

*“I think a big part is the **freedom** within an organisation for people to **express** themselves and not feel judged or side-lined because of their thinking or viewpoint.”* (Participant 2)

*“[U]se your **creativity** and eagerness to learn; **be original**; lead your innovative ideas and influence others towards them **BUT** in line with [the case study organisation's] vision of these concepts.”* (Participant 9)

These findings are consistent with those of Neessen et al. (2018) who found that intrapreneurial activities were increased in the presence of work discretion, and employee autonomy. Further, in their study on intrapreneurship, van Wyk and Adonisi (2011) found that adequate time availability significantly enhanced intrapreneurship. Moreover, Kuratko et al. (2014) found that employees endowed with work discretion have a higher propensity to identify intrapreneurial opportunities as they are supported in their innovation endeavours.

The themes and sub-themes identified by the participants are consistent with the extant literature that has identified the key organisational factors that influence intrapreneurs as comprising of management support; organisational structure; rewards and reinforcements; and resources and capabilities (Hornsby et al., 2002; Kuratko et al. 1990; Rigtering & Weitzel, 2013; Van Wyk & Adonisi, 2011).

4.5.3 Intrapreneurship and Organisational Culture

The themes relating to the relationship between intrapreneurship and organisational culture are aligned to *Research Objective 3*, and are listed in Table 4.18 below.

Table 4.18 Emerging themes on relationship between intrapreneurship and organisational culture

Themes
1. Collaborative innovation culture
2. Intrapreneurial leadership behaviour
3. Synergistic relationship
4. Cause and effect relationship

1. Collaborative innovation culture

The identification of the innovation culture archetype that is conducive to intrapreneurship is explicated by the following statements:

*“If there is no **culture of innovation**, it will be difficult to enable intrapreneurship.”* (Participant 7)

*“To allow employees to foster ideas and bring forward their contributions as well as support initiatives, there needs to be a **culture of sharing, innovation and inclusiveness** in the organisation.”* (Participant 8)

*“[I]f you don’t have an organisational culture that is conducive to expressing intrapreneurship, to idea development, to being **innovative** ... If you don’t promote this type of organisational culture that makes **intrapreneurship conducive**, you’ll never reap the benefits of intrapreneurship and what it can bring to your organisation.”* (Participant 9)

These findings are consistent with the assertion by Khanna (2012) that organisational culture is one of the most salient barriers to innovation. Therefore, in order to realise the creativity and productivity benefits of innovation, it is imperative to create an innovation culture that is inclusive and collaborative and one that promotes knowledge sharing and joint decision-making.

2. Intrapreneurial leadership behaviour

The identification of leadership behaviour as drivers of an innovation or intrapreneurial-orientated culture is expressed in the following verbatim sentiments:

“Exec actions and behaviours will create culture. Leader behaviours are mirrored, even if it is unintended.” (Participant 5)

“I think they are intimately linked. I feel that organisational culture is possibly the strongest driving force for intrapreneurship. This is fed from top management down.” (Participant 6)

These findings are consistent with the extant literature and resonate with Spinelli and Adams’ (2012) characterisation of effective entrepreneurial leaders as those that exhibit a superior work ethic, honesty, integrity as well as fairness. Further, entrepreneurial leaders possess creative talents to recognize and leverage opportunities that instills a sense of confidence in their followers (Spinelli & Adams, 2012). To this end, entrepreneurial leaders may be considered as transformational leaders who established the most conducive managerial conditions for intrapreneurship, thereby nurturing innovation and creativity of followers (Moriano et al., 2011). Further, Khanna (2012) contends that the establishment of an innovation culture necessitates supportive and inspirational leadership that is arguably driven by passion and purpose towards advancing the innovation agenda.

Moreover, this finding is substantiated by Kuratko et al. (2014) who contend that the championing of innovative ideas requires a willingness by the organisation’s leadership to facilitate and promote entrepreneurial behaviour (Kuratko et al., 2014). To this end, championing intrapreneurship incorporates the actions of top level management to coach, protect and marshal resources towards intrapreneurship (Cullen et al., 2018; Goosen et al., 2002). Hence, championing determines the organisational culture and risk appetite, which in turn, influences intrapreneurial behavior (Cullen et al., 2018).

3. Synergistic relationship

The identification of the theme of a synergistic relationship between organisational culture and intrapreneurship is illustrated by the following excerpts:

“It is a strong synergistic relationship that exists between intrapreneurship and organisational culture. They both work hand in hand.” (Participant 4)

*“There is a direct relationship. Both need to be **aligned**.”* (Participant 8)

These findings are supported by the notion that the culture must be aligned to the organisational strategy (Johnson et al., 2017).

4. Cause and effect relationship

The identification of the innovation/intrapreneurial culture archetype that enables intrapreneurship is explicated by the following statements:

*“It has to be triggered. And, I think the organisation needs to trigger it, and then you’ll see all those that have those entrepreneurial skills that thrive and, you know, flourish. And, then it will start working together, I feel. But, cause and effect. Yeah, I would say, you know, the **organisational culture is actually the cause and does need to trigger these skills in the employees in the organisation.**”*

(Participant 4)

*“I think they are intimately linked. I feel that **organisational culture is possibly the strongest driving force for intrapreneurship.** This is fed from top management down.”* (Participant 6)

*“So, I think, for me it is very clear – **organisational culture will drive intrapreneurship.** Because the bottom line is you can have as many wonderful, beautiful, innovative, creative ideas, coming out of your ears, but if you do not have an organisation that takes these ideas, interprets them for the benefit of the vision, and then helps them grow, you can do nothing with a really great entrepreneurial spirit, unless it is expressed through the organisational culture. So, for me, the dynamic is very clear. Unless the organisational culture is right, you won’t experience the benefits of intrapreneurship.”* (Participant 9)

These findings are corroborated by the extant literature which indicates that when an organisation has an established history, such is the case in this study, its culture may then be construed as more of a “cause”, rather than an “effect” of its strategy, in that the culture then influences the strategy, and becomes authoritative with respect to the perceptions, thoughts, and feelings of organisational members, influencing their behavior (Johnson et al., 2017; Schein & Schein, 2017).

In summary, the themes and sub-themes identified by the participants are consistent with the extant literature that elucidates the relationship between organisational culture and intrapreneurship, and characterises the organisational culture archetype that is conducive to innovation and intrapreneurship as an innovation culture (Khanna, 2012). Further the cultural underpinnings of intrapreneurial leadership behavior with respect to encouraging and reward innovation are consistent with empirical findings in this domain (Hornsby et al., 2002; Kuratko et al. 1990; Rigtering & Weitzel, 2013; Van

Wyk & Adonisi, 2011). Finally, the nature of the relationship between intrapreneurship and organisational culture is explicated with reference to the emerging themes of a synergistic relationship and a cause-and-effect relationship.

4.6 Part 3: Triangulation

The explanatory sequential mixed methods design offers the opportunity for triangulation. In this case, the qualitative data is compared to the quantitative data to provide an explanation of the results, as well as to enhance the confidence in the results. Triangulation of the results of the quantitative and qualitative data analysis is presented in the context of the research objectives.

4.6.1 Research objective 1

To evaluate the nature and extent of the case study organisation's intrapreneurship orientation

Findings from quantitative data analysis:

The results from the quantitative data analysis indicated that intrapreneurship orientation of the managerial employees themselves were high, with a median Likert-scale score of 4. However, the overall intrapreneurship orientation of the organisation was found to be uncertain, with a median Likert-scale score of 3.5.

Inferential statistics, employing the chi-squared test, did not show a statistically significant relationship between level of education of managerial employees and their intrapreneurship orientation. There was also no statistically significant relationship between the tenure of the managerial employees and their intrapreneurship orientation, or the level of management and their intrapreneurship orientation. In particular, there was no statistically significant relationship between middle-level management and intrapreneurship orientation as compared to upper and lower management levels.

Findings from qualitative data analysis:

The findings from the qualitative data analysis indicated that participants perceived intrapreneurship to be an individual-level construct, and appreciated its wide-ranging outcomes. However, leadership support and an inclusive approach were perceived requirements to promote intrapreneurship within the organisation, and to ensure that it is not confined to being an individual-level construct.

Triangulation of findings:

These findings from the quantitative data analysis are congruent with the qualitative data analysis with respect to the nature (individual-level) and extent (undecided or neutral orientation) because although the individual intrapreneurship orientation appears to be high, when organisational factors are included, the overall intrapreneurship orientation of the organisation is lowered.

4.6.2 Research objective 2

To identify the strengths and weaknesses that influence the case study organisation's intrapreneurship orientation

Findings from quantitative data analysis:

Based on the median 5-point Likert-scale scores, the individual and organisational strengths and weaknesses are tabulated in Tables 4.19 and Table 4.20, respectively.

Table 4.19 Individual-level strengths and weaknesses with respect to intrapreneurship

Strengths	Median score	Weaknesses	Median score
Collaboration	4	Innovation competencies	3
Commitment to continuous learning	5		

Table 4.20 Organisational strengths and weaknesses with respect to intrapreneurship

Strengths	Median score	Weaknesses	Median score
Tolerance for failure	4	Environment for innovation	3
Established innovation strategy	4	Time to innovate	3
Alignment of innovation and corporate strategy	4	Support for risk-taking	3
Senior executive driving innovation	4	Processes to support innovation (idea selection and development)	3.5
		Innovation inputs/resources (human resources, tools, technology and funding)	3.25

Findings from qualitative data analysis:

Based on the thematic analysis, the individual factors that promote intrapreneurship (+), and which therefore can be conceived as strengths are tabulated in Tables 4.21.

Table 4.21 Individual factors that promote intrapreneurship

Themes	Sub-themes
1. The attributes of an individual	1.1 Self-efficacy (+) 1.2 Learning orientation (+) 1.3 Past experience affects future behavior (+/-)
2. The attitude of an individual	2.1 Motivation drives action (+) 2.2 A positive attitude promotes intrapreneurship (+) 2.3 Relation to the organisation (+/-) 2.4 Intention to act intrapreneurially (+)
3. The actions of an individual	3.1 Innovativeness/Creativity (+) 3.2 Proactiveness (+) 3.3 Risk-taking (+)

Based on the thematic analysis, the organisational factors that promote intrapreneurship, and which can therefore be conceived as strengths (+), and those that hinder intrapreneurship and can therefore be conceived as weaknesses (-) are tabulated in Tables 4.22 below.

Table 4.22 Organisational factors that promote intrapreneurship

Themes	Sub-themes
1. Leaders must lead	1.1 Management support (+/-) 1.2 Link to vision and corporate strategy (+) 1.3 Trust and open communication (-) 1.4 Reduce bureaucracy/red-tape (-)
2. Culture must be conducive	2.1 Recognition and Rewards (-) 2.2 Risk and Failure Tolerance (-) 2.3 Learning culture (+)
3.Resource allocation and orchestration	3.1 Platform for innovation (-) 3.2 Tools and technology (-) 3.3 Money, people and time to innovate (-)
4.New and improved capabilities	4.1 Change management (+/-) 4.2 Human capital management (+/-)
5.Autonomy and work discretion	5.1 Time and space to innovate (-)

These findings indicate that the alignment of the intrapreneurship agenda with the corporate strategy and vision, and the existence of a learning culture are strengths in the case study organisation. The weaknesses include a lack of trust and open communication, bureaucracy, the lack of rewards and recognition, as well as resources for innovation, risk and failure aversion, as well as a lack of the required conditions to support intrapreneurship such as autonomy and work discretion.

Triangulation of findings:

These findings of the qualitative data analysis are congruent with the findings of the quantitative data analysis with respect to the identified strengths and weaknesses. Therefore the strengths that influence the case study organisation's intrapreneurship orientation are the strong intrapreneurship orientation of its managerial employees, its learning culture that manifests as a commitment to continuous learning, as well as the alignment of its innovation strategy with its corporate strategy, implying a strategic focus on intrapreneurship. The weaknesses include lack of a conducive environment and conditions for innovation, risk aversion, resource constraints and a lack of supportive processes for innovation.

4.6.3 Research objective 3

To investigate the relationship between the case study organisation's intrapreneurship orientation and organisational culture.

Findings from quantitative data analysis:

Based on the median 5-point Likert-scale scores, as indicated in Table 4.23 below, the organisational culture is not conducive to innovation and intrapreneurship, as the organisation does not recognize and reward innovation and does not collaborate with value-chain stakeholders for innovation initiatives.

Table 4.23 Median Likert-scale scores for organisational culture

Construct	Median Likert-scale score
Rewards and recognition	2
Collaboration with employees, suppliers, industry partners and customers	3

Findings from qualitative data analysis:

Based on the thematic analysis, a collaborative innovation culture was considered as important to promote intrapreneurship factors that promote intrapreneurship, along with leadership intrapreneurial behavior. Further, the relationship between intrapreneurship and organisational culture was seen as synergistic as they must necessarily be aligned, but a cause-effect relationship was also posited, with organisational culture construed as driving intrapreneurship.

Triangulation of findings:

The findings from the qualitative data analysis that a collaborative innovation culture is required to drive intrapreneurship explains the results of the quantitative data analysis, where the culture was not found to be conducive to intrapreneurship because of the lack of collaboration with value-chain stakeholders as well as a lack of recognition and rewards for innovation.

4.6.4 Research objective 4

To explore strategies to augment the case study organisation's intrapreneurship orientation

The strategies to augment the organisation's intrapreneurship orientation are necessarily predicated on leveraging its strengths and mitigating its weaknesses. To this end, the strategies that have emerged from the quantitative and qualitative data analysis include the following:

1. Organisational leadership to demonstrate support for innovation
2. Organisational leadership to build trust and ensure open communication
3. Organisational leadership to reduce bureaucracy and create a conducive structure to support its innovation strategy.
4. Creation of a platform for innovation.
5. Creation of a culture of innovation and collaboration
6. Fostering of a culture of continuous learning, including learning from mistakes
7. Allocation of resources for intrapreneurship
8. Development of innovation capabilities

CHAPTER FIVE: CONCLUSION, RECOMMENDATIONS AND LIMITATIONS

5.1 Introduction

The preceding chapter presented the results of the quantitative data analysis and qualitative data analysis separately, and subsequently employed triangulation to integrate and converge the findings of both phases of the study. The findings of the study were interpreted in the context of the literature review and selected theoretical underpinnings of the phenomenon of intrapreneurship.

The primary focus of this chapter of the dissertation is to present the conclusions of the study, the recommendations that have emanated as a result of the interpretation of the results of this study, and, finally, to present the limitations of the study and suggest future avenues for research.

5.2 Study Conclusions

The study conclusions are presented in the context of the research objectives.

5.2.1 Evaluation of the nature and extent of the case study organisation's intrapreneurship orientation

This study has revealed that although managerial employees themselves have a high intrapreneurship orientation, the intrapreneurship orientation of the organisation itself is uncertain. Therefore the nature of the intrapreneurship orientation may be considered as an individual-level or "bottom-up" intrapreneurial orientation, and its extent may be considered as uncertain or neutral, and therefore unfavourable.

5.2.2 Identification of the strengths and weaknesses that influence the case study organisation's intrapreneurship orientation

The strengths that promote the case study organisation's intrapreneurship orientation are the strong intrapreneurship orientation of its managerial employees, its learning culture that manifests as a commitment to continuous learning, as well as the alignment of its innovation strategy with its corporate strategy, implying a strategic focus on intrapreneurship. The weaknesses that constrain the organisation's intrapreneurship orientation include the lack of a conducive environment and conditions

for innovation, the organisation's risk aversion, resource constraints and a lack of supportive processes for innovation.

5.2.3 Investigation of the relationship between the case study organisation's intrapreneurship orientation and organisational culture

The relationship between intrapreneurship and organisational culture was seen as synergistic as they must necessarily be aligned, but a cause-effect relationship was also posited, with organisational culture construed as driving intrapreneurship. Further, a collaborative innovation culture that recognised and rewarded innovation, was considered as important to promote intrapreneurship.

5.2.4 Exploration of strategies to augment the case study organisation's intrapreneurship orientation

The strategies that have emerged from the quantitative and qualitative data analysis include the leadership championing of innovation, the creation of a conducive structure that ensures open communication and supports the organisation's innovation strategy, and the creation of a platform for innovation. Further, strategies to augment intrapreneurship included the creation of an innovation culture, underpinned by collaboration and continuous learning, as well as the allocation of resources and the development of innovation capabilities to support intrapreneurial behavior.

5.3 Recommendations

Organisations do not operate in vacuums. They are impacted by the environment in which they are located. This environment can either be hostile or munificent to the attainment of the strategic objectives of the organisation.

Khanna (2012) asserted that innovation has been the bedrock of the pharmaceutical industry. Further, in the current innovation era, especially in the context of the prevailing COVID-19 pandemic, it is imperative for pharmaceutical companies to embrace the notion of open innovation and identify as well as leverage external sources of knowledge and information to sustain a flow of innovative medicines in their product pipelines (Prata et al., 2017; Simpkin et al., 2019). However, the case study organisation has not been able to realise the benefits that can be derived from integration and collaboration in innovation ecosystems. This may, in part, be attributed to the external environment which, arguably, does not support innovation.

From a macro-environmental or regional perspective, the marked disparities in pharmaceutical R&D capacity within the African continent intimates the untapped value of collaborative innovation networks among African nations. Undoubtedly, domestic medicine production in Africa would increase the affordability of essential medicines, create employment, attract investments and reduce foreign dependency (Simpkin et al., 2019). Arguably, this can only be achieved through a collaborative approach that ensures African leadership and ownership. To this end, it is important for African countries, such as South Africa, to network with organisations such as the “Coalition for Research and Innovation” (CARI) and the Alliance for “Accelerating Excellence in Africa” (AESA) which are Africa-centric collaborative platforms established for the purpose of addressing developmental challenges and fostering leadership in science, research and innovation (Simpkin et al., 2019).

From a meso- or country perspective, the Global Innovation Index (GII) 2021 Report, which ranks South Africa in 61st position globally, and 2nd in sub-Saharan Africa, intimates that South Africa lags behind in innovation capabilities. This is evidence by the lack of a clear and concrete innovation agenda for the country. Further, the pharmaceutical industry in South Africa has grappled under formidable challenges to firms’ competitiveness and long term sustainability. These challenges include low margins and growing competition, especially for generic medicine manufacturers, exacerbated by weak economic growth; regulated medicine prices; an excessive reliance on imports; counterfeits; volatile supply chains; and importantly, sub-optimal R&D and innovation capabilities (DTI, 2020; Lorenzini et al., 2018). Undoubtedly, this has hindered innovation in the South African pharmaceutical industry.

Finally, from a micro- or organisational perspective, it is clear that both the internal and external environment of the organisation impacts its innovation orientation. Indeed, both environments need to support innovation in order for the organisation to derive the benefits from innovation and intrapreneurship. These benefits extend beyond firm-specific benefits such as strategic renewal, firm growth and enhanced financial performance, to societal benefits such as creation of employment, reduction in poverty and, by extension, reduction in inequality. Further, innovation creates stakeholder value, and uplifts the economic prospects of social partners.

Delving into the micro-environment, it is well established that intrapreneurship is strongly influenced by management and organisational support. Arguably, it is the top level manager’s responsibility to create a conducive work environment for intrapreneurship and the enactment of intrapreneurial behaviours, by their willingness to endorse intrapreneurial behavior, support innovative ideas and by the provision of the required resources to augment innovation and intrapreneurial behavior. Therefore,

cognisant of the findings of the study, it is recommended that the organisation's executive team engage with its managerial team to conduct the interventions outlined below.

5.3.1 Perform a SWOT analysis in the context of intrapreneurship

The organisation needs to identify the strengths, weaknesses, opportunities and threats (SWOT) that impact innovation and intrapreneurship. Thereafter, the organisation needs to actively leverage its *strengths* such as its strong leadership intent, its managerial employee's strong intrapreneurial orientation, as well as its knowledge capital to augment its intrapreneurship orientation.

Further, the organisation needs to develop strategies to overcome its *weaknesses* such as its risk averse culture, and lack of collaboration by eliminating silos and restrictive mindsets, and encouraging open communication and knowledge sharing. The establishment of a central innovation platform for idea generation, evaluation and selection is also deemed imperative to mitigate its weaknesses.

Moreover, the organisation needs to explore and exploit its *opportunities* such as product innovation and process innovation, as well as knowledge-sharing through open innovation modalities. Finally, the organisation needs to counter the *threats* to its sustainability through driving and establishing a culture of innovation and continuous learning.

5.3.2 Augment critical success factors for intrapreneurship

Based on the extant literature and the results of this study, these would include the requisite *resources* and *dynamic capabilities* that will allow the organisation to thrive, as well as *management support*.

5.3.2.1 Allocate and orchestrate resources to innovation

With respect to resources, it is evident that intrapreneurship and innovation necessitate the availability of resources, such as human capital, time, financial and physical resources, as well as investments in training and development to establish and maintain the firm-specific distinctive resources and capabilities for innovation that would confer a competitive advantage and ensure superior performance. To this end, the organisation needs to provide training and development opportunities for employees to be exposed to critical thinking and problem-solving, as well as contemporary management practices that empower managers to deal with the current business milieu.

5.3.2.2 Develop and leverage dynamic capabilities

Innovativeness, described as the ability of an organisation to innovate, is an integral dynamic capability, acquired through developing, integrating and realigning resource packages (Jardon, 2016). Further, consistent with the concept that intrapreneurship is dependent on the actions or behaviours of individuals within an organisation, the core dynamic capability associated with organisational employees is human capital management (Jardon, 2016; Johnson et al., 2017). Moreover, since intrapreneurial behavior is underpinned by engaged, dynamic, innovative, entrepreneurial and motivated individuals, it is imperative that human capital management focus on *employee engagement*. The purpose of this engagement should be to develop and leverage employee competencies and commitments to promote innovation (Jardon, 2016). Further, employee engagement is imperative to establish expectations with respect to innovation, as well as rewards and recognition.

It is recommended that the organisation use the *dynamic capabilities framework* as an effective tool to facilitate the development and management of its intrapreneurial capabilities.

5.3.2.3 Management support

Management support has been identified as a fundamental pre-requisite for intrapreneurship and innovation. It is incumbent on management to create and sustain an entrepreneurial spirit that must necessarily be integrated into its mission, objectives, strategies, structures, systems and process as well as values. Indeed, ultimately, intrapreneurship must be purpose-driven and aligned to the strategic objectives of the organization.

Further, it is imperative that management reinforce intrapreneurial behaviours through recognition and rewards, and provide an inclusive, safe and conducive environment for innovation and intrapreneurship. Management must also ensure that the culture of the organisation supports the innovation agenda. Necessarily, this must be an innovation-driven culture that is underpinned by continuous learning, as well as collaboration and knowledge sharing.

Further, it is vital that leaders acknowledge their own lack of expertise and knowledge and embrace a shared responsibility towards learning, to essentially become learning-orientated leaders. Ultimately, the role of a learning-orientated leader in the contemporary business environment is not merely to have a vision, but to clearly articulate it, and inspire followers to share the vision, and commit to working with passion and purpose to realise the vision. Moreover, learning leaders must possess and develop

the capacity to listen attentively and be mindful of disconfirming information emanating from diverse environmental sources, evaluate its implications for the organisation's future, and take decisive actions to navigate the problems the organisation may encounter. Therefore, this envisaged leader requires patience and persistence, tempered by agility and resilience.

5.3.3 Conduct an organisational culture analysis

History shapes culture, often manifesting in the establishment of path dependencies that may inadvertently create rigidities that constrain intrapreneurship and innovation. Further, in an organisation with an established history, such as the case study organisation, its culture may be construed as more of a "cause", rather than an "effect" of its strategy. In this case, the culture influences the strategy, and becomes authoritative with respect to the perceptions, thoughts, and feelings of organisational members, thereby influencing their behavior (Johnson et al., 2017; Schein & Schein, 2017). Therefore, it is imperative that managers understand and shape the organisational culture to support the innovation strategy.

Hence, it is recommended that an *organisational culture survey* be conducted to inform any culture change programmes. It is also recommended that the evaluation of the organisational culture be performed using a model such as Schein's Culture Model, that is predicated on an understanding of the basic taken-for-granted assumptions which informs behavior and directs the way things are done in the organisation.

It must be noted that cultural change is a long process. Indeed, shifting organisational culture means fundamentally altering the underlying, deep-seated assumptions, beliefs and values of individuals. This means that people within the organisation need to speak a common language and re-orientate the way they think and feel, as well as the way that they do things, away from imitation and towards innovation. Therefore, the leadership of the organisation must be committed to the process.

Further, cognisant that culture-change programmes may evoke considerable anxiety in established organisations where members will perceive a disruption to their mental models and ways of being and doing, it is recommended that ongoing staff engagement occurs to facilitate this process.

5.3.4 Consider open innovation models

Innovation is both an antecedent and outcome of intrapreneurship. In order to realise the organisational outcomes of intrapreneurship, namely strategic renewal and organisational growth, the case study organisation needs to engage in product, process, marketing and/or organisational innovation (Prata et al., 2017). However, engaging in innovation can be somewhat overwhelming for novice organisations, leading to uncertainty as to where to start. Therefore, with respect to which type of innovation to focus on first, it would be prudent for the organisation to commence with *process innovation* that builds on their core business competencies, and also leverages economies of scale, in the pharmaceutical manufacturing and biotechnology domain. This would necessarily be underpinned by *incremental innovation* methodologies. Further, incremental innovations often have higher implementation success rates, coupled with reduced risks, effort and resource requirements, and is therefore a good place to start to build confidence.

However, once the organisation acquires experience with innovation and builds its resources and dynamic capabilities, it can then focus on *product innovation*, by leveraging open innovation models that complement internal innovation, and result in a shorter time-to-market. Here, *semi-radical innovation* can be pursued for the development of biosimilars or “me too” medicines, using the “*outside-in*” (inbound) archetype of open innovation for technology transfer of externally-derived intellectual property to facilitate product development.

Finally, as the organisation gains further innovation experience and operates within a well-established innovation ecosystem that leverages its dynamic capabilities even further, the organisation can then consider the pursuit of *radical innovation*, with production of breakthrough medicines. At this stage, the organisation may consider “*inside-out*” (outbound) open innovation model to commercialise internally generated intellectual property (IP), or a “*coupled*” model incorporating both “*inside-out*” and “*outside-in*” archetypes.

It is recommended that the organisation utilise the *Innovation Balanced Scorecard* to assist in evaluating its performance relative to its innovation strategy, as the scorecard will also facilitate the identification of appropriate adaptations that are necessary in the pursuit and development of innovation competencies.

5.4 Limitations of Study

This was a cross-sectional study that provided a “snapshot” view of the intrapreneurship orientation of the case study organization. A longitudinal study should be contemplated to establish the relationship between intrapreneurship orientation and innovation outputs.

The quantitative phase of the study offered explanations of the cause and effect relationships between variables in a theory that may be construed as contextual and time-bound, perhaps indicating limitations to its generalizability. Further, the qualitative phase of the study does not support the generalizability of the results due to the purposive sampling and contextual perceptions of participants, underpinned by their social reality.

Further, since the study is confined to a single, highly-specialised biological manufacturer in KwaZulu-Natal, operating in a niche market, the ability to generalise across the pharmaceutical industry is limited due to the variability in organisational culture, strategic and operating paradigms, as well as management style.

Moreover, the study was restricted to one geographic location. A comparison to organisations in other geographical locations would provide some insight into the idiosyncrasies of local economic development and external factors that influence intrapreneurship.

Finally, the study resulted in the generation of substantive theory that may be restricted to a specific time, place, population and problem. Therefore, this may only result in a modest understanding of the world in which this phenomenon is explored.

5.5 Future Research

This mixed method study was conducted in a single pharmaceutical company within KwaZulu Natal, and no comparison was made between other organisations in the pharmaceutical industry. This limitation gives rise to possibilities of future research. Indeed, the quantitative and qualitative research could be extended to other pharmaceutical companies, to establish the impact of organization size, age and core competencies on intrapreneurship orientation.

This study evaluated the extent of intrapreneurship orientation of a pharmaceutical company. It did not review how intrapreneurship orientation translates to outcomes. Future research could be conducted to establish the link between individual intrapreneurial behaviour and organisational outcomes.

This study was conducted during the COVID-19 pandemic. Future research could include a study of the impact of the COVID-19 pandemic on the pharmaceutical industry to establish whether a crisis provides a strong impetus for innovation.

5.6 Conclusion

This study identified a pivotal gap necessitating a paradigm shift from a culture of short-term survival to long-term sustainability by leveraging innovation and R&D capital in a pharmaceutical company within South Africa, a low to middle income country.

Based on the empirical findings of this study, it is imperative that the case study organisation create a compelling case for intrapreneurship and innovation that links innovation and intrapreneurship to its vision, mission and core values. Indeed, the adoption of an innovation-centric philosophy and culture would augment the intrapreneurial behavior of employees. Undoubtedly, this must be driven by the organisational leadership team, who must inspire innovativeness through a shared vision for growth and sustainability, underpinned by purposeful work.

Finally, it is incumbent on the leadership of the organisation to define and develop pragmatic action plans that are future-focused, and allows them to lead from the emerging future, by bridging future aspirations with current realities. Above all, leaders must lead by example, and model behaviours and attitudes that keep the intrapreneurial spirit alive within the organisation.

REFERENCES

- Adonisi, M., & Van Wyk, R. (2012). Antecedents of Corporate Entrepreneurship. *South African Journal of Business Management*, 43(3), 65–78.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Edgewood Cliffs, NJ: Prentice-Hall.
- Antonicic, B. (2007). Intrapreneurship: A comparative structural equation modelling study. *Industrial Management & Data Systems*, 107(3), 309-325.
- Antonicic, J.A., & Antonicic, B. (2011). Employee satisfaction, intrapreneurship and firm growth: A model. *Industrial Management & Data Systems*, 111:589-607.
- Antonicic, B., & Hisrich, R.D. (2001). Intrapreneurship: construct refinement and cross-cultural validation. *Journal of Business Ventures*, 16(5), 495-527.
- Antonicic, B., & Hisrich, R. D. (2003). Clarifying the intrapreneurship concept. *Journal of Small Business and Enterprise Development*, 10(1), 7–24.
- Baggen, Y., Lans, T., Biemans, H.J.A., & Mulder, M. (2016). Fostering entrepreneurial learning on-the job: evidence from innovative small and medium-sized companies in Europe. *European Journal of Education*, 51(2), 193-209.
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, 44, 1175-1184.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1):101.
- Barreto, I. (2010). Dynamic Capabilities: A Review of Past Research and an Agenda for the Future. *Journal of Management*, 36(1), 256-280.
- Birkenshaw, J. (2003). The paradox of Corporate Entrepreneurship. Strategy and Business. *Technology and Innovation*, 30, 75-81.
- Blanka, C. (2019). An individual-level perspective on intrapreneurship: A review and ways forward. *Review of Managerial Science*, 13(5), 919-961.
- Bouchard, V., & Basso, O. (2011). Exploring the links between entrepreneurial orientation and intrapreneurship in SMEs. *Journal of Small Business Enterprise Development*, 18, 219-231.

- Breen, R.L. (2006). A Practical Guide to Focus-Group Research. *Journal of Geography in Higher Education*, 30(3), 463-475.
- Camelo-Odaz, C., Fernandez-Alles, M., Ruiz-Navarro, J., & Ginel, E. S. (2012). The intrapreneur and innovation in creative firms. *International Small Business Journal*, 30(5), 513-535.
- Cameron, R. (2008). *Mixed Methods in Management Research: Has the phoenix landed?* 22nd Annual Australian & New Zealand Academy of Management (ANZAM) Conference, Auckland, December 2008.
- Cameron, R. (2009). A sequential mixed model research design: design, analytical and display issues. *International Journal of Multiple Research Approaches*, 3(2), 140-152.
- Cameron, R. (2011). Mixed Methods Research: The Five Ps Framework. *The Electronic Journal of Business Research Methods*, 9(2), 96-108.
- Carter, N., Bryant-Lukosius, D., DiCenso, A., Blythe, J., & Neveille, A.J. (2014). The Use of Triangulation in Qualitative Research. *Oncology Nursing Forum*, 41(5), 545-547.
- Chesborough, H., & Bogers, M. (2014). *New Frontiers in Open Innovation*. Oxford: Oxford University Press.
- Chouchane, R., Fernet, C., Austin, S. & Zouaoui, S.K. (2021). Organizational support and intrapreneurial behaviour: on the role of employees' intrapreneurial intention and self-efficacy. *Journal of Management & Organisation*, 1-17. <https://doi:10.1017/jmo.2021.14>
- Cohen, A.R. (2004). Building a company of leaders. *Leader to Leader*, 34, 16-20.
- Cohen, D., Furstenthal, L., & Jansen, L. (2020). Healthcare innovation: Building on gains made through the crisis. *McKinsey & Company*. [Online]. Available at: <https://www.mckinsey.com/industries/pharmaceuticals-and-medical-products/our-insights/healthcare-innovation-building-on-gains-made-through-the-crisis> [Accessed 15 July 2021].
- Combs, J.P., & Onwuegbuzie, A.J. (2010). Describing and Illustrating Data Analysis in Mixed Research. *International Journal of Education*, 2(2), E13.
- Comella-Dorda, S., Handscomb, C., & Zaidi., A. (2020). Agility to action: Operationalising a value-driven blueprint. McKinsey & Company. [Online]. Available at: <https://www.mckinsey.com/business-functions/organization/our-insights/agility-to-action-operationalizing-a-value-driven-agile-blueprint> [Accessed 15 July 2021].
- Cresswell, J.W., & Cresswell, J.D. (2018). *Research Design. Qualitative, Quantitative and Mixed-Methods Approaches*. (5th ed.). Los Angeles: Sage.

- Cresswell, J.W., & Plano Clark, V.L. (2011). *Designing and conducting mixed methods research*. (2nd ed.). Thousand Oaks, CA: Sage.
- Cresswell, J.W., Klassen, A.C., Plano Clark, V.L., & Smith, K.C. (2011). Best Practices for mixed Methods Research in the Health Sciences. National Institute of Health. [Online]. Available at: https://obssr.od.nih.gov/sites/obssr/files/Best_Practices_for_Mixed_Methods_Research.pdf [Accessed 14 August 2021].
- Cullen, M.D.M., Calitz, A.P., & Allen, K.I. (2018). Assessing intrapreneurship in a Pharmaceutical Manufacturing Organisation in South Africa. *ResearchGate*. [Online]. Available at: https://www.researchgate.net/publication/328273398_Assessing_Intrapreneurship_in_a_Pharmaceutical_Manufacturing_Organisation_in_South_Africa [Accessed 25 November 2020].
- Damanpour, F. (1991). Organizational innovation: A meta-analysis of effects of determinants and moderators. *The Academy of Management Journal*, 34(3), 555-590.
- Damanpour, F. (1992). Organisational size and innovation. *Innovation Studies*, 13(3):375-402.
- Davila, A., Epstein, M.J., & Shelton, R. (2006). Making Innovation Work: How to Manage It, Measure It and Profit from It. *ResearchGate*. [Online]. Available at: https://www.researchgate.net/publication/234799741_Making_Innovation_Work_How_to_Manage_It_Measure_It_and_Profit_from_It [Accessed 31 July 2021].
- De Jong, J., Parker, S.K., Wennekers, S., & Wu, C.-H. (2015). Entrepreneurial behavior in organizations: Does job design matter? *Entrepreneurship Theory and Practice*, 39(4), 981-995. [Online]. Available at: <https://journals.sagepub.com/doi/10.1111/etap.12084> [Accessed 3 May 2021].
- Dellinger, A.B., Leech, N.L. (2007). Toward a unified validation framework in mixed methods research. *Journal of Mixed Methods Research*, 1(4), 309-332.
- Denzin, N.K. (2012). Triangulation 2.0. *Journal of Mixed Methods Research*, 6(2), 80-88.
- Department of Trade and Industry. (2018). Industrial Action Policy Plan 2018/19-2020/21. [Online]. Available at: https://www.gov.za/sites/default/files/gcis_document/201805/industrial-policy-action-plan.pdf [Accessed 16 August 2021].
- Department of Trade and Industry. (2020). Investing in South Africa's Pharmaceutical and Medical Devices Sector. [Online]. Available at: http://www.investsa.gov.za/wp-content/uploads/2020/02/FACT-SHEET_PHARMA_2020.pdf [Accessed 16 August 2020].
- de Villiers-Scheepers, J. M. (2012). Antecedents of Strategic Corporate Entrepreneurship. *European Business Review*, 24(5), 400-424.

- Fischer, A. (2011). Recognising opportunities: initiating service innovation in PSFs. *Journal of Knowledge Management*, 15(6), 915-927.
- Fontana, A., & Musa, S. (2017). The impact of entrepreneurial leadership on innovation management and its measurement validation. *International Journal of Innovation Science*, 9(1), 2-19.
- Garcia-Morales, V.J., Bolivar-Ramos, M.T., & Martin-Rojas, R. (2014). Technological variables and absorptive capacity's influence on performance through corporate entrepreneurship. *Journal of Business Research*, 67(7), 1468-1477.
- Gassmann, O., & Enkel, E. (2004). Towards a Theory of Open Innovation: Three Core Process Archetypes. [Online]. Available at: https://www.researchgate.net/publication/36384702_Towards_a_Theory_of_Open_Innovation_Three_Core_Process_Archetypes [Accessed 3 June 2021].
- Goldkuhl, G. (2012). Pragmatism vs interpretivism in qualitative information systems research. *European Journal of Information Systems*, 2, 135-146.
- Goosen, C.J., de Coning, T.J & van der Merwe Smit, E. (2002). Corporate entrepreneurship and financial performance: The role of management. *South African Journal of Business Management*, 33(4), 21-27.
- Goosen, C.J., de Coning, T. J., & van der Merwe Smit, E. (2002). The development of a factor based instrument to measure corporate entrepreneurship: A South African perspective. *South African Journal of Business Management*, 33(3), 39–51.
- Greene, J., & Caracelli, V. (Eds). (1997). *Advances in Mixed-Method Evaluation: The Challenges and Benefits of Integrating Diverse Paradigms*. San Francisco: Jossey-Bass Inc.
- Grobler, P., Bothma, R., Brewster, C., Carey, L., Holland, P., & Warnich, S. (2014). *Human Resource Management* (4th ed.). Oxford University Press: Southern Africa.
- Guba, E.G. & Lincoln, Y. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.
- Gupta, A., & Srivastava, N. (2013). An Exploratory Study of Factors Affecting Intrapreneurship. *International Journal of Innovative Research and Development*, 2(8).
- Hagedorn, R.A., & Jamieson, D.W. (2014). Intrapreneurial sense making: the case of a re-envisioned school of professional studies. *International Journal of Entrepreneurship and Innovation Management*, 18, 425-437.
- Hall, S. (2018). How to use a Chi-Squared Test in Likert Scales. [Online]. Available at: <https://www.theclassroom.com/use-chi-square-test-likert-scales-2425.html> [Accessed 8 December 2021].

- Haq, M. (2014). *A comparative analysis of qualitative and quantitative research methods and a justification for use of mixed methods in social research*. Annual PhD Conference. University of Bradford Business School of Management. June 2014.
- Henke, N., Puri, A., & Saleh, T. (2020). Accelerating analytics to navigate COVID-19 and the next normal. *McKinsey & Company*. [Online]. Available at: <https://www.mckinsey.com/business-functions/mckinsey-analytics/our-insights/accelerating-analytics-to-navigate-covid-19-and-the-next-normal> [Accessed 15 September 2021].
- Hind, C., & Steyn, R. (2018). Corporate Entrepreneurship - Distilling the Concept. *The Southern African Journal of Entrepreneurship and Small Business Management*, 1, 69–87.
- Hitt, M.A., Ireland, R.D., Camp, S.M., & Sexton, D.L. (2001). Strategic entrepreneurship: entrepreneurial strategies for wealth creation. *Journal of Strategic Management*, 22(6-7):479-491.
- Hitt, M.A., Ireland, R.D., Sirmon, D.G., & Trahms, C.A. (2011). Strategic entrepreneurship: creating value for individuals, organizations and society. *Journal of Academy of Management Perspectives*, 25(2), 57-75.
- Hodson, R. (2016). Open innovation. *Nature*, 533, S53. [Online]. Available at: <https://www.nature.com/articles/533S53a> [Accessed 9 July 2021].
- Hornsby, J.S., Kuratko, D.F., Holt, D.T., & Wales, W.J. (2013). Assessing a measurement of organizational preparedness for corporate entrepreneurship. *Journal of Product Innovation Management*, 30(5), 937-955.
- Hornsby, J.S., Kuratko, D.F., Shephard, D.A., & Bott, J.P. (2009). Manager's corporate entrepreneurial actions: examining perception and position. *Journal of Business Ventures*, 24(3), 236-247.
- Hornsby, J.S., Kuratko, D.F., & Zahra, S.A. (2002). Middle managers' perception of the internal environment for corporate entrepreneurship: assessing a measurement scale. *Journal of Business Venturing*, 17(3), 253-273.
- Hothersall, S.J. (2019). Epistemology and social work: enhancing the integration of theory, practice and research through philosophical pragmatism. *European Journal of Social Work*, 22(5). [Online]. Available at: <https://doi.org/10.1080/13691457.2018.1499613> [Accessed: 12 September 2021].
- Hunter, J. (2014). Collaboration for innovation is the new mantra for the pharmaceutical industry. *Drug Discovery World*, Spring 2014. 9-15.
- Im, S., & Workman, J.P. (2004). Market orientation, creativity, and new product performance in high-technology firms. *Journal of Marketing*, 68(2), 114-132.

- Ireland, R. D., Covin, J. G., & Kuratko, D. F. (2009). Conceptualizing corporate entrepreneurship strategy. *Entrepreneurship Theory and Practice*, 33(1), 19–46.
- Ireland, R.D., Kuratko, D.F., & Morris, M.H. (2006). A health audit for corporate entrepreneurship: Innovation at all levels. *Journal of Business Strategy*, 27(2), 10-30.
- Jardon, C.S. (2016). Human Capital as Source of Innovativeness in Subsistence Small Businesses. *Journal of Technology Management & Innovation*, 11(3), 59-66.
- Johnson, R.B., & Onwuegbuzie, A.J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researchers*, 33(7): 14-26.
- Johnson, G., Whittington, R., Scholes, K., Angwin, D., & Regner, P. (2017). *Exploring Strategy: Text and Cases* (11th ed.). Pearson Education Limited.
- Kaplan, R.S., & Norton, D.P. (1992). The Balanced Scorecard – Measures that drive Performance. *Harvard Business Review*. [Online.]. Available at: <https://hbr.org/1992/01/the-balanced-scorecard-measures-that-drive-performance-2> [Accessed 3 July 2021].
- Kaplan, R.S., & Norton, D.P. (2004). Measuring the strategic readiness of intangible assets. *Harvard Business Review*, 82, 52-63.
- Kaur, P., Stoltzfus, J., & Yellapu, V. (2018). Descriptive Statistics. *International Journal of Academic Medicine*, 18(4), 60-63.
- Kaushik, V., & Walsh, C.A. (2019). Pragmatism as a Research Paradigm and Its Implications for Social Work Research. *Social Sciences*, 8, 255-272.
- Khanna, I. (2014). Drug discovery in pharmaceutical industry: productivity challenges and trends. *Drug Discovery Today*, 17(19/20), 1088–1102.
- Klofsen, M., Urbano, D., & Heaton, S. (2021). Managing intrapreneurial capabilities: An overview. *Technovation*, 99, 102177.
- Koenig, T., Spano, R., & Thompson, J. (2019). *Human Behaviour Theory for Social Work Practice*. Singapore: Sage Publications.
- Kothari, C. R. (2004). *Research Methodology, Methods and Techniques* (2nd ed.). New Age International Publishers.
- Kraiczy, N.D., Hack, A., & Kellermans, F.W. (2015). The relationship between top management team innovation orientation and firm growth: the mediating role of organisation innovativeness. *International Journal of Innovation Management*, 19(1), 1550005. [Online]. Available at: <https://www.worldscientific.com/doi/abs/10.1142/S136391961550005X> [Accessed: 15 August 2021].

- Kryscynski, D., & Ulrich, D. (2015). Making Strategic Human Capital Relevant: A Time-Sensitive Opportunity. *Academy of Management Perspectives*, 29(3), 357-369.
- Kuratko, D. F. (2007). Entrepreneurial leadership in the 21st Century. *Journal of Leadership and Organisational Studies*, 13(4), 1–11.
- Kuratko, D.F. (2009). The entrepreneurial imperative of the 21st century. *Business Horizons*, 52(5), 421-428.
- Kuratko, D. F., Hornsby, J. S., & Covin, J. G. (2014). Diagnosing a firm's internal environment for corporate entrepreneurship. *Business Horizons*, 57(1), 37–47.
- Kuratko, D.F., Ireland, R.D., Covin, J.G., & Hornsby, J.S. (2005). A model of middle level managers' entrepreneurial behavior. *Entrepreneurship Theory and Practice*, 29, 699-716.
- Kuratko, D.F., Montagno, R.V., & Hornsby, J.S. (1990). Developing an intrapreneurial assessment instrument for effective corporate entrepreneurial environment. *Strategic Management Journal*, 2, 49-58.
- Leih, S., & Teece, D. (2016). Campus leadership and the entrepreneurial university: a dynamic capabilities perspective. *Academic Management Perspectives*, 30, 182–210.
- Letsie, T. M. (2013). A framework to foster intrapreneurship amongst unit managers working at the three public hospitals in Mangaung, Free State [Doctoral dissertation, University of Free State].
- Lin, C. (2017). The Role of Human Capital Management in Organisational Competitiveness. *Social Behaviour and Personality*, 45(1), 81-92.
- Lincoln, Y., Lynham, S.A., & Guba, E.G. (2011). Paradigms and perspectives in contention. In *The Sage Handbook of Qualitative Research*. Edited by Norman K. Denzin and Yvonna S. Lincoln. Thousand Oaks: Sage Publications, 91-95.
- Lorenzini, G.C., Mostaghel, R., & Hellstrom, D. (2018). Drivers of pharmaceutical packaging innovation: A customer-supplier relationship case study. *Journal of Business Research*, 88, 363-370.
- Macpherson, A., Herbane, B., & Jones, O. (2015). Developing dynamic capabilities through resource accretion: expanding the entrepreneurial solution space. *Entrepreneurship and Regional Development*, 27, 259–291.
- Mahoney, J.T., & Kor, Y.Y. (2015). Advancing the Human Capital Perspective on Value Creation by Joining Capabilities and Governance Approaches. *Academy of Management Perspectives*, 29(3), 296-308.

- Malhotra, N.K., & Peterson, M. (2006). *Basic Marketing Research: A Decision-Making Approach*. Hoboken, New Jersey: Prentice Hall.
- Menary, J., Stetkiewicz, S., & Nair, A. (2021). Going virtual: adapting in-person interactive focus groups to the online environment. *Emerald Open Research*, 3:6. [Online]. Available at: https://www.researchgate.net/publication/351118895_Going_virtual_adapting_in-person_interactive_focus_groups_to_the_online_environment [Accessed 10 October 2021].
- Merriman, S.B. (1998). *Qualitative Research and Case Study Applications in Education*. San Francisco: Jossey-Bass Publishers.
- Mertens, D. (2005). *Research and Evaluation in Education and Psychology: Integrating diversity with quantitative, qualitative, and mixed methods*. (2nd ed.). Boston: Sage.
- Menzel, H.C., Aaltio, I., & Ulijn, J.M. (2007). On the way to creativity: engineers as intrapreneurs in organisations. *Technovation*, 27, 732-743.
- Morady, M.Z. (2013). Intellectual capital measuring methods. *Journal of Natural and Social Science*, 2(3s), 755-762.
- Morgan, D.L. (2007). Paradigms lost and paradigms regained: Methodological implications of combining qualitative and quantitative methods. *Journal of Mixed Methods Research*, 1(1), 48-76.
- Morgan, D.L. (2014a). *Integrating Qualitative and Quantitative Methods: A Pragmatic Approach*. Thousand Oaks: Sage.
- Morgan, D.L. (2014b). Pragmatism as a Paradigm for Social Research. *Qualitative Inquiry*, 20(8), 1045-1053.
- Moriano, J.A., Molero, F., Topa, G., & Mangin, J.P.L. (2014). The influence of transformational leadership and organizational identification on intrapreneurship. *International Entrepreneurship and Management Journal*, 10(1), 103-119.
- Morris, M.H., & Kuratko, D.F. (2002). *Corporate Entrepreneurship: Entrepreneurial development within organisations*. London: Thompson South-Western.
- Morris, M. H., Kuratko, D. F., & Covin, J. G. (2011). *Corporate entrepreneurship and innovation*. (3rd ed). Ohio: South-Western Cengage Learning.
- Nasution, H.N., Mavondo, F.T., Matanda, M., & Ndubisi, N.O. (2011). Entrepreneurship: Its relationship with market orientation and learning orientation and as antecedents to innovation and customer value. *Industrial Marketing Management*, 40(3), 336-345.

National Planning Commission. 2011. *National development plan 2030: Our future - make it work*. The Presidency.

Neessen, P.C.M., Caniels, M.C.J., Vos, B., & de Jong, J.P. (2018). The intrapreneurial employee: toward an integrated model of intrapreneurship and research agenda. *International Entrepreneurship and Management Journal*, 15, 545-571.

Neuman, W.L. (2003). *Social Research Methods Qualitative and Quantitative Approaches*. New York: Allyn and Bacon.

Noble, H., & Heale, R. (2019). Triangulation in research, with examples. *Evidence-based Nursing*, 22(3), 67-70.

Nonaka, I., & Takeuchi, H. (1995). *The knowledge creating company: How Japanese Companies Create the Dynamics of Innovation*. New York: Oxford University Press.

Onwuegbuzie, A.J., & Johnson, R.B. (2006). The validity issue in mixed research. *Research in the Schools*, 13(1), 48-63.

Organisation for Economic Co-operation and Development (OECD). (2015). Defining innovation. [Online]. Available at: <https://www.oecd.org/site/innovationstrategy/defininginnovation.htm> [Accessed 30 September 2021].

Oosthuizen, J. H. (2006). An integrated framework to improve the entrepreneurial climate in the South African mining industry, [Doctoral Dissertation, North-West University].

Oosthuizen, J. H., & Griffin, M. (2016). A conceptual framework for strategic entrepreneurship in new and established organisations. ResearchGate.[Online]. Retrieved March 15, 2017, from <https://www.researchgate.net/publication/308785074>

Peat, J., Mellis, C., & Williams, K. (2002). *Health Science Research: A handbook of quantitative methods*. Allen & Unwin.

Pinchot, G. (1987). Innovation through Intrapreneuring. *Research Management*, 30(2), 14–19.

Pinchot, G., & Pellman, R. (1999). *Intrapreneuring in action: A handbook for business innovation*. San Francisco: Berrett-Koehler Publishers.

Prahalad, C.K., & Hamel, G. (1990). The core competence of the corporation. *Harvard Business Review*, 68(3), 79-91.

Prata, W.M., Silvestre, R.G., Godman, B., Martin, A., Dias, C.Z., Dias, E.M., Acurcio, F., & Guerra, A.A. (2017). A Critical Look at Innovation Profile and its Relationship with Pharmaceutical Industry. *International Journal of Scientific Research and Management*, 5(7), 5934-5948.

Price, W.N. (2021). Problems of Innovation-Deficient Pharmaceutical Manufacturing. *New England Journal of Medicine and Harvard Business Review*. [Online]. Available at: <http://images.nejm.org/editorial/supplementary/2013/hbr21-price.pdf> [Accessed 5 October 2021].

Rambakus, Z., Hoque, M. & Proches, C.N.G. (2020). Evaluating the extent of intrapreneurship in a sugar producing company in KwaZulu-Natal, South Africa. *Cogent Business & Management*, 7(1), 17636848. [Online]. Available at: <https://www.tandfonline.com/doi/full/10.1080/23311975.2020.1736848> [Accessed 7 July 2021].

Reuther, K., Borodzicz, E. P., Schumann, C.-A., & Johnson, J. B. (2017). *Intrapreneurship - Employees Attitude and the Appropriate Working Environment*. In International Technology Management Conference. Isle of Madeira, Portugal, ICE/IEEE.

Rigtering, J.P., & Weitzel, U. (2013). Work context and employee behavior as antecedents for intrapreneurship. *International Entrepreneurship and Management Journal*, 9(3), 337-360.

Saaksjarvi, M. (2003). Consumer Adoption of Technological Innovations. *European Journal of Innovation Management*, 6(2), 90-100.

Sarra, B., Djilali, B., & Habib, T. (2013). The Role of Strategic Human Capital Management in Achieving the Competitive Advantage. *Academic Journal of Interdisciplinary Studies*, 2(3), 361-368.

Saunders, M.N.K., Lewis, P., & Thornhill, A. (2019). *Research Methods for Business Students*. (8th ed.). Essex: Pearson.

Schachtebeck, C. (2021). Intrapreneurial Orientation as a Field of Inquiry – A Scoping Review. *International Journal of Entrepreneurship*, 25(6), 522-529.

Schachtebeck, C., Groenewald, D., & Nieuwenhuizen, C. (2018). Assessment of entrepreneurial and intrapreneurial orientation constructs: An analysis of past research. *Journal of Business and Retail Management Research*, 13(2), 264—273.

Scharmer, C.O. (2007). *Theory U: leading from the future as it emerges*. Cambridge: Society for Organisational Learning.

Schein, E.H. (2009). *The corporate culture survival guide*. Hoboken, New Jersey: John Wiley and Sons, Inc.

Schein, E.H., & Schein, P. (2017). *Organisational culture and leadership*. (5th ed.). Hoboken, New Jersey: John Wiley and Sons, Inc.

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

Schumpeter, J.A. (1942). *Capitalism, socialism and democracy*. New York: Harper.

- Sebora, T.C., & Theerapatvong, T. (2010). Corporate entrepreneurship: a test of external and internal influences on managers' idea generation, risk taking, and proactiveness. *International Entrepreneurship and Management Journal*, 6(3), 331-350.
- Senge, P.M. (1990). *The Fifth Discipline: The Art & Practice of the Learning Organization*. New York: Doubleday Currency.
- Sekaran, U., & Bougie, R.J. (2016). *Research Methods for Business: A Skill-Building Approach*. (7th ed.). New York: Wiley.
- Shannon-Baker, P. (2015). Making Paradigms Meaningful in Mixed Methods Research. *Journal of Mixed Methods Research*, 1-16.
- Sidin, J.P., & Sham, J.J. (2015). Innovation in Realizing Quality of Production in Malaysia. *Asian Social Science*, 11(3), 57-67.
- Simpkin, V., Namubiri-Mwaura, E., Clarke, L. & Mossialos, E. (2019). Investing in health R&D: where we are, what limits us, and how to make progress in Africa. *BMJ Global Health*, 4:e001047. [Online.]. Available at: <https://gh.bmj.com/content/4/2/e001047> [Accessed 31 August 2021].
- Skarmeas, D., Lisboa, A., & Saridakis, C. (2016). Export performance as a function of market learning capabilities and intrapreneurship: SEM and FsQCA findings. *Journal of Business Research*, 69, 5342–5347.
- Spinelli Jr, S., & Adams, R. (2012). *New venture creation: entrepreneurship for the 21st century* (9th ed.). New York: The McGraw-Hill Companies.
- Srivastava, K. (2015). Human capital management: Economics of psychological perspective. *Industrial Psychiatry Journal*, 24(2), 112-117.
- Stam, E. (2013). Knowledge and entrepreneurial employees: a country-led analysis. *Small Business Economics*, 41, 887-898.
- Statistics South Africa. (2019). Sustainable Development Goals (SDGs) Country Report 2019 – South Africa. [Online]. Available at: http://www.statssa.gov.za/MDG/SDGs_Country_Report_2019_South_Africa.pdf [Accessed 30 August 2021].
- Subedi, D. (2016). Explanatory Sequential Mixed Method design as the Third Research Community of Knowledge Claim. *American Journal of Educational Research*, 4(7), 570-577.
- Subramaniam, M., & Youndt, M.A. (2005). The influence of intellectual capital on the types of innovative capabilities. *Academy of Management Journal*, 48(3), 450-463.

- Sullivan, G.M., & Artino, A.R. (2013). Analyzing and Interpreting Data from Likert-type Scales. *Journal of Graduate Medical Education*, 541-542. [Online]. Available at: <https://www.montana.edu/mssse/jgme-5-4-18.pdf> [Accessed 9 December 2021].
- Tashakkori, A., & Teddlie, C. (Eds.). (2003). *Handbook of mixed methods in social and behavioral research*. Thousand Oaks, CA: Sage.
- Tashakkori, A., & Teddlie, C. (Eds.). (2010). *SAGE Handbook of mixed methods in social and behavioral research*. Thousand Oaks, CA: Sage.
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2(1), 53-55.
- Teece, D.J. (2006). Business models, business strategy and innovation. *Long Range Planning*, 43, 172-194.
- Teece, D.J. (2012). Dynamic capabilities: routines versus entrepreneurial action. *Journal of Management Studies*, 49, 1395–1401.
- Teece, D.J. (2014). A dynamic capabilities-based entrepreneurial theory of the multinational enterprise. *Journal of International Business Studies*, 45, 8–37.
- Teece, D.J. (2016). Dynamic capabilities and entrepreneurial management in large organizations: toward a theory of the (entrepreneurial) firm. *European Economics Review*, 86, 202–216.
- Teece, D.J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 509-33.
- Teng, B. (2007). Corporate Entrepreneurship Activities through Strategic Alliances: A Resource-Based Approach toward Competitive Advantage. *Journal of Management Studies*, 44(1), 119-142. with implications for entrepreneurship research. *International Small Business Journal*. [Online.]. Available at: <http://hdl.handle.net/10871/38782> [Accessed: 3 September 2021].
- Tornikoski, E., & Maalaoui, A. (2019). Critical reflections – The Theory of Planned Behaviour: An interview with Icek Ajzen. *International Small Business Journal*. [Online.]. Available at: <https://journals.sagepub.com/doi/abs/10.1177/0266242619829681?journalCode=isbb> [Accessed 3 November 2021].
- Tucker, J.D., Day, S., Tang, W., & Bayus, B. (2019). Crowdsourcing in medical research: concepts and applications. *PeerJ*, 7. [Online.]. Available at: <https://peerj.com/articles/6762/> [Accessed 3 November 2021].
- United Nations (UN). 2019. *Sustainable Development Goals*. [Online.]. Available at: <https://sdgs.un.org/goals> [Accessed 3 June 2021].

- United Nations (UN). 2015. Transforming our world: the 2030 Agenda for Sustainable Development. [Online.]. Available at: <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf> [Accessed 4 August 2021].
- Urban, B., & Nikolov, K. (2013). Sustainable corporate entrepreneurship initiatives: a risk and reward analysis. *Technological and Economic Development of Economy*, 19, S383-S408.
- Urbano, D., & Turró, A. (2013). Conditioning Factors for Corporate Entrepreneurship: An in(ex)ternal Approach. *International Entrepreneurship and Management Journal*, 9(3), 379–396.
- Urbano, D., Alvarez, C., & Turro, A. (2013). Organizational resources and intrapreneurial activities: An international study. *Management Decision*, 51(4), 854-870.
- Valsania, S.E., Moriano, J.A., & Molero, F. (2016). Authentic leadership and intrapreneurial behavior: cross-level analysis of the mediator effect of organizational identification and empowerment. *International Entrepreneurship and Management*, 12, 131-152.
- Van Teijlingen, E.R., & Hundley, V. (2002). The Importance of Pilot Studies. *Nursing standard: official Newspaper of the Royal College of Nursing*, 16(40), 33-36.
- Van Wyk, R., & Adonisi, M. (2008). The role of entrepreneurial characteristics in predicting job satisfaction. *South African Journal of Economic and Management Sciences*, 11(4), 391-407.
- Van Wyk, R., & Adonisi, M. (2011). An eight-factor solution for the corporate entrepreneurship assessment instrument. *African Journal of Business Management*, 5(8), 3047-3055.
- Van Wyk, R., & Adonisi, M. (2012). Antecedents of corporate entrepreneurship. *South African Journal of Business Management*, 43(3), 65-78.
- Wang, C. L. (2008). Entrepreneurial orientation, learning orientation, and firm performance. *Entrepreneurship Theory and Practice*, 32(4), 635–657. [Online.]. Available at: <https://doi.org/10.1111/j.1540-6520.2008.00246.x> [Accessed 4 August 2021].
- Welman, J., Kruger, S., & Mitchell, B. (2005). *Research Methodology*. (2nd ed.). South Africa: Oxford University Press.
- World Economic Forum. (2019). HR4.0: *Shaping People Strategies in the Fourth Industrial Revolution*. World Economic Forum Group.
- World Bank. (2018). Overcoming poverty and inequality in South Africa: an assessment. [Online.]. Available at: <https://openknowledge.worldbank.org/handle/10986/29614> [Accessed 4 August 2021].

World Intellectual Property Organisation. (2021). Global Innovation Index 2021: South Africa. [Online.]. Available at: https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2021/za.pdf [Accessed 3 October 2021].

Yang, M., Lin, Q., Maresova, P. (2021). Does Employee Care Trigger Innovation Under a Healthy and Safe Working Environment? Evidence from the Pharmaceutical Industry in China. *Healthcare*, 9, 194. [Online.]. Available at: <https://doi.org/10.3390/healthcare9020194> [Accessed 3 November 2021].

Yeung, A.W.K., Atanasov, A.G., Sheridan, H., Klager, E., Eibensteiner, F., Volkl-Kernsock, S., Kletecka-Pulker, M., Willschke, H., & Schaden, E. (2021). Open innovation in Medical and Pharmaceutical Research: A Literature Landscape Analysis. *Frontiers in Pharmacology*, 11:587526. [Online.]. Available at: <https://www.frontiersin.org/articles/10.3389/fphar.2020.587526/full> [Accessed 3 November 2021].

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

Zahra, S.A., Nielsen, A.P. & Bogner, W. (1999). Corporate Entrepreneurship, Knowledge, and Competence Development. *Entrepreneurship Theory & Practice*, 23(3), 169-189.

Zahra, S.A., Sapienza, H.J., & Davidsson, P. (2006). Entrepreneurship and dynamic capabilities: a review, model and research agenda. *Journal of Management Studies*. 43, 917–955.

Zambon, S., Marz, G., Girella, L., Abela, M., & D'Albore, N., (2020). *A Literature Review on the Reporting of Intangibles*. European Financial Reporting Advisory Group.

APPENDIX 1: ETHICAL CLEARANCE



22 September 2021

Rangini Chetty (200500882)
Grad School Of Bus & Leadership
Westville Campus

Dear R Chetty,

Protocol reference number: HSSREC/00003331/2021
Project title: Evaluation of the intrapreneurship orientation in a pharmaceutical manufacturing company in KwaZulu-Natal
Degree: Masters

Approval Notification – Expedited Application

This letter serves to notify you that your application received on 02 September 2021 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted FULL APPROVAL.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

This approval is valid until 22 September 2022.

To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

All research conducted during the COVID-19 period must adhere to the national and UKZN guidelines.

HSSREC is registered with the South African National Research Ethics Council (REC-040414-040).

Yours sincerely,

Professor Dipane Hlalele (Chair)

/dd

Humanities and Social Sciences Research Ethics Committee

Postal Address: Private Bag X54001, Durban, 4000, South Africa

Telephone: +27 (0)31 260 8350/4557/3587 Email: hssrec@ukzn.ac.za Website: <http://research.ukzn.ac.za/Research-Ethics>

Founding Campuses: ■ Edgewood ■ Howard College ■ Medical School ■ Pietermaritzburg ■ Westville

INSPIRING GREATNESS

APPENDIX 2: GATEKEEPER'S LETTER



10 August 2021

University of KwaZulu-Natal
Graduate School of Business

COURSE/MODULE: Master of Business Administration - Dissertation
COURSE/MODULE CODE: GSOB8D2W0

To Whom it May Concern

Approval of Research: Rangini Chetty (200500882)

This serves to confirm that National Bioproducts Institute MPC ("NBI") has been made aware of the research project to be undertaken by Rangini Chetty in part fulfilment of her MBA degree. We note that this research project will be conducted in two phases utilising a questionnaire and focus group discussion, and that it will be of a confidential nature. Mrs Chetty is required to sign a non-disclosure agreement with NBI. NBI grants approval to Rangini Chetty to undertake the research.

Please contact Bronwyn Blades, Company Secretary on bronwyn.blades@nbisa.org.za or on 031 714 6819 if you require any further information.

Kind regards

Bronwyn Blades
Company Secretary

*NBI is a Non Profit Company
committed to providing
safe, cost effective,
quality products*

Directors: M.S. Paruk (Chairman), C. Allan, Z. Fakey, Prof. P.B. Fourie, N. Gerber, Prof. A. du P. Heyns, B.D. Itzeck, G. Kiggan, Dr. H.M.J. Leng, Prof. N.T. Naidoo, M. Ntlhane (Financial Director), S. Nyasulu, D. Stubbings* (CEO), D. van Dongen.
Company Secretary: B.E. Blades

**British*

APPENDIX 3: SURVEY QUESTIONNAIRE & INFORMED CONSENT

An Evaluation of Intrapreneurship Orientation

Informed Consent Letter



UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

Dear Respondent,

Master of Business Administration Research Project (MBA)

Researcher: Rangini Chetty (082 895 0056); 200500882@stu.ukzn.ac.za

Supervisor: Dr Tony Ngwenya (031 260 7825); Ngwenyat2@ukzn.ac.za

Research Office: HSSREC (031) 260 8350/3587; hssrec@ukzn.ac.za

I, Rangini (Trisha) Chetty, am a MBA student at the Graduate School of Business and Leadership of the University of Kwazulu-Natal (Student number: 200500882). I invite you to participate in a research project entitled **"Evaluation of intrapreneurship orientation in a pharmaceutical manufacturing company in KwaZulu-Natal"**. Intrapreneurship is defined as a process within which individuals or groups in an organizational setting, identify, pursue and promote innovation.

The aim of this research is to measure the nature and extent of National Bioproducts Institute's intrapreneurship orientation, to identify the strengths (enablers) and weaknesses (obstacles) that influence intrapreneurship within the organization, to explore strategies to support intrapreneurship as well as to investigate the relationship between NBI's intrapreneurship orientation and organizational culture.

The study is expected to enroll 50 participants in Phase 1 (online survey questionnaire) and 10 participants in Phase 2 (focus group discussion). The online survey questionnaire should take approximately 10 minutes to complete. Should you be selected to further participate in the focus group discussion, this should take a maximum of 60 minutes to complete, and may be conducted using MS Teams. I trust that you will take the time to participate in this research project which will enable me to understand and evaluate the intrapreneurship orientation of the organization, with the intention of enhancing its innovation initiatives and outcomes.

Your participation in this research project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this survey/focus group discussion. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Graduate School of Business and Leadership, UKZN.

If you have any questions or concerns about participating in this study, you may contact me or my supervisor using the contact numbers listed above.

1

Informed Consent:

I hereby confirm that I understand the contents of the Informed Consent Letter, and the nature of the research project. I understand that I am at liberty to withdraw from the project at any time, should I so desire. *

- Yes, I consent to participation in the research
- No, I do not consent to participation in the research

2

Please indicate today's date *

Please input date (M/d/yyyy)



Section 1: Demographic Information

3

Gender:

- Male
- Female
- Non-binary

4

Highest Education Qualification Attained:

- Matric (NQF4)
- Higher Certificate (NQF5)
- Bachelors Degree (NQF7)
- Honours Degree/Postgraduate Diploma (NQF8)
- Masters Degree (NQF9)
- Doctoral Degree (NQF10)
- Other

5

Position that you are currently occupying in the organisation: *

- Section Head/Supervisor
- Middle Management
- Senior Management
- Executive

6

Age Group:

- 18-29
- 30-40
- 41-50
- 51-60
- 61-65

7

Experience (years) in the organisation

- 1-4 years
- 5-9 years
- 10-14 years
- 15-19 years
- 20-24 years
- > 25 years

Section 2: Research-Orientated Questions

8

Managerial Intrapreneurship Orientation

	1 Strongly Disagree	2 Disagree	3 Undecided	4 Agree	5 Strongly Agree
1. We have a common understanding of the word "innovation" in my organisation	<input type="radio"/>				
2. Innovation is part of my job	<input type="radio"/>				

9

Factors Influencing Intrapreneurship Orientation

	1 Strongly Disagree	2 Disagree	3 Undecided	4 Agree	5 Strongly Agree
1. I collaborate on innovation ideas with my co-workers	<input type="radio"/>				
2. I know what kinds of innovation ideas the company is looking for	<input type="radio"/>				
3. I am committed to continuous learning and the pursuit of innovative ideas	<input type="radio"/>				
4. I have been trained on at least one or more innovation competencies	<input type="radio"/>				

10

Factors Influencing Intrapreneurship Orientation (continued)

	1 Strongly Disagree	2 Disagree	3 Undecided	4 Agree	5 Strongly Agree
5. Our organisation is a good home for innovators	<input type="radio"/>				
6. People have time to innovate in our organisation	<input type="radio"/>				
7. There is support for taking risks in the organisation	<input type="radio"/>				
8. It is okay to fail sometimes	<input type="radio"/>				

11

Factors Influencing Intrapreneurship Orientation (continued)

	1 Strongly Disagree	2 Disagree	3 Undecided	4 Agree	5 Strongly Agree
9. Our organisation has an innovation strategy	<input type="radio"/>				
10. Our organisation's innovation strategy is linked to our corporate strategy	<input type="radio"/>				
11. Senior executives drive innovation in our organisation	<input type="radio"/>				

12

Intrapreneurship and Balanced Scorecard Perspectives

	1 Strongly Disagree	2 Disagree	3 Undecided	4 Agree	5 Strongly Agree
1. Innovation and intrapreneurship will contribute towards improved financial performance of our organisation	<input type="radio"/>				
2. Innovation and intrapreneurship results in improved customer satisfaction	<input type="radio"/>				
3. Our organisation has people focused on identifying key future markets, customers, and other insights	<input type="radio"/>				
4. As an organisation, we are constantly looking to improve	<input type="radio"/>				

13

Intrapreneurship and Balanced Scorecard Perspectives (continued)

	1 Strongly Disagree	2 Disagree	3 Undecided	4 Agree	5 Strongly Agree
5. Our organisation has a portfolio of actively managed innovation projects	<input type="radio"/>				
6. We have a formal process for innovation idea selection at our organisation	<input type="radio"/>				
7. We have a formal process for innovation idea funding at our organisation	<input type="radio"/>				

Intrapreneurship and Balanced Scorecard Perspectives (continued)

	1 Strongly Disagree	2 Disagree	3 Undecided	4 Agree	5 Strongly Agree
8. We have an innovation idea development process at our organisation	<input type="radio"/>				
9. We have the tools for innovation management in place (R&D lab/facilities, software, etc.) at our organisation	<input type="radio"/>				
10. We use one or more established innovation methodologies at our organisation	<input type="radio"/>				
11. We have a formal process for staffing innovation projects at our organisation	<input type="radio"/>				
12. We have a clear set of innovation metrics to manage performance at our organisation	<input type="radio"/>				

Intrapreneurship and Organisational Culture

	1 Strongly Disagree	2 Disagree	3 Undecided	4 Agree	5 Strongly Agree
1. We have a process for recognising and rewarding innovators in our organisation	<input type="radio"/>				
2. As an organisation, we request or seek innovation ideas from our employees	<input type="radio"/>				
3. As an organisation, we request or seek innovation ideas from our suppliers	<input type="radio"/>				
4. As an organisation, we request or seek innovation ideas from our partners or industry peers	<input type="radio"/>				
5. As an organisation, we request or seek innovation ideas from our customers	<input type="radio"/>				

End of Questionnaire

Thank you for taking the time to participate in this research project.

APPENDIX 4: FOCUS GROUP DISCUSSION INVITE & INFORMED CONSENT

An Evaluation of Intrapreneurship Orientation: Focus Group Discussion

Informed Consent Letter

UNIVERSITY OF KWAZULU-NATAL

GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

Dear Participant,

Master of Business Administration Research Project (MBA)

Researcher: Rangini Chetty (082 895 0056); 200500882@stu.ukzn.ac.za

Supervisor: Dr Tony Ngwenya (031 260 7825); Ngwenyat2@ukzn.ac.za

Research Office: HSSREC (031) 260 8350/3587; hssrec@ukzn.ac.za

I, Rangini (Trisha) Chetty, am a MBA student at the Graduate School of Business and Leadership of the University of KwaZulu-Natal (Student number: 200500882). I hereby invite you to participate in a research project entitled "**Evaluation of intrapreneurship orientation in a pharmaceutical manufacturing company in KwaZulu-Natal**". Intrapreneurship is defined as a process within which individuals or groups in an organizational setting, identify, pursue and promote innovation.

The aim of this research is to measure the nature and extent of National Bioproducts Institute's intrapreneurship orientation, to identify the strengths (enablers) and weaknesses (obstacles) that influence intrapreneurship within the organization, to explore strategies to support intrapreneurship as well as to investigate the relationship between NBI's intrapreneurship orientation, management style and organizational culture.

Phase 2 of this study is a Focus Group Discussion. This should involve approximately 10 participants and take approximately 60-90 minutes to complete. The Focus Group Discussion may be conducted using MS Teams, or in-person, with due consideration of COVID-19 safety protocols. I trust that you will take the time to participate in this research project which will enable me to understand and evaluate the intrapreneurship orientation of the organization, with the intention of enhancing its innovation initiatives and outcomes.

Your participation in this research project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this survey/focus group discussion. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Graduate School of Business and Leadership, UKZN.

If you have any questions or concerns about participating in this study, you may contact me or my supervisor at the numbers listed above.

1. I would like to participate in the focus group discussion:

*

Yes

No

2. I consent to audio-recording of the focus group discussion *

Yes

No

3. Please state today's date *

4. My preferred date and time for the Focus Group Discussion is: *

Monday, 18 October 2021, 1:00 -3:00 pm

Tuesday, 19 October 2021, 8:00 - 10:00 am

Tuesday, 19 October 2021, 1:00 -3:00 pm

APPENDIX 5: FOCUS GROUP DISCUSSION INTERVIEW SCHEDULE

Focus Group Discussion Interview Questions

The Concept of Intrapreneurship

1. What is your understanding of the concept of intrapreneurship?

Factors Influencing Intrapreneurship Orientation

2. What are the individual factors that influence intrapreneurship?
3. What are the organisational factors that influence intrapreneurship?

Intrapreneurship and Balanced Scorecard Perspectives

1. How do you perceive the role of intrapreneurship with respect to financial performance?
2. How do you perceive the role of intrapreneurship with respect to customer satisfaction?
3. How do you perceive the role of intrapreneurship with respect to learning and growth?
4. How do you perceive the role of intrapreneurship with respect to internal business processes?

Intrapreneurship and Organisational Culture

1. What is the relationship between intrapreneurship orientation and organisational culture?

APPENDIX 6: TURNITIN SIMILARITY INDEX REPORT

MBA Dissertation Rangini Chetty 200500882

ORIGINALITY REPORT

9%	7%	4%	3%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	www.researchgate.net Internet Source	1%
2	Submitted to University of KwaZulu-Natal Student Paper	<1%
3	innovationmanagement.se Internet Source	<1%
4	repository.up.ac.za Internet Source	<1%
5	ujcontent.uj.ac.za Internet Source	<1%
6	eprints.lse.ac.uk Internet Source	<1%
7	link.springer.com Internet Source	<1%
8	archive.org Internet Source	<1%
9	journals.sagepub.com Internet Source	<1%