

MASTERS OF COMMERCE DISSERTATION

**DYNAMIC STRATEGY: INVESTIGATING THE
AMBIDEXTERITY-PERFORMANCE RELATIONSHIP**

By

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Submitted in fulfilment of the requirements for the degree
MCom in Business Management
In the
FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES
At the
UNIVERSITY OF PRETORIA

Date of submission:
2018-03-29



DEPARTMENT OF BUSINESS MANAGEMENT

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ACKNOWLEDGEMENTS

“No man is an island” – John Donne

Below is a few acknowledgements without whom this study would not have been possible:

- I would like to thank my cousin Elsje Joubert for inspiring me to complete my Master's degree.
- I would like to thank Dr Rachel Maritz for the opportunity and for her guidance and support throughout the duration on this study.
- I would like to thank my parents Johan and Ann Visser as well as Paul and Elma Jacobs for their interest, support, prayers and encouragement.
- I would like to thank my husband, Paul Jacobs, for persisting with me throughout this study. His patience, motivation, understanding, prayers and love made it possible for me to complete my study. Especially considering we got married, moved to another town and both of us started new jobs throughout this time.
- Lastly, it is not through my own power, will and intelligence that I have completed this study. I had the eyes of the Lord watching over me and His hands guiding me throughout this incredible journey. I, therefore, dedicate this study to Him as a token of gratitude for his unfailing love.

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ABSTRACT

Faced with turbulent and continuously changing environments, organisations have to implement strategies that will allow them to become dynamic and remain competitive over the long-term. Ambidexterity, employed as a dynamic strategy, will enable organisations to simultaneously exploit and explore to serve the needs of their current market(s) through improvement and refinement while preparing for the future through innovation and novelty. This study aimed to identify whether organisations in an emerging economy such as South Africa are able to simultaneously exploit and explore and what the relationship is between ambidexterity and sustainable performance. The findings of the type of relationship and nature of ambidexterity is important due to the turbulent nature of the industries and the basis for survival and even optimal performance an ambidextrous strategy can offer organisations. Furthermore, this study investigated the role environmental turbulence, fuelled by intense competition, played in the relationship between ambidextrous strategies and sustainable organisational performance. This study contributes to the very limited body of knowledge investigating dynamic capabilities, such as ambidexterity, in an emerging economic context. Moreover, this study contributes to the literature investigating the ambidexterity and sustainable performance relationship in terms of whether organisations can simultaneously explore and exploit and what type of relationship exists between ambidexterity and sustainable performance. Management could also benefit from this study in that it will provide them with strategic insight when competing in turbulent environments. South Africa as an emerging economy provides the ideal hub for determining the value of ambidextrous strategies on sustainable organisational performance due to the changing nature of its industries. This study made use of the quantitative research approach, employing self-administered and telephonic surveys to gather data and made use of various analytical techniques to analyse the data. Participants were provided with questions prompting them to answer in line with their perceptions of their organisation in their relevant industry. The cross-sectional primary data was obtained from the sample using the convenience sampling method due to time and resource constraints. It was found that moderate to strong relationships exist between the two sub-dimensions of ambidexterity and sustainable performance, as well as competitive intensity and environmental turbulence. The findings depict a strong relationship between exploration and exploitation as the sub-dimensional constructs of ambidexterity, which reinforces the literature around simultaneous exploration and exploitation. There was no statistically significant information indicating that

environmental turbulence moderates the ambidexterity and sustainable performance relationship. However, considering the strong positive relationship between the two sub-dimensions of ambidexterity and sustainable organisational performance, it is advisable for management of South African organisations to focus on ambidextrous strategies for sustaining performance in turbulent environments.

Keywords: Sustainable performance; ambidexterity; dynamic strategy; dynamic capabilities; environmental turbulence, competitive intensity, ordinary capabilities

CHAPTER 1: INTRODUCTION

1.1 Background / Overview

1.2 Problem Statement

1.3 Purpose Statement

1.4 Research Objectives

1.5 Hypothesis

1.6 Methodology

1.7 Academic Value and Contributions of Research

1.8 Limitations

1.9 Dissertation Outline

1.10 Chapter Layout

1.11 Terms Used Interchangeably Throughout This Dissertation

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1.13 Summary

1. INTRODUCTION

1.1 BACKGROUND/OVERVIEW

“The Roman god Janus had two sets of eyes—one pair focusing on what lay behind, the other on what lay ahead. General managers and corporate executives should be able to relate. They, too, must constantly look backward, attending to the products and processes of the past, while also gazing forward, preparing for the innovations that will define the future” (O'Reilly & Tushman, 2004:74).

O'Reilly and Tushman (2004:74) could not have used a better analogy to describe the ambidextrous organisational behaviour required of firms in the dynamic business environment organisations face. In the increasingly dynamic and turbulent business environment today, growing competition is driving organisations to employ non-traditional management tools and techniques in order to stay competitively relevant and achieve sustainable success (Chukhray, 2012:10; Hung, Yang, Lien, McLean & Kuo, 2010:285; Easterby-Smith, Lyles & Peteraf, 2009:2).

One of the key concerns in today's turbulent and volatile business environments for every organisation is how they will remain competitive with all the disruption, innovation and change taking place.

Business environments in the 21st century have been classified as hypercompetitive, ambiguous and turbulent by many scholars (Deviatykh & Sobakina, 2014:1; Peteraf, Di Stefano & Verona, 2013:1406; Easterby-Smith *et al.*, 2009:2).

Adeniran and Johnston (2012:4089) note that dynamic capabilities are purposefully created or developed to enable the firm to achieve sustainable performance in the long-term when faced with turbulent environments. Management scholars and practitioners are increasingly focussing on the topic of dynamic capabilities, especially in terms of its contribution towards sustainable success (Dixon *et al.*, 2014:186; Schilke, 2014:368; Teece, 2007:1320). Di Stefano, Peteraf and Verona (2014:307) note that the increasing interest in dynamic capabilities is visible due to the amount of yearly citations increasing “from an average of 3 236 between 2006 and 2010 to an average of 6 860 between 2011 and 2013”.

Furthermore, Hung *et al.* (2010:286) note that dynamic capabilities signify how organisations compete in dynamic business environments by developing firm-specific resources and capabilities. Management are required to alter and adapt their resource and capability allocation decisions on a continuous basis in order to satisfy their current market(s) and prepare for emerging business in the future (Prange & Verdier, 2011:127; Zhou & Li, 2010:225).

This adaptation and change is needed due to the turbulent business environments and continuously changing market needs (Teece, 2010:190; Ambrosini & Bowman, 2009:39). The ability to adapt to current, changing markets and seek out or create possible new markets is the essence of ambidexterity employed as a dynamic strategy (Dutta, 2012:88).

Raisch and Birkinshaw (2008:393) argue that despite studies concerning organisational ambidexterity expanding at rapid rates, there remains a scarcity in the empirical testing of the relationship between ambidexterity and long-term performance. Furthermore, throughout the literature it is evident that there is a shortage of empirical research that investigates the relationship between dynamic capabilities (such as ambidexterity) and sustainable long-term performance within an emerging economic context (Deviatykh & Sobakina, 2014:3; Karabag & Berggren, 2014:2213; Adeniran & Johnston, 2012:4098; Ambrosini & Bowman, 2009:40; Raisch & Birkinshaw, 2008:397; Pablo, Reay, Dewald & Casebeer, 2007:690).

This study was conducted in an emerging economic context and will contribute to the literature investigating dynamic capabilities in emerging economic contexts. Emerging economies are typically characterised by constant government involvement, a very diverse number of markets and high environmental uncertainty, providing the perfect ground for validating and challenging current business models and organisational theories (Xu & Meyer, 2013:1323). Empirical evidence from emerging economies is important given their increased value contributed to the global economy (Keen & Wu, 2011:316). There is an overall need in the dynamic capability framework for empirical studies that specifically investigate dynamic capabilities in an emerging economic context (Ambrosini & Bowman, 2009:40).

Thus, scholars will benefit from this study in that it contributes to the work done in the growing field of dynamic capabilities, providing empirical evidence from an emerging economic context.

Moreover, Junni, Sarala, Taras and Tarba (2013:310) note that although there are a few studies that have investigated the ambidexterity and sustainable performance relationship, the results remain mixed and more evidence is needed. For example, some studies found a positive relationship, others found it to be a contingent relationship, some studies found that a negative relationship exists and others found no relationship (Junni *et al.*, 2013:300). The authors also encourage further studies on the ambidexterity-performance relationship to investigate moderators on that relationship such as the environment within which organisations deploy their ambidextrous strategies (Junni *et al.*, 2013:310).

Understanding the link between ambidexterity and sustainable performance is important for management and scholars in today's dynamic business environment, especially in the context of emerging economies. The reason for this is because organisations today are faced with many external forces and influences in dynamic environments that have an impact on their strategic decisions, thus understanding the importance of ambidexterity will equip organisations for survival and possibly sustainable performance (Ludwig & Pemberton, 2011:231; Hung *et al.*, 2010:287).

1.2 PROBLEM STATEMENT

As noted above, the literature indicates that ambidexterity can provide an organisation with sustained performance that will enable the organisation to survive in the long-term through turbulent times. However, the effect of environmental dynamism on the ambidexterity-performance relationship has not been fully evaluated and the results remain mixed about the ambidexterity-performance relationship. Moreover, emerging economies provide a perfect hub for studying the ambidexterity-performance relationship due to the constant turbulence, demanding organisational refinement, whilst simultaneously requiring organisations to innovate. Yet, there seems to be a lack of studies in this regard. Furthermore, there is still some uncertainty around simultaneous exploitation and exploration within an organisation, which this study set out to clarify in a dynamic context.

1.3 PURPOSE STATEMENT

This study views ambidexterity as simultaneous exploration and exploitation in that an organisation is able to deliver products or services to its customers today, while being innovative for business tomorrow. Given the aforementioned, the purpose of this study is then to determine whether firms in emerging economic contexts demonstrate ambidexterity for sustainable performance in the long term and what the effects of environmental turbulence (as a result of competitive intensity) are on the ambidexterity and sustainable performance relationship.

1.4 RESEARCH OBJECTIVES

As a result, the main research objectives that will guide this study are as follows:

- To investigate the relationship between ambidexterity, as a dynamic capability, and sustainable long-term performance.
- To investigate whether South African organisations explore and exploit simultaneously.
- To investigate the relationship between competitive intensity and environmental turbulence in an emerging economic context.
- To investigate the effect of turbulent business environments on the ambidexterity and sustainable performance relationship.

1.5 HYPOTHESES

Table 1.1 identifies the link between the research objectives provided above and the hypotheses in line with those objectives.

Table 1.1: Link between research objectives and the hypotheses

Objective	Hypotheses	Constructs Involved
To investigate the relationship between ambidexterity, as a dynamic capability, and sustainable long-term performance.	H _{1(alt)} : There is a positive correlation between ambidexterity and sustainable organisational performance.	<ul style="list-style-type: none"> - Ambidexterity - Sustainable Performance
To investigate whether South African organisations explore and exploit simultaneously.	H _{2(alt)} : There is a positive correlation between exploitation and exploration.	<ul style="list-style-type: none"> - Exploration - Exploitation
To investigate the relationship between competitive intensity and environmental turbulence in an emerging economic context.	H _{3(alt)} : There is a positive correlation between environmental turbulence and the competitive intensity within an industry.	<ul style="list-style-type: none"> - Competitive Intensity - Environmental Turbulence
To investigate the effect of turbulent business environments on the ambidexterity and sustainable performance relationship.	H _{4(alt)} : The relationship between ambidexterity and sustainable organisational performance is moderated by environmental turbulence.	<ul style="list-style-type: none"> - Environmental Turbulence - Ambidexterity - Sustainable Performance

1.6 METHODOLOGY

Measurement of the research objectives was done using the quantitative research technique. This study measured and analysed the research objectives statistically to provide factual primary data to the academic field, and to draw statistically supported conclusions about the characteristics of the sample. This study was non-experimental, and cross-sectional data was used. This study also made use of questionnaires designed and tested in similar contexts to South Africa, which are widely recommended or used by other notable scholars in the dynamic capabilities field. The tests were conducted in a South African context where the sample consisted of for profit organisations from many different industries within South Africa during the 2017 financial year.

In order to obtain the appropriate sample this study made use of convenience sampling. This method is appropriate since the limited time and budget required a quick collection of responses from diverse industries in South Africa. Respondents willing to participate in this study were asked to provide responses based on how they perceive their organisation and industry. A combined total of 157 usable responses were obtained with a minimum of 150 complete responses per question. The target population was the individual respondents from organisations that function in the South African business environment. The unit of analysis was the organisation since this study ultimately compared the results from each organisation to make conclusions about the population.

The data in this study was collected using self-administered questionnaires and telephonic surveys sent to participants. The questionnaire was pretested by ten voluntary participants that fit the description of the participants required in the study. Participants of this study can be described as individuals representing profit organisations of various industries in South Africa. After the pre-testing adjustments were made and the final questionnaire was ready for data collection. The questionnaire was sent to the respondents either through e-mail or participants were phoned and the questionnaire was completed with the assistance of a field worker. The results obtained from the respondents were then tested for validity using the factor analysis test. The results were interpreted and the correlations in the hypotheses were evaluated using the Pearson's product moment correlation test. Lastly, to test the moderating role that environmental dynamism played on the ambidexterity and sustainable performance relationship, a multiple regression model was used.

1.7 ACADEMIC VALUE AND CONTRIBUTIONS OF RESEARCH

As was mentioned above, previous literature delivered mixed results regarding the relationship between ambidexterity and sustainable performance (Junni *et al.*, 2013:310). Therefore, this study will contribute to the literature investigating this relationship by clarifying whether or not a positive relationship exists between sustainable performance and ambidextrous organisational behaviour.

Furthermore, the literature investigating ambidexterity have previously investigated exploration and exploitation as two paradoxical activities that may require trade-offs.

Previous literature demonstrated that organisations had to choose between exploration and exploitation. However, in line with recent studies, this study will contribute to the research body by confirming whether it is possible for an organisation to explore and exploit simultaneously.

Many scholars have identified that there is a lack of empirical studies in emerging economies investigating the relationship between sustainable performance and dynamic capabilities, such as ambidexterity (Deviatykh & Sobakina, 2014:3; Adeniran & Johnston, 2012:4098; Ambrosini & Bowman, 2009:40; Raisch & Birkinshaw, 2008:397). Therefore, the growing field of research on dynamic capabilities will benefit from this study, because it will provide much needed empirical evidence in an emerging economic context.

Moreover, Junni *et al.* (2013:310) encouraged scholars to investigate the effect of moderators on the ambidexterity-performance relationship, such as the dynamism present in the environment. This study will adhere to their call for an investigation of a moderating factor by investigating the moderating effect of dynamic environments on the ambidexterity-performance relationship.

Finally, the results of this study are also important to managers of organisations in dynamic contexts such as emerging economies. This is because ambidexterity provides organisations with a strategy addressing both short- and long-term performance for survival and sustained performance in dynamic environments. This is important because when firms are faced with finite resources and constant change, ambidexterity as a dynamic capability can provide the organisation with the basis for facing competitive pressure and long-term survival.

1.8 LIMITATIONS

Some of the main limitations this study faced included problems when attempting to access the sample that would represent the target population. This study also faced methodological challenges in the form of survey errors. The survey errors that were provisioned for in this study involves respondent error and response error respectively. Respondent error occurs in two instances. Firstly, through non-response error (bias) in the form of respondents failing

or refusing to answer some or all of the questions contained in the self-administered questionnaires. Secondly, non-response error can also occur as a result from respondents that could not be located or whose contact details were incorrect.

Response error (bias) was also provisioned for as it arises because of respondents either deliberately or unconsciously misrepresenting information relevant to the study, specifically because this study tested the perception of the respondents. Lastly, since this study used convenience sampling as a technique for obtaining responses, application of the findings to the target population should be done with caution.

1.9 DISSERTATION OUTLINE

This dissertation begins with an introduction to the study, followed by a literature review containing an in-depth study about sustainable long-term performance. Next, this study presents literature on dynamic capabilities and ambidexterity as a dynamic capability. Thereafter, a discussion on dynamic strategies and turbulent environments follows. A section on the research methodology follows, including the data collection and data analysis methods used in this study. Thereafter, the statistical analysis of the findings is discussed. This dissertation concludes with an overall discussion of the results, the limitations faced, the contributions made, the managerial implications of the findings and opportunities for further studies. Below is a layout of the chapters as they are presented.

1.10 CHAPTER LAYOUT

The layout of the chapters in this dissertation is as follows:

- **Chapter 1 – Introduction**

Chapter 1 comprises of the background and a layout of the study, as well as an overview of how the research was conducted.

- **Chapter 2 – Literature Review on Sustainable Performance**

Chapter 2 presents an investigative discussion of sustainable performance as it was used throughout this dissertation.

- **Chapter 3 – Literature Review on Dynamic Capabilities**

Chapter 3 contains a discussion around dynamic capabilities, how it differs from ordinary capabilities and the classification of ambidexterity as a dynamic capability.

- **Chapter 4 – Literature Review on Dynamic Strategies and Dynamic Environments**

Chapter 4 presents literature on how this dissertation classifies dynamic environments and the strategic impact it has on the organisation's strategy.

- **Chapter 5 - Methodology**

Chapter 5 comprehensively discusses the methodology around how this study was conducted and how the results were obtained and analysed.

- **Chapter 6 – Results**

Chapter 6 provides an overview of the descriptive statistics of the research results, as well as a discussion on the empirical findings of the research.

- **Chapter 7 – Discussion, Managerial Implications, Limitations and Opportunities for Future Research**

Chapter 7 includes an overview of the complete study, key findings and managerial implications of the results, limitations and contributions of the study, as well as opportunities for future research.

1.11 TERMS USED INTERCHANGEABLY THROUGHOUT THIS DISSERTATION

The following list indicates words that were used interchangeably with each other throughout this dissertation:

Environmental turbulence – Environmental dynamism

Developing country – Emerging market – Emerging economy

Dimension – Construct

Business environment – Market environment

Organisation – Firm

Measurement scale – Measurement item

Study - Investigation

1.12 REFERENCING TECHNIQUE USED

This study has made use of the Harvard referencing technique prescribed by the University of Pretoria.

1.13 SUMMARY

This chapter introduced the topic of study by providing background around the topic of investigation. Thereafter, the problem identified in the literature was presented as well as the purpose of this study. The four main research objectives were outlined next followed by a Table presenting the linkages between the research objectives, hypotheses, and the constructs involved.

A brief overview of the methodology in this study as well as the academic value and contributions of this study followed. A short section on the limitations of this study was provided thereafter. Following the limitations of this study is a section providing a brief overview of the layout of this dissertation, terms that were used interchangeably throughout this study and the referencing technique used in this study. In the next chapter a detailed literature review is conducted on the construct sustainable performance.

CHAPTER 2: LITERATURE REVIEW ON SUSTAINABLE PERFORMANCE

2.1

Introduction

2.2

Sustainable Performance

2.2.1

Strategic Flexibility and Sustainable Performance

2.2.2

Short-Term Performance, Long-Term Performance and Organisational Strategy

2.3

Summary

2. LITERATURE REVIEW ON SUSTAINABLE PERFORMANCE

2.1 INTRODUCTION

Sustainability is not just about environmental or social awareness as opposed to a purely economic focus, but rather, in this study, it defines the optimal performance achieved by business and maintained over time (Bansal & DesJardine, 2014:71). The key question is: How can an organisation achieve optimal performance in the present while maintaining it over time? For an organisation to reach peak performance is one thing, but for the organisation to maintain such performance in the long-term is much more complex. Bansal and DesJardine (2014:76) have been investigating sustainability research extensively and have noted that a wider, time-based measure for firm performance needs to be taken into account. The time-based measure should be one that does not just report a snapshot of the firm's profitability, but a continued indication of the organisations profitability over time (Bansal & DesJardine, 2014:76).

Performing sustainably indicates that effective management of short- and long-term goals over time is required (Tang & Liou, 2010:52; O'Reilly & Tushman, 2008:197). In addition, organisations need to continuously optimise and refine their strategy to make sure that their current performance is sustainable, while at the same time, investigating and innovating to create or meet the demands of the future (Martini, Laugen, Gastaldi & Corso, 2013:2).

Dynamic capabilities adopted by organisations enable them to achieve sustainable performance (Andriopoulos & Lewis, 2010:105). Specifically when the organisations adopt the dynamic capability of being ambidextrous, that is exploiting and exploring simultaneously, they are bound to see improved and sustained performance (Chandrasekaran, Linderman & Schroeder, 2012:138; Andriopoulos & Lewis, 2010:105).

This chapter deals with the literature on sustainable performance and how both short-term performance in the shape of efficiency, optimisation and refinement, and long-term performance in terms of innovation and creation for the future, need to be considered for organisations to sustain their performance.

2.2 SUSTAINABLE PERFORMANCE

Sustainability has become an elusive term in strategic management because of its interpretation being inclusive of environmental issues and social responsibility of organisations (Barnett, Darnall & Husted, 2015:64; Bansal & DesJardine, 2014:70). Sustainability is popularly defined as the ability to uphold or maintain an action, process or system over extended periods for financial gain (Bansal & DesJardine, 2014:71; De Oliveira Cabral, 2010:4; Zott, 2003:110). Therefore, one can deduce that sustainable long-term performance is the ability to uphold or maintain superior performance over a long period. De Oliveira Cabral (2010:8) and Imperatives (1987:16) both note that sustainable business practices is “meeting the needs of the present, without compromising the ability of future generations to meet their own needs”.

Additionally, Bansal and DesJardine (2014:71) note that time is fundamental to the conception of business sustainability. This demonstrates the need for an organisation to develop the ability to focus on the short- and long-term simultaneously. Thus, in this study, sustainability is not interpreted as gestures of kindness or responsibility towards the environment. It is viewed as the creation of maintained short-term and long-term value for the business (Bansal & DesJardine, 2014:71).

2.2.1 Strategic Flexibility and Sustainable Performance

In the ever-changing and turbulent business environment, resources, competences, processes, context and industry dynamics are constantly changing (Katkalo, Pitelis & Teece, 2010:1178). These changes affect the strategy, structures and systems the organisation should align with in order to survive, and possibly secure sustainable performance in both the short- and long-term (Teece, 2012:1396; Hung *et al.*, 2010:287).

However, only being able to adapt successfully to environmental changes does not secure sustainable long-term performance. It requires building capabilities that will enable the firm to satisfy multiple demands simultaneously (Bonn & Fisher, 2011:6). Understanding how to build and manage these capabilities in itself is already a challenge (Epstein & Buhovac, 2014:32; Bonn & Fisher, 2011:12).

Hence, firms are required to build dynamic capabilities that complement strategic responsiveness to change while meeting both current and future needs. One such dynamic capability is ambidexterity. Ambidexterity allows the organisation to simultaneously satisfy multiple demands for the current and future markets of the firm (Wang & Rafiq, 2014:59). It allows the organisation to effectively respond to changes in the business environment (O'Reilly & Tushman, 2013:326). Accordingly, the organisation achieves sustainable performance when ambidexterity, which equips the organisation with the ability to plan for both the short-term and long-term, is combined with strategic adaptability to allow the organisation to respond to change in the business environment (Wilden *et al.*, 2013:74).

Strategic adaptability in this instance demonstrates the firm's ability to change and adapt accordingly to turbulence in the business environment (Adeniran & Johnston, 2012:4090; Ambrosini & Bowman, 2009:39). Turbulence can be accepted as a given in most market environments as they become more uncertain and unpredictable (D'Aveni *et al.*, 2010:1373). Turbulence in emerging markets is fully investigated later in this study; however, it is important to note the linkage between strategic adaptability and turbulence.

Strategic adaptability will enable the organisation to out-perform the competitors in the turbulent business environment, especially if it is combined with a dynamic capability that supports the organisation's strategic adaptability (Tamayo-Torres, Gutierrez-Gutierrez & Ruiz-Moreno, 2014:72; Adeniran & Johnston, 2012:4089). The rationale behind this is that the combination of adapting to change while simultaneously exploring and exploiting will enable the organisation to react to and satisfy current needs much quicker, as well as preparing and innovating for future needs (Wilden *et al.*, 2013:74). It provides the organisation with a certain agility when it comes to serving the market. In Figure 2.1 is a visual depiction of this interaction.

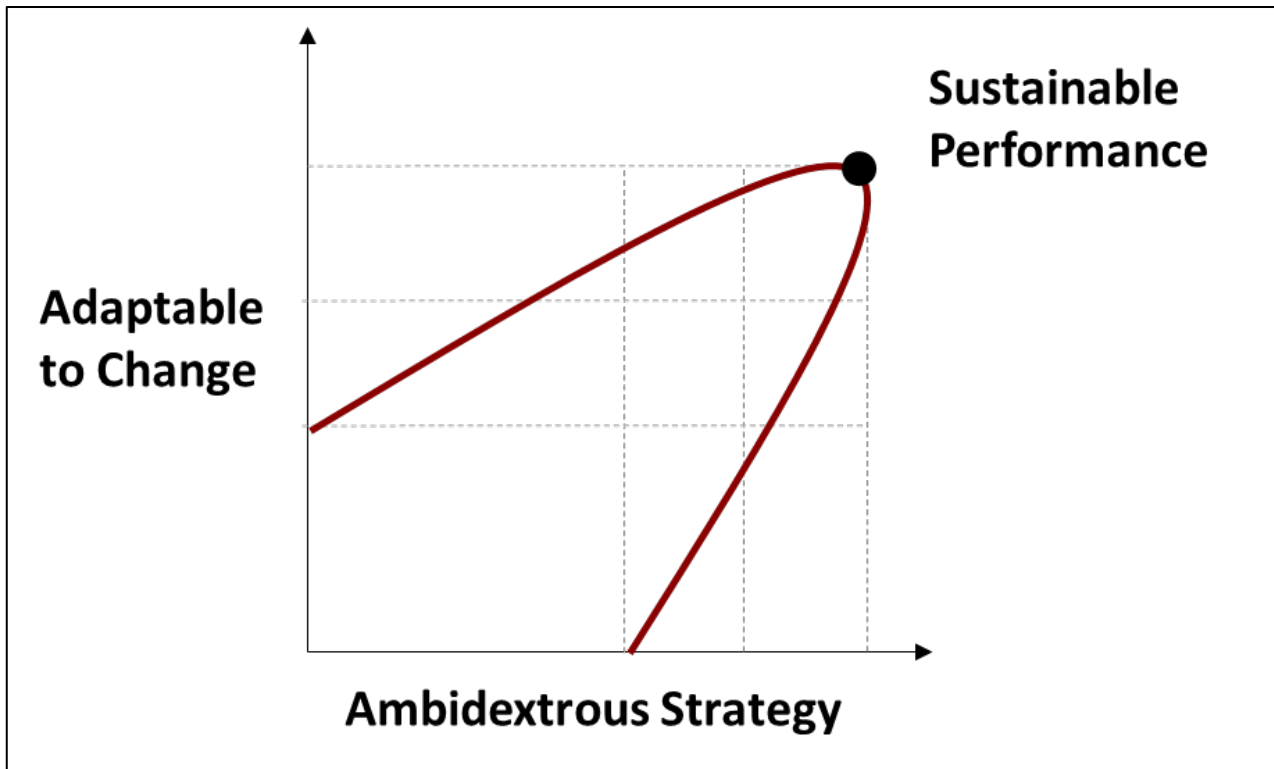


Figure 2.1: Sustainable performance

Source: Own compilation.

2.2.2 Short-Term Performance, Long-Term Performance and Organisational Strategy

Although, due to uncertain outcomes, obscured future rewards and risk involved in long-term planning, many organisations prefer to focus on short-term immediate rewards (Bansal & DesJardine, 2014:73). Influential strategist and Chief Executive Officer (CEO) of Unilever, Paul Polman, believes that at the core of today's strategic problems lies this short-term thinking (Bansal & DesJardine, 2014:70). The endless hunt to achieve a competitive, yet short-term advantage in the current marketplace (Ambrosini & Bowman, 2009:42) does not guarantee sustainable, superior performance (Tang & Liou, 2010:42).

Many other scholars believe a short-term view to be the reason for companies failing to be successful in the long-term (Deviatykh & Sobakina, 2014:3; Chandrasekaran *et al.*, 2012:138; Bodwell & Chermack, 2010:197; O'Reilly & Tushman, 2008:197). Therefore, Bansal and DesJardine (2014:71) state that business sustainability is improved by firms responding to short-term needs without jeopardising their ability to meet future needs.

Many factors could contribute to the short-term thinking of firms. One such example is stifling economic activity that could lead to the organisation reducing their long-term sustainability investments (Barnett *et al.*, 2015:63). Another example of this is when organisations face immense competitive pressure. They may not always consider the consequences of their decisions for the long-term and focus on the short-term to 'beat' the competition (Chandrasekaran *et al.*, 2012:146). A third example of this is when existing organisations in an industry are aware of changes in the marketplace, yet due to uncertainties and fear of the unknown they only improve their current operations instead of aiming for radical change which may have better long-term benefits (O'Reilly & Tushman, 2013:324; Utterback & Acee, 2005:4).

Moreover, in emerging markets, for instance, firms tend to place their focus on short-term strategies, neglecting their long-term planning, due to the competitive intensity in the growing markets and their fear of losing market-share (Prats, Sosna & Velamuri, 2012:134). Another factor is the fact that organisations require conflicting resources for long-term strategic goals, which create too much uncertainty leading to avoidance of long-term strategies (Epstein, Buhovac & Yuthas, 2015:37).

Incentive pressures related to increased immediate performance in the current market and market volatility due to demand spikes could also contribute to a negligence of long-term strategic thinking and a preference for focussing on the short-term (Epstein *et al.*, 2015:37). Nevertheless, short-term orientation, in terms of the uncertainty of the future and the need for immediate benefits and rewards of strategic action, is not enough for long-term sustainable performance. The firm should focus on both the short- and long-term if it wishes to become sustainable, even though the outcomes are uncertain.

This short-term mind-set is one of the problems that renders strategic plans to become outdated and could lead to failure when radical changes occur, because they are unprepared and unable to adapt to these major changes (Bansal & DesJardine, 2014:73; Teece, 2007:1328). The notion of the success trap depicts the negative outcome of short-term thinking on sustainable performance. The success trap ensues when an organisation becomes too vested in its current strategy of refinement and efficiency that it is unable to adapt to turbulent environmental conditions resulting in poor long-term performance (Junni *et al.*, 2013:300).

Thus, organisational strategies should not become too focussed on what the market wants today and how the organisations can improve their current state to increase current performance. Organisations should also strive to adapt to change and look towards the future. As Charles Darwin once stated, *“it is not the strongest of species that survive, nor the most intelligent, but the one that is most responsive to change”* (Raoof, 2017:1).

Keeping products and services flexible and ready to adapt to changing demands is where strategy and sustainability meets (Bansal & DesJardine, 2014:73). Thus, an organisation’s long-term survival indicates the firm’s strategic ability to adapt to the changing business environment and its ability to innovatively plan for the long-term in their strategies (Wilden *et al.*, 2013:74). Although, becoming caught up in innovation could also have a detrimental effect on organisational performance.

As Junni *et al.* (2013:300) explain, organisations become too fixated on producing new innovations that they neglect fully developing their original innovations, resulting in underdeveloped ideas that could have contributed to their revenue streams. This is known as the failure trap (Junni *et al.*, 2013:300; Simsek, Heavey, Veiga & Souder, 2009:884). In other words, organisations focussing only on innovating or creating something new do not benefit from return on their investments. Because of this fixation on innovation, organisations may miss out on opportunities that present themselves in the market (Andriopoulos & Lewis, 2009:697).

Thus, innovation, novelty and creation for future needs must be complemented by execution and effectively meeting current needs in the market. Firms must equip themselves to compete in their current markets through efficiency and meeting current needs, while simultaneously experimenting and innovating for emerging or unexplored markets (Wang & Rafiq, 2014:59; He & Wong, 2004:483). This hedges the firm’s strategy against turbulence in the business environment, because of the ability to respond to current needs and new or changing needs.

Additionally, Bansal and DesJardine (2014:71) define business sustainability as an organisation’s knack at responding to needs in the short-term without foregoing its ability to meet future needs. Epstein and Buhovac (2014:20) further the argument by stating that sustainability can be defined as the economic development to “meet the needs of the

present generation without compromising the ability of future generations to meet their own needs". Thus, a dynamic strategy is integral to a firm's long-term performance in order to satisfy current and future needs by continuously seeking efficiency, while simultaneously delivering novel and innovative solutions (Barnett *et al.*, 2015:63; Junni *et al.*, 2013:299).

This points to the requirement of organisations to focus on both short- and long- term goals simultaneously, satisfying current market needs, while preparing to satisfy emerging future needs. This dextrous ability to focus on both the short- and long-term simultaneously, of exploring new competences and exploiting existing competencies, is known as ambidexterity (O'Reilly & Tushman, 2013:325).

In the short-term firms exploit current opportunities, while exploration of future opportunities produces innovative ways to adapt to the changing business environment in the long-term (Chandrasekaran *et al.*, 2012:138). Aligning the business strategy to the organisation's ambidextrous capability allows it to adapt to changes in the environment. It demonstrates that the organisation has successfully adopted a dynamic strategy to ensure sustainable performance. Figure 2.2 demonstrates the interaction between exploration, exploitation and the organisation's strategic decisions.

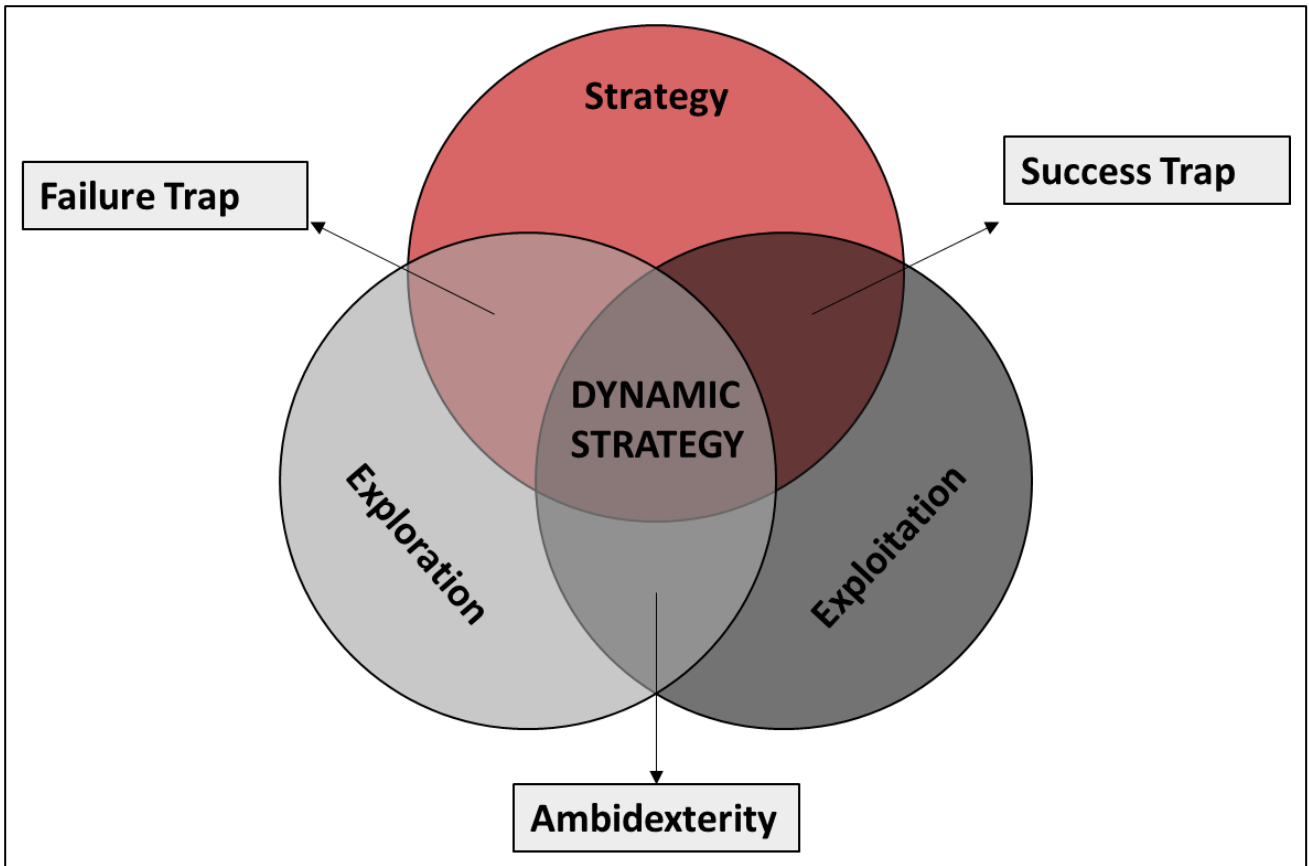


Figure 2.2: Exploration, exploitation and strategy

Source: Own compilation.

As the literature below will further demonstrate, ambidexterity is classified as a dynamic capability, because it encompasses the firm's ability to develop ambidexterity and integrate it into the overall strategy. When a dynamic capability such as ambidexterity and good adaptable strategies are combined, the enterprise can satisfy the current needs of their market while attending to competitive and technological opportunities for future goals (Teece, 2012:1396). Thus, it is hypothesised that:

H₁: There is a positive correlation between ambidexterity and sustainable organisational performance.

2.3 SUMMARY

In conclusion, it is evident that sustainable performance requires an organisation to have a short-term and a long-term focus as well as the ability to adapt to turbulent environments. The short-term performance involves the organisation optimising and improving current

business practices and processes. The long-term focus requires the organisation to investigate new possibilities and innovate to create new markets or to simply meet the needs of emerging or future markets before their competitors.

This simultaneous short- and long-term focus is classified as an ambidextrous capability that organisations adopt. However, it is imperative for organisations to simultaneously explore and exploit in order to avoid the success or failure traps that could ensue from too much focus on one or the other. Furthermore, ambidexterity can be regarded as a dynamic strategy vital to sustainable organisational performance. If an organisation adopts an ambidextrous strategy combined with strategic adaptability, it enables the organisation to strategically respond to change and possibly outperform the competition in the long-term. This chapter concluded with the hypothesis that ambidexterity is positively related to sustainable organisational performance. In the next chapter, the literature of dynamic capabilities will be looked at clarifying why ambidexterity is considered a dynamic capability according to this study.

CHAPTER 3: LITERATURE REVIEW ON DYNAMIC CAPABILITIES

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3.2 Dynamic Capabilities

3.2.1 Capabilities

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3. LITERATURE REVIEW ON DYNAMIC CAPABILITIES

3.1 INTRODUCTION

The previous chapter dealt with how a dynamic capability such as ambidexterity affects the sustainable performance of the organisation. This chapter aims to investigate dynamic capabilities, what makes ambidexterity a dynamic capability, and how this study will view and define ambidexterity.

It is important to distinguish between ordinary capabilities and dynamic capabilities to understand the impact dynamic capabilities have on sustainable organisational performance. Ordinary capabilities are singularly developed internal capabilities that coordinate multiple tasks and makes use of resources to achieve a specific outcome in the current market (Teece, 2012:1396; Helfat & Peteraf, 2003:999). Dynamic capabilities are layered on top of ordinary capabilities, constantly improving and changing the organisation's procedures and processes to aligning the internal organisation with the strategic goals (Hung *et al.*, 2010:285). Furthermore, dynamic capabilities enable organisations to align its resources and capabilities and realign them continually enabling them to sustain their current performance in the face of change (Katkalo *et al.*, 2010:1178).

This study therefore agrees with the notion that ambidexterity is a dynamic capability and enables the organisation to deploy a dynamic strategy. Ambidexterity enables the organisation to refine and optimise to improve current performance in turbulent markets, while it simultaneously enables the organisation to innovate and discover by utilising knowledge and learning to meet the needs of future markets (Dixon *et al.*, 2014:187; Martini *et al.*, 2013:2).

In order to evaluate ambidexterity, this study has divided it into two sub-dimensions namely exploration and exploitation. Exploitation is defined as refinement and optimisation while exploration is defined as innovation, discovery and creation (Martini *et al.*, 2013:2; Prange & Verdier, 2011:128). In this chapter the different methods that organisations use to achieve ambidexterity as noted by many scholars will be discussed. The three main methods discussed are temporal separation of the two sub-dimensions, structural separation of the two sub-dimensions, and the simultaneous pursuit of the two sub-dimensions (Eisenhardt,

Furr & Bingham, 2010:1264; Andriopoulos & Lewis, 2009:697; Gibson & Birkinshaw, 2004:211). This study is in support of the simultaneous pursuit of the two sub-dimensions and will investigate ambidexterity as such.

3.2 DYNAMIC CAPABILITIES

Since the seminal work of Teece, Pisano and Shuen (1997), worldwide management practitioners and scholars continue to be captivated by the topic of dynamic capabilities. The interest in, and influence of dynamic capabilities research is still increasing with reference to the number of publications and citations associated with it (Di Stefano *et al.*, 2014:307; Protogerou, Caloghirou & Lioukas, 2012:615; Ludwig & Pemberton, 2011:216; Helfat & Peteraf, 2009:92). The dynamic capabilities framework places emphasis on issues such as the link between organisational capabilities and sustainable performance in dynamic and changing environments, which are of importance to management scholars and practitioners (Peteraf *et al.*, 2013:1395; Easterby-Smith *et al.*, 2009:1). Alignment with continuously changing business environments and strategic change for sustained long-term performance is an important driving force behind dynamic capabilities (Wilden *et al.*, 2013:74).

Today's business environment is dynamic and changing with rapidly increasing competition (McLaughlin, 2017:63; Deviatykh & Sobakina, 2014:1; Chermack *et al.*, 2010:145; Easterby-Smith *et al.*, 2009:2). Management faces significant challenges related to complex issues such as planning, implementation, capability building and the overall challenge to remain relevant in the competitive environment, which are exacerbated by radical changes in the macro-environment (Ludwig & Pemberton, 2011:216). Organisations pursue superior performance in dynamic environments by engendering a value-creation strategy inimitable by the competition, which comprise of many different capabilities (Dixon *et al.*, 2014:187). Consequently, the organisation needs to find a way to increase its value creation, to ultimately survive and thrive.

Noke and Hughes (2010:133) note that the organisation can take strategic action such as increasing the effectiveness and efficiency within its value chain, by introducing innovation to generate more value, or rapidly repositioning the organisation's position in the value chain to outmanoeuvre competitors. These strategic changes may require the organisation's

capabilities to become dynamic in nature to improve the value creation activities (Noke & Hughes, 2010:135). A distinction between dynamic and ordinary capabilities would simplify and assist with understanding the essence of dynamic capabilities and how it differs from ordinary capabilities (Protogerou *et al.*, 2012:617). This study will refer to dynamic capabilities as such, and will use the term 'capabilities' to refer to ordinary capabilities.

3.2.1 Capabilities

Helfat and Peteraf (2003:999) define capabilities as an organisation's ability to utilise resources, as well as coordinate and perform multiple tasks all in pursuit of a specific outcome. Capabilities are developed and refined internal to the organisation to assist with efficient performance of current activities (Teece, 2012:1396). These capabilities enable the organisation to perform in a constant manner on an on-going basis with fairly similar techniques and more or less a set scale in order to maintain delivery of existing products and services to the same market population (Wilden *et al.*, 2013:74). Moreover, capabilities govern the organisation's ability to learn collectively, especially through the coordination of various production skills and integration of several streams of technologies (Prahalad & Hamel, 1990:81).

Teece (2007:1319) argues that an organisation needs to build capabilities that enable it to "create, extend, upgrade, protect and keep" an exclusive asset base on a continuous basis. This is the essence of what dynamic capabilities have to offer organisations. Dynamic capabilities influence the organisation's resource-base in such a manner that the organisation's resources and capabilities become valuable. This allows the organisation to meet immediate demands and current needs, improving the organisation's effectiveness (Adeniran & Johnston, 2012:4089). This is especially necessary when intense rivalry threatens the organisation's survival and forces it to examine innovative ways to compete (Wilden *et al.*, 2013:77).

In line with Wilden *et al.* (2013:74), resources are defined as the tangible or intangible assets or inputs owned, accessed and controlled by an organisation. Alongside capabilities, resources also need to be dynamic in nature to carry value in the turbulent business environment of the organisation (Deviatykh & Sobakina, 2014:1; Ludwig & Pemberton,

2011:226). This is due to the fact that resource allocations are altered to suit strategic and organisational processes that result from dynamic capabilities (Adeniran & Johnston, 2012:4089; Prange & Verdier, 2011:127). In other words, if an organisation does not own or transform resources to be dynamic, then the value of the deployed dynamic capability that consequently shapes the strategic and operational processes, may not be realised. There will be divergence between the dynamic strategy deployed and the resources the organisation holds. Adeniran and Johnston (2012:4098) note that organisations need to move beyond merely acquiring resources to a level of transforming their resources and capabilities to remain competitively relevant in the turbulent business environment. This transformation entails the evolution, reconfiguration, optimisation and re-combination of the resources the organisation maintain, to align them with the dynamic strategy adopted by the organisation (Deviatykh & Sobakina, 2014:1).

3.2.2 Dynamic Capabilities Defined

The dynamic capability perspective was developed to improve our understanding by studying the phenomenon of how organisations develop and sustain their superior performance in turbulent environments over the long-term (Adeniran & Johnston, 2012:4089). The organisation needs to build dynamic capabilities to increase value creation by enabling growth and renewal in the value chain for sustainable success (Noke & Hughes, 2010:134).

Based on the literature above, dynamic capabilities can be defined as “higher-level capabilities that determine the organisation’s ability to integrate, build, and reconfigure internal and external resources and capabilities to address, and possibly shape, rapidly changing business environments” (Teece, 2012:1395; Katkalo *et al.*, 2010:1178; Teece, 2007:1320; Teece *et al.*, 1997:516). Dynamic capabilities are specific and identifiable as the processes and abilities that improve the organisation’s business procedures, and involve the integration of the organisation’s operational processes and strategic goals (Hung *et al.*, 2010:285).

Furthermore, dynamic capabilities are built over time through the embedded processes or routines, enabling the organisation to reconfigure resources and capabilities through the

elimination of decaying resources and recombination of what the organisation has control over in a novel manner (Ambrosini & Bowman, 2009:31). Dynamic capabilities enable the organisation to align and realign its resources and capabilities over time to pursue opportunities in the changing business environment (Katkalo *et al.*, 2010:1178). Moreover, capabilities allow the organisation to perform well in the market where dynamic capabilities provide the organisation with the insight required when evaluating strategic action for current and future opportunities (Teece, 2012:1396). Thus, by layering dynamic capabilities on top of ordinary capabilities, organisations are able to achieve superior performance (Teece, 2012:1396).

Furthermore, dynamic capabilities can be categorised as higher order capabilities due to the fact that they provide opportunities for gathering and sharing knowledge, updating operational processes continually, interacting with the environment, and evaluating decision-making practices (Easterby-Smith *et al.*, 2009:7). In other words, dynamic capabilities allow an organisation to satisfy customer needs, while also developing new products and services that will be demanded in the future; whether the organisation creates a new market or utilises a detected opportunity (Chermack *et al.*, 2010:145). Moreover, Hung *et al.* (2010:286) note that dynamic capabilities are organisation-specific, developed internally to aid survival as a result of dynamic and turbulent business environments an organisation had faced and continue to face.

This constant turbulence results from the business environment becoming increasingly unsettled and hypercompetitive (Peteraf *et al.*, 2013:1406). Therefore, in order for an organisation to survive and achieve sustainable superior performance in these dynamic environments, the organisation is required to develop dynamic capabilities (Peteraf *et al.*, 2013:1406; Lavie *et al.*, 2010:119; Easterby-Smith *et al.*, 2009:2).

Due to these rapid changes products and services cannot remain static and need to be adapted to enable the organisation to search for, and take advantage of new opportunities that will replace exhausted ones (Deviatykh & Sobakina, 2014:1; Lavie *et al.*, 2010:119). Adapting resources and capabilities to pursue possible opportunities in current markets, whilst exploring innovative opportunities for new market entry or new market creation, is a key challenge in today's dynamic business environment for management practitioners (Dixon *et al.*, 2014:200). Managers have to act entrepreneurially by combining various

resources and capabilities to address market opportunities, as well as thinking creatively and experimenting to possibly create or enter new markets (Teece, 2014:333).

3.2.3 Ambidexterity as a Dynamic Capability

Simultaneous exploitation and exploration comes in with the notion of ambidexterity. March (1991:71), as one of the first authors to investigate organisational ambidexterity, noted that exploration may include “things captured by terms such as search, variation, risk taking, experimentation, play, flexibility, discovery, innovation”. Exploitation may include factors such as “refinement, choice, production, efficiency, selection, implementation, and execution” (March, 1991:71). Thus, exploitation refers to the organisation’s ability to identify and pursue opportunities, to gain knowledge and learn, to reduce risk, and to refine and adapt assets and capabilities for optimal performance in current markets (Prange & Verdier, 2011:128).

On the other hand, exploration includes activities such as experimentation, play and variation with resources and capabilities; flexibility; discovery; reconfiguration and innovation (Martini *et al.*, 2013:2). Thus, exploitation consists of refinement, improvement, and incremental innovation for short-term performance, whereas exploration consists of transformation, novelty and radical innovation for long-term performance (Dixon *et al.*, 2014:187; Wang & Rafiq, 2014:58). This simultaneous act of performing exploration and exploitation for both short- and long-term sustainable performance is known as ‘ambidexterity’ (Wang & Rafiq, 2014:58).

3.3 AMBIDEXTERITY

Ambidexterity, defined as the power an individual has to use both hands with the same skill level, is widely used as a metaphor to describe an organisation’s flair at managing both exploitation and exploration simultaneously (Martini *et al.*, 2013:7). Duncan (1976:172), the first scholar to apply the ambidexterity definition in an organisational context, indicated that for an organisation to be ambidextrous it needs to be able to excel at both exploitation and exploration. He specifically noted that “the organisation has to be strategically responsive in making major changes, while at the same time it must be concerned with carrying out its

activities in the most efficient manner” (Duncan, 1976:172). The main concern with regard to ambidexterity in an organisational setting would be to manage innovative action for business tomorrow, and performing core capabilities well today (Dutta, 2012:83; Andriopoulos & Lewis, 2009:697).

Various authors agree that the exploitation of existing capabilities and the exploration of new capabilities simultaneously is key to organisational survival, prosperity and sustainable performance (Wang & Rafiq, 2014:58; Martini *et al.*, 2013:2; Raisch, Birkinshaw, Probst & Tushman, 2009:685; He & Wong, 2004:482; Tushman & O'Reilly, 1996:10; March, 1991:71). The ambidexterity framework of exploiting and exploring simultaneously is largely applied to depict an array of phenomena exhibiting experience, refinement and specialisation on the one hand, and experimentation, diversity and innovation on the other (Martini *et al.*, 2013:3).

3.3.1 Exploitation and Exploration

As noted earlier, dynamic capabilities are those processes, procedures, skills, structures, disciplines and rules that allow top management to identify potential threats and opportunities and seize such opportunities by reconfiguring assets (Teece, 2012:1395; O'Reilly & Tushman, 2008:189; Teece, 2007:1319). Strategically, in order for an organisation to survive and achieve long-term sustainable success, the organisation has to possess resources and capabilities enabling it to compete in current markets, as well as the ability to assess and reconfigure resources to enable the organisation to adapt to evolving markets and technologies (O'Reilly & Tushman, 2008:189). This calls for simultaneous exploration and exploitation, thus, the implementation of two paradoxical strategies (Martini *et al.*, 2013:7).

Organisations are faced with a dilemma. Wang and Rafiq (2014:63), He and Wong (2004:481) and March (1991:71) note that the returns on exploration are associated with uncertainty and variability and are distant in time, whereas returns on exploitation are more certain and immediate. Due to the uncertainty and lengthy time-span of the returns on exploration activities, it is common for organisations to favour exploitation activities (Lavie *et al.*, 2010:116). Although, in order to cultivate new knowledge for innovative action and the

capabilities required for sustainable performance in the long-term, the organisation needs to make use of exploration as well as exploitation (Uotila *et al.*, 2009:222).

Uotila *et al.* (2009:222) note that if an organisation is solely focussing on improving performance by adapting to current markets through refinement and efficiency, it may lead to short-term success, but the organisation faces the risk of endangering their long-term sustainable performance. Uotila *et al.* (2009:222) further note that if the organisation favours exploitation activities in relation to exploration activities, it may lead to the deficiency of capabilities that will enable them to adapt to substantial environmental changes. On the other hand, focusing on radical innovations to satisfy customer demand and neglecting opportunities currently available to exploit for improved short-term performance, is known as the failure trap, that could lead to disastrous outcomes (Chandrasekaran *et al.*, 2012:138). Thus, the sub-optimal consequences would either be a success trap – too much focus on exploitation at the expense of exploration, or a failure trap – too much focus on exploration at the expense of exploitation (Chandrasekaran *et al.*, 2012:138; March, 1991:71).

Throughout the literature it is noted that the demands of developing and implementing exploitation strategies for short-term performance against those of exploration strategies for long-term performance are considered to be paradoxical (Wang & Rafiq, 2014:59; Martini *et al.*, 2013:3; Smith, Binns & Tushman, 2010:50; Andriopoulos & Lewis, 2009:697). Consequently, implementing two paradoxical strategies sustainably would be to implement two interrelated, yet contradictory strategies, simultaneously and with persistence over time (Martini *et al.*, 2013:9). However, there has been much debate about whether exploration and exploitation can be implemented and excelled at simultaneously. On the other side of the debate, authors argue that exploration and exploitation are part of a continuum requiring trade-offs to find a balance (Wang & Rafiq, 2014:60; Martini *et al.*, 2013:9; Peteraf *et al.*, 2013:1390; Gupta, Smith & Shalley, 2006:695; He & Wong, 2004:482; March, 1991:71).

3.3.2 Trade-off or Balance Approach

Traditionally it was argued that an “either/or” approach, emphasising the requirements of trade-offs between the paradoxical logics, was required for organisational success in

ambidextrous behaviour (Smith *et al.*, 2010:449). Following the seminal paper of March (1991:71), some authors agree that organisations need to constantly choose between exploration and exploitation since they compete for scarce resources (Wang & Rafiq, 2014:60; Smith *et al.*, 2010:457; Simsek *et al.*, 2009:867). March (1991:71) argues that systems engaging in one type of strategy at the exclusion of the other will face sub-optimal consequences, emphasising the importance of managing trade-offs between the two and finding a balance in order to survive and prosper. These sub-optimal consequences are the success trap because of organisational inertia preventing growth and innovation, and the failure trap that indicates excessive focus on innovation without implementation at the expense of current opportunities mentioned earlier. As stated earlier, the success trap ensues when an organisation becomes too vested in their current strategy of refinement and efficiency that they are unable to adapt to turbulent environmental conditions, resulting in poor long-term performance.

Furthermore, He and Wong (2004:482) support the trade-off theory by arguing that exploitation and exploration require disparate strategic logics, and that it is important to maintain an appropriate counter-balance. A balance between exploration and exploitation is especially important in organisations with limited resources internal to the organisation or restricted external resources (Junni *et al.*, 2013:300). Additionally, Lavie *et al.* (2010:114) argue that for organisations to manage the required trade-off between explore and exploit, they have to switch from exploitation to exploration and vice versa, much like a pendulum, over time. The literature suggests different ways in which organisations can implement these trade-offs to find the appropriate balance between exploration and exploitation. It may require strategies such as temporal separation or structural separation (Wang & Rafiq, 2014:60; Martini *et al.*, 2013:7; O'Reilly & Tushman, 2013:327; Lavie *et al.*, 2010:133; Simsek *et al.*, 2009:868).

Temporal separation in this instance involves a continuous cycle between exploration and exploitation where the organisation focusses solely on one activity, shifting to the other activity at a later stage (Lavie *et al.*, 2010:133). The organisation sequentially pursues exploration and exploitation at different points in time (Simsek *et al.*, 2009:867). In other words, at one moment the organisation will be engaged in exploitation activities and over time the organisation will switch to exploration activities, as noted before like a pendulum swinging from one side to the other (Smith *et al.*, 2010:449). Temporal separation found its

roots in the punctuated equilibrium model (Wang & Rafiq, 2014:60; Lavie *et al.*, 2010:133). Based on the Darwinian theory of evolution, gradual change is required over time for organisms to adapt to the changing conditions in the environment in order for them to survive; however, survival during rapid or discontinuous change was not considered (Tushman & O'Reilly, 1996:12).

In their article about evolutionary and revolutionary change, Tushman and O'Reilly (1996:12) state that “incremental change punctuated by brief periods of revolutionary or discontinuous change” is the manner in which evolution has progressed over time, especially in the dynamic and growing business environment. This is known as the punctuated equilibria model where cycling takes place between extensive periods of exploitation, followed by rapid bursts of exploratory activities (Wang & Rafiq, 2014:60; Lavie *et al.*, 2010:133; Tushman & O'Reilly, 1996:12). Figure 3.1 provides a graphic presentation of temporal separation.

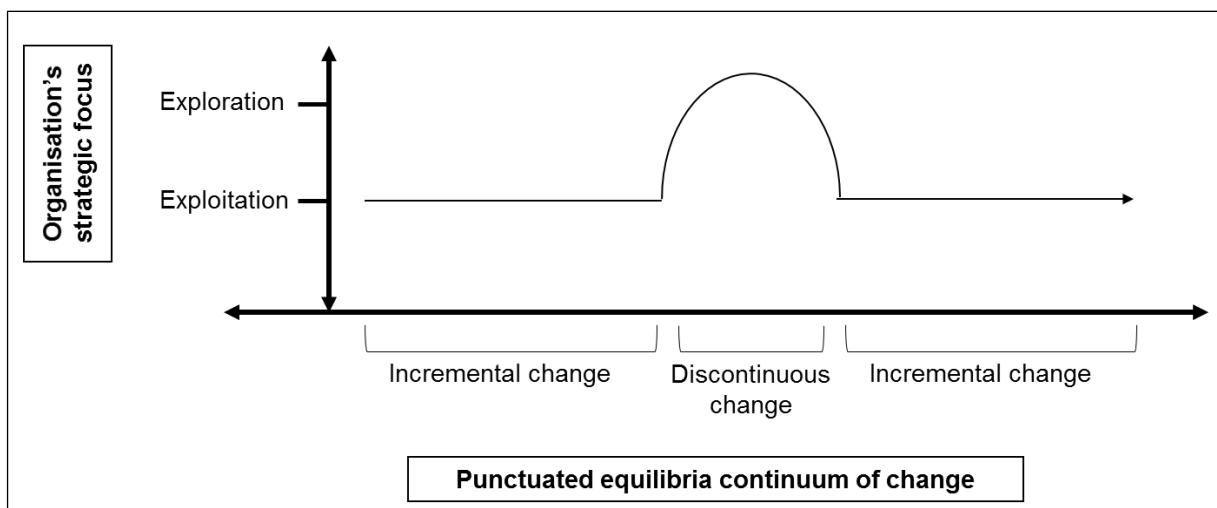


Figure 3.1: Temporal separation strategy

Source: Own compilation.

Structural separation, otherwise known as domain separation, involves separating exploitation and exploration activities between different organisational units (Wang & Rafiq, 2014:60; Raisch *et al.*, 2009:685). Structural separation allows organisational units to focus on the specific needs of either exploration or exploitation without the fear of neglecting the other (Gibson & Birkinshaw, 2004:210). A different manner in which an organisation can utilise structural separation is through alliances, wherein each business has a responsibility to either explore or exploit (O'Reilly & Tushman, 2013:328).

However, structural separation faces immense increased costs involved in coordination activities between the separate businesses or business units (Wang & Rafiq, 2014:60; Simsek *et al.*, 2009:868). Structural separation would mainly be advisable for organisations working towards a balance, where both activities can be carried out separately in multiple units (Lavie *et al.*, 2010:134). Achieving a balance between exploration and exploitation by segregating the activities among business units can be considered as more efficient than switching between the two, and are easier to achieve (Lavie *et al.*, 2010:135). Figure 3.2 presents a visual demonstration of structural separation.

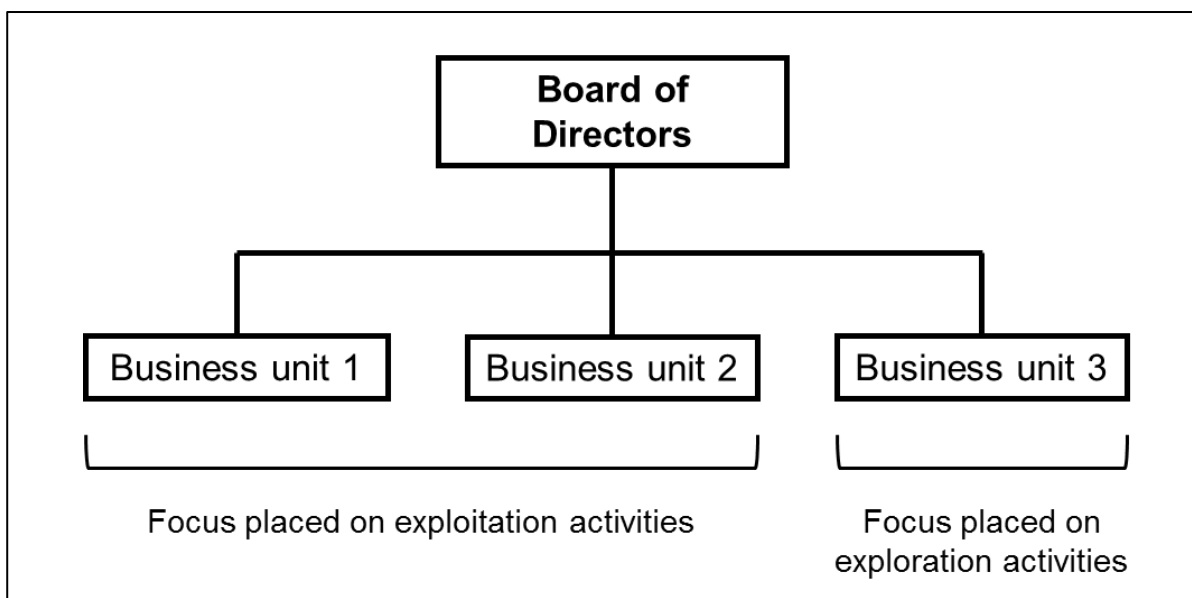


Figure 3.2: Structural separation strategy

Source: Own compilation.

However, as was previously noted, to switch focus between exploration and exploitation would lead to implementing only one or the other at a specific point, which would lead to either the success or the failure trap. Furthermore, O'Reilly and Tushman (2008:192) note that pursuing these different strategies by achieving a balance between the two paradoxical activities will result in average performance in both exploration and exploitation activities, resulting in the organisation "being stuck in the middle". Thus, finding a balance between two ends of a continuum would also not be appropriate since the organisation is then considered as "stuck in the middle".

3.3.3 Simultaneous Exploitation and Exploration

In line with recent literature, this study argues that the benefits of the simultaneous pursuit of exploration and exploitation (in the sense that the organisation excels at both simultaneously) is more rewarding than finding a balance or switching between the two (Wang & Rafiq, 2014:59; O'Reilly & Tushman, 2013:327; Luo & Rui, 2009:68; Raisch *et al.*, 2009:685; Simsek *et al.*, 2009:867; O'Reilly & Tushman, 2008:188; Gibson & Birkinshaw, 2004:223). This study agrees with, and adopts the “both/and” paradoxical thinking of implementing two vastly different strategies simultaneously and reap benefits from their synergies (Andriopoulos & Lewis, 2010:105; Smith *et al.*, 2010:449; Gibson & Birkinshaw, 2004:209). Consequently, to excel and achieve superior long-term performance in relation to competitors, an organisation needs to demonstrate ambidexterity (Junni *et al.*, 2013:300)

To reiterate, ambidexterity is defined as the simultaneous pursuit of both exploration and exploitation as is noted by many scholars (O'Reilly & Tushman, 2013:327; Raisch *et al.*, 2009:688; Gibson & Birkinshaw, 2004:223). Performing both exploitation and exploration simultaneously but at low levels is not sufficient for an organisation to achieve superior long-term performance and the organisation can, therefore, not be deemed as ambidextrous (Simsek, 2009:603).

This illustrates the need for management in today's dynamic and changing business environment to effectively manage and deal with paradoxes (Aloini, Martini & Neirotti, 2012:2). The simultaneous pursuit of exploration and exploitation challenges management's cognitive limitations, forcing creative sense-making and leading them to seek more flexible, spontaneous and sustainable strategies (Martini *et al.*, 2013:10; Smith & Lewis, 2011:394). Andriopoulos and Lewis (2009:696) note that the ability to exploit current capabilities, as well as explore new and innovative domains simultaneously and with equal skill and precision, is at the core of ambidextrous organisations. See Figure 3.3 for the visual demonstration of the simultaneous pursuit of exploration and exploitation.

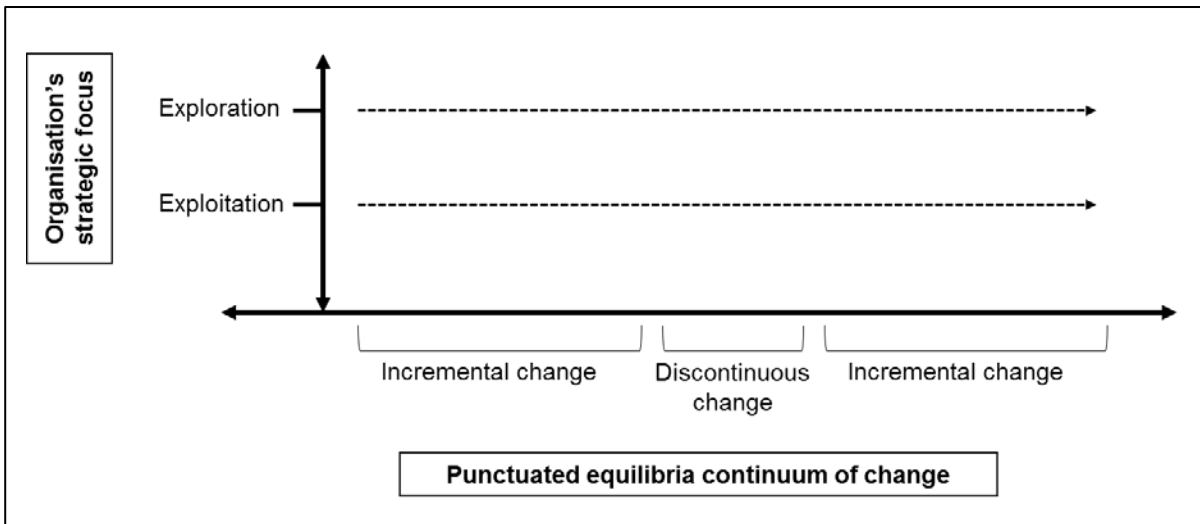


Figure 3.3: Simultaneous pursuit of exploration and exploitation

Source: Own compilation.

Consequently, ambidexterity is about maximising the achievement of and taking full advantage of both exploitation and exploration strategies (Simsek *et al.*, 2009:867). It would, therefore, be sufficient to conceptualise ambidexterity in an organisational setting as nothing less than a dynamic capability that simultaneously reconciles paradoxical strategies (Martini *et al.*, 2013:7). In light of the literature discussed above it is posited that:

H₂: There is a positive correlation between exploration and exploitation.

3.4 SUMMARY

This chapter considered the difference between ordinary capabilities and dynamic capabilities and explained why it is important to distinguish between the two. The importance of dynamic capabilities in terms of sustainable organisational performance was also discussed, followed by an explanation of the dynamic capability this study places focus on, namely ambidexterity.

Ambidexterity was defined and a discussion followed on the sub-division of ambidexterity into exploration and exploitation activities. Three different ways in which organisations employ the ambidexterity strategy was discussed, namely temporal separation of the two sub-dimensions of ambidexterity, structural separation of the two sub-dimensions of

ambidexterity, and the simultaneous pursuit of exploration and exploitation. This study positions itself with the simultaneous pursuit of exploration and exploitation.

The next chapter will investigate dynamic strategies and their importance in dynamic environments, along with important contributing factors of environmental dynamism.

CHAPTER 4: LITERATURE REVIEW ON DYNAMIC STRATEGIES AND DYNAMIC ENVIRONMENTS

4.1 Introduction

4.2 Dynamic Strategies

4.2.1 Environment

4.3 Dynamic Environments in Emerging Economies

4.4 Competitive Intensity

4.4.1 Industry Life Cycle

4.4.2 Competition

4.4.3 Commoditisation

4.4.4 Disruption

4.5 Summary

4. LITERATURE REVIEW ON DYNAMIC STRATEGIES AND DYNAMIC ENVIRONMENTS

4.1 INTRODUCTION

Building and maintaining superior performance strategies by obtaining strategic market positioning through the development of dynamic capabilities should be the goal of dynamic organisations in today's changing business environment (Reeves & Deimler, 2011:136). Dynamic capabilities essentially enhance the speed, effectiveness and efficiency with which organisations respond to turbulence in the environment (Wilden *et al.*, 2013:74). As Markides (1999:62) noted, the business environment today is bound to undergo continuous cycles of change.

In order for an organisation to survive such continual change, it should adopt a dynamic strategy. A dynamic strategy is a strategy that enables the organisation to evolve and grow along with the industry changes it faces for optimal performance in both the short-term and the long-term (Bansal & DesJardine, 2014:71; Santos-Vijande, López-Sánchez & Trespalacios, 2012:1085). An ambidextrous strategy which enables the organisation to exploit opportunities in the current market for optimal short-term performance, whilst simultaneously exploring novel and innovative opportunities for the future market to sustain performance in the long-term is deemed an appropriate strategy for these dynamic environments (Urbancová, 2013:82; Santos-Vijande *et al.*, 2012:1085). This chapter starts off with a detailed literature review on dynamic strategy, such as an ambidextrous strategy, and how it enables organisations to achieve sustainable organisational performance in dynamic environments.

Following this is a section on emerging economies and their dynamic environments, as this study will be conducted in an emerging economic context ideal for testing theories in turbulent environments. As Zhou and Li (2010:224) noted, emerging economies are considered to have highly turbulent business environments due to a vast number of factors playing a role in the market, as well as the growing nature of emerging markets.

In environments characterised by their dynamism, dynamic capabilities can improve the organisation's response to strengthen its performance (Wilden *et al.*, 2013:74). However,

dynamic capabilities do not guarantee that the organisation realises the performance potential they have if they are not mindful of the environment within which they deploy their dynamic capabilities (Wilden *et al.*, 2013:73), especially if the competitive atmosphere is the driving force behind the environmental dynamism. In dynamic environments driven by intense competition, organisations should deploy dynamic capabilities which specifically allow them to outperform the competition in the long-term (Parnell, 2011:134; Sirmon, Hitt & Ireland, 2007:275).

Nair and Selover (2012:355) theorised that competitive interaction may lead to increased rivalry between competitors, causing the environment to become volatile and turbulent. Hutzschenreuter and Israel (2009:444) wrote that alignment between the environment and the organisation's strategy is required to mitigate the negative impact the turbulence may have on the organisation's performance. Thus, it is imperative for organisations to ascertain exactly which driving force(s) is or are behind the turbulent environment to enable the organisation to develop a suitable strategy for dealing with the turbulence (Christensen, 1997:144). This study focuses on competitive intensity as a driving force for turbulent environments, since competitive intensity comprises of many factors such as commoditisation, industry life cycle stages and innovative disruption. Thus, this literature chapter concludes with a section on competitive intensity and the impact it has on environmental turbulence followed by the hypothesis deduced from the literature.

4.2 DYNAMIC STRATEGIES

Bodwell and Chermack (2010:194) note that a strategy presents a roadmap describing how the organisation would deliver unique value to the market. A strategy represents a blueprint for the organisation's strategic direction, and in the dynamic sense, allows the organisation to establish a feedback loop from the present state to the future direction (Bodwell & Chermack, 2010:194). However, no strategic plan can foresee every possible situation in the firm's future and no firm can operate without some direction or purpose to their actions (Bodwell & Chermack, 2010:195; Mintzberg & McHugh, 1985:162). Mintzberg (1987:75) argued that an organisation needs to make sense of its past, looking backward and learning from previous actions and experiences to fully understand its own potential, enabling it to prepare for the future. This synthesis links with the Janusian thinking O'Reilly and Tushman

(2004:74) coined in 2004, where organisations need to attend to the past, while simultaneously gazing forward to prepare for future action and innovation.

Many different factors contribute to the success of an organisation's strategy. The most prominent are environmental changes, industry life cycle, competition, and disruption which should all be taken into consideration when deploying dynamic strategies (Yu, Dong, Shen, Khalifa & Hao, 2013:2507; Hung *et al.*, 2010:285; Hutzschenreuter & Israel, 2009:424; Agarwal & Sarkar, 2002:971). Markides (1999:62) has identified elements driving a dynamic strategy that organisations can internalise for continued survival.

“First, the organisation needs to establish its exclusive strategic position in the industry, after which the organisation should exploit opportunities within its industry to dominate other industry competitors. Then the organisation should engage in exploration of possible new strategic positions that they can occupy followed by the organisation managing and maintaining its old position as well as its new position. Then as the old strategic position matures and decays, the organisation should transition into the new position, possibly jumping into a new industry and repeating the cycle again” (Markides, 1999:62).

Markides (1999:62) demonstrated these elements as a continuous cycle of strategic change, as depicted in Figure 4.1. These continuous cycles of change require both exploitative and explorative strategies in order to move from the one cycle to the next (O'Reilly & Tushman, 2013:325; Markides, 1999:61). In dynamic and changing environments it would be ideal for organisations to simultaneously explore and exploit, enabling them to adapt and evolve along with the exogenous and endogenous changes they face in their industries through time (Santos-Vijande *et al.*, 2012:1085; Regnér, 2008:568; Beinhocker, 1999:97). The organisation should be able to manage strategic choices for both the long- and short-term (Bansal & DesJardine, 2014:71; Bonn & Fisher, 2011:8).

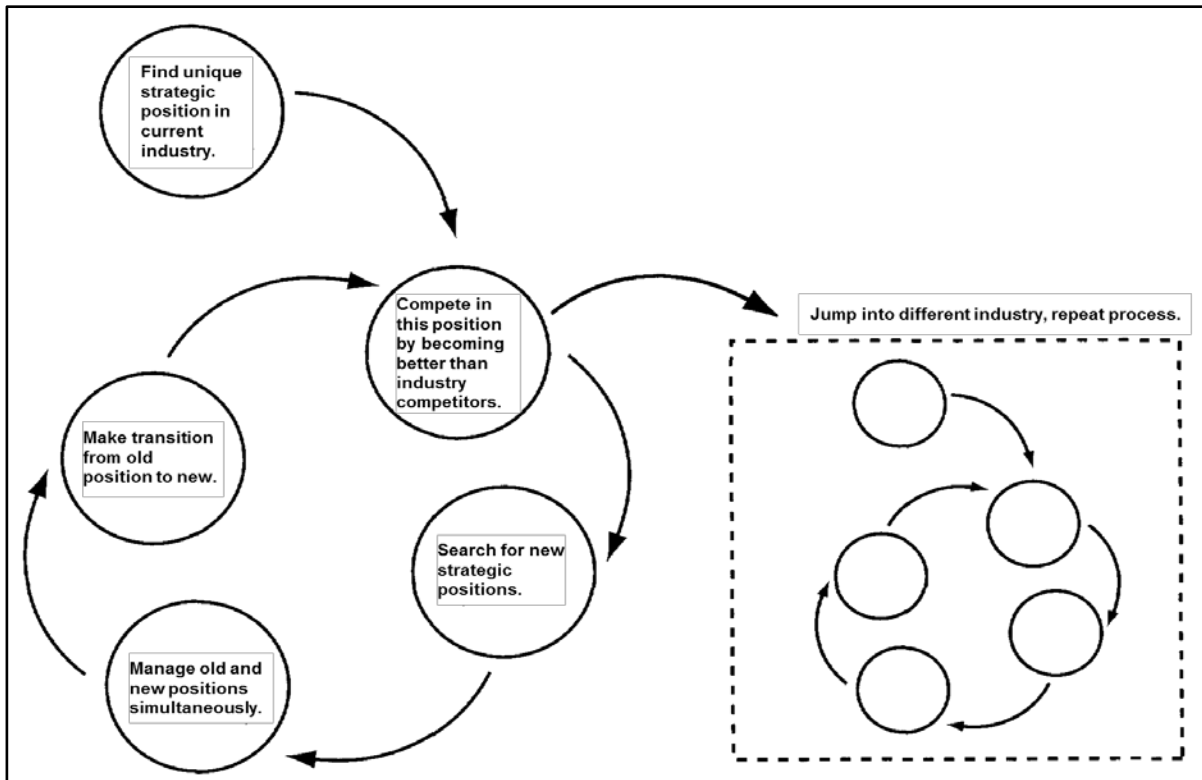


Figure 4.1: Elements of a dynamic strategy

Source: Markides (1999:62).

Li and Liu (2014:2795), Hutzschenreuter and Israel (2009:444) and Sirmon *et al.* (2007:277) noted that survival and performance in turbulent and uncertain environments stems from the organisation's ability to adapt continuously to changes in the industry through the cultivation of dynamic capabilities. When organisations face fierce competition, they will benefit from deploying dynamic capabilities, because volatile environments require innovative products and processes, exploration of unrealised markets, and new ways of competing in order to set the organisation apart from other competitors (Wilden *et al.*, 2013:77). Thus, the simultaneous pursuit of exploration and exploitation will provide the organisation with the ability to endure changing conditions and survive in the long-term (Junni *et al.*, 2013:299; Prange & Verdier, 2011:127; Smith *et al.*, 2010:450). Markides (1999:61) also noted that organisations will be able to compete successfully in dynamic markets if they adopt both exploitative (refinement and efficiency) and explorative (innovation and experimentation) strategies, and act ambidextrously.

Furthermore, many studies have found a positive relationship between dynamic and turbulent environments and the effect of dynamic capabilities on firm performance (Wu, Chen & Jiao, 2016:2679; Li & Liu, 2014:2795; Wilden *et al.*, 2013:74; Eisenhardt *et al.*,

2010:1271; Teece, 2010:190). The argument is that in turbulent environments with intense competition, dynamic capabilities have a positive effect on firm performance and could even lead to a temporary advantage (Li & Liu, 2014:2795; Wilden *et al.*, 2013:77). As was previously noted, ambidexterity is classified as a dynamic capability.

Recent literature demonstrates that in the disruptive, turbulent and volatile business environments that organisations face today, organisations should take part in continued strategic innovations to stay competitive (Wilden *et al.*, 2013:77; Reeves & Deimler, 2011:138; Ortega, 2010:1279; Hitt, Keats & DeMarie, 1998:23). In other words, to be a relevant competitor, organisations need to innovate, moving away from the norm and generic strategic actions, to finding novel and unpredictable ways of competing, or even creating new markets. However, organisations seeking to increase market share still have to focus on their current market in order to keep their current share (Boons, Montalvo, Quist & Wagner, 2013:1; Urbancová, 2013:84; Sirmon *et al.*, 2007:274). This is where ambidexterity fits in.

The organisation has to exploit current opportunities to refine established resources and capabilities to deliver optimal performance to the current market it serves (Santos-Vijande *et al.*, 2012:1085; Zhou & Li, 2010:225). At the same time, the organisation has to engage in exploration activities to develop novel products, services or processes and create new value in order to satisfy the needs of the unrealised market share (Santos-Vijande *et al.*, 2012:1085; Szulanski & Amin, 2001:540). The organisation's novel developments may even lead to the creation of new markets (Boons *et al.*, 2013:3). The organisation is, therefore, serving the needs of its present market while simultaneously thinking about the future (Urbancová, 2013:82). However, the dynamic nature of industry environments may have a significant impact on the success of the ambidextrous strategy.

4.2.1 Environment

The environment of an organisation is important for many reasons. Throughout the literature, dynamic business environments of the twenty first century have been classified as turbulent, uncertain, volatile and hyper-competitive (Deviatykh & Sobakina, 2014:1; Reeves & Deimler, 2011:139; Chermack *et al.*, 2010:145; Easterby-Smith *et al.*, 2009:2). These factors

characterising the business environment have a tremendous influence on the speed at which the organisation's strategy needs to change or adapt in order to stay ahead of the competition, or even remain competitively relevant (Li & Liu, 2014:2795; Santos-Vijande *et al.*, 2012:1080). Adapting the organisation's strategic direction to environmental turbulence is not an indication of chaos; it would simply indicate that management is open, responsive and flexible (Mintzberg & Waters, 1985:271).

External environmental factors such as competition, technology, market preferences or needs, demographics, government policies or economic factors are driving forces that lead to opportunities or threats for the organisation (Li & Liu, 2014:2795; Zhou & Li, 2010:229; Markides, 1999:60; Christensen, 1997:144). Only upon effectively identifying the exact driving force behind each opportunity or threat, can the organisation develop an effective strategy for dealing with the external changes leading to dynamic environments (Christensen, 1997:144).

Dynamic environments are largely unpredictable and subject to change at any moment (Li & Liu, 2014:2795; Ogilvie, 1998:50). To compete in dynamic environments, an organisation's strategy must have the ability to change along with the environment at any given moment (Li & Liu, 2014:2795). The theory of evolution clearly states that everything will inevitably change. As time passes, change takes place. Life itself is dynamic and changing just as the competitive business environment of organisations (Beinhocker, 1999:97). This may be due to many factors such as innovations, technological breakthroughs, change in consumer demand and needs, lack of resources, economic turbulence, and political and regulatory turbulence (Li & Liu, 2014:2795; Zhou & Li, 2010:226; Sirmon *et al.*, 2007:275). In no world can one have so many factors playing a role in any environment and expect the environment to remain the same over extended periods. This is especially true for emerging economic environments, since they are considered highly turbulent due to their growing nature (Zhou & Li, 2010:224).

4.3 DYNAMIC ENVIRONMENTS IN EMERGING ECONOMIES

Zhou and Li (2010:224) argue that emerging economies may experience large scale and immense changes among their foundations, including their economies, governments, and industry environments to name a few, from which rigorous strategic challenges can stem for opportunity seeking businesses. Due to these immense, large scale changes the business environment of emerging economies are inherently dynamic, and the emerging economic contexts provide important implications for organisations that operate in them (Wilden *et al.*, 2013; Zhou & Li, 2010:229). Some implications are that, in emerging economies, organisations may lack the technological base on which they can develop capabilities to innovate, or the management constructs developed in advanced economies may not suit the emerging context (Parnell, 2011:145).

Yu *et al.* (2013:2513) note that organisations competing in emerging economic contexts should adopt proactive strategies to gain superior performance, rather than reacting to rapid changes after they have occurred. Due to South Africa being quasi-industrialised and its infrastructure running acceptably, South Africa can be considered one of the leading emerging economies in Africa (Kumbirai & Webb, 2010:31; Bhaumik & Gelb, 2005:11). Empirical studies in emerging economies are important to the academic field, since there is a lack of unequivocal findings in emerging economic contexts (Zhou & Li, 2010:224).

Seeing that environments in emerging economies are constantly changing and discontinuous, strategies need to be dynamic; that is flexible and adaptive to change for the organisation to compete (Santos-Vijande *et al.*, 2012:1082; D'Aveni *et al.*, 2010:1371; Zhou & Li, 2010:224). If an organisation's strategy is adaptable and flexible, the organisation will have the ability to respond proactively to changes in the environment, whether it be opportunities or threats (Santos-Vijande *et al.*, 2012:1082; Zhou & Li, 2010:225; Wiltbank, Dew, Read & Sarasvathy, 2006:989).

4.4 COMPETITIVE INTENSITY

4.4.1 Industry Life Cycle

The strategy of an organisation is developed, refined and improved over the industry's life cycle as organisations engage in competitive interaction over time (MacLean & MacIntosh, 2012:89; Reeves & Deimler, 2011:139; Zhou & Li, 2010:226). The life cycle of an industry plays a pivotal role in the competitive and dynamic nature of an industry (Regnér, 2008:582). Organisational survival is then partially dependent on whether or not the organisation aligns with the industry environment (Yu *et al.*, 2013:2508; Santos-Vijande *et al.*, 2012:1082; Reeves & Deimler, 2011:139; D'Aveni *et al.*, 2010:1372; Sirmon *et al.*, 2007:275; Hitt *et al.*, 1998:28). In this study, changes in the industry will refer to any turbulence, volatility, innovation, technological breakthroughs or dynamic shifts that compromises the organisation's current strategy or strategic position.

Previous literature has found that most industries follow a similar evolutionary path from infancy to the state it is in today, and would be in the future (Carpenter & Sanders, 2014:99; Agarwal & Sarkar, 2002:972; Audretsch & Feldman, 1996:255). At first the amount of competing organisations in the industry will grow slowly, after which the number of competitors increase abruptly until the industry population have reached a peak (Malerba, 2007:679; Agarwal & Sarkar, 2002:972; Audretsch & Feldman, 1996:255). Then the process reverses, and an industry "shakeout" occurs until only a few large organisations remain to dominate, leading to a concentrated industry (Malerba, 2007:679; Agarwal & Sarkar, 2002:972; Christensen, Verlinden & Westerman, 2002:957; Audretsch & Feldman, 1996:255).

The speed at which an industry's life cycle develops from infancy to maturity, the turbulence, ambiguity, hyper-competition and dynamism in the industry are all interrelated. Scholars have noted that some industries never reach decline and continuously reinvigorate keeping the competitive environment extant (Carpenter & Sanders, 2014:101; D'Aveni *et al.*, 2010:1372). If industries continually reinvigorate, then one can assume that the above-mentioned life cycle continually takes place as the industry evolves. In other words, the industry moves from infancy, to growth, to maturity and then reinvigorates itself to enter another infancy, growth and maturity cycle (D'Aveni *et al.*, 2010:1372). In addition, it has

been noted that as the industry develops and new firms enter, the more intense its competitive atmosphere will become (Johnson, Scholes & Whittington, 2008:71; Agarwal & Sarkar, 2002:971). This competitive atmosphere drives strategic reactions back and forth, creating a dynamic competitive environment, thus, impacting the evolution of the industry itself (Carpenter & Sanders, 2014:151; Nair & Selover, 2012:355).

4.4.2 Competition

Organisations take part in competing interactions to improve competitive performance and ultimately obtain superior performance above the other competitors (Zhou & Li, 2010:226). Nandakumar, Ghobadian and O'Regan (2010:912) define an organisation's relative competitive performance as "the extent to which organisational performance has either improved or deteriorated in terms of sales, profit, market share, return on assets, return on equity, return on sales, current ratio, overall firm performance and competitive position. However, competing requires the identification and awareness of the other most important competitors in the industry (Nair & Selover, 2012:356). Due to the dynamic and evolving nature of industry environments today, it is difficult for competitors to clearly identify industry boundaries and establish who their most important competitors are (D'Aveni *et al.*, 2010:1374; Sirmon *et al.*, 2007:276; Hitt *et al.*, 1998:22). However, Nair and Selover (2012:356) observe that, in most industries, the competitors become aware of their proximal rivals as time progresses. Competitors then observe the actions of their proximal competitors and use their actions as benchmarks for future strategic moves (Nair & Selover, 2012:356; Hutzschenreuter & Israel, 2009:425). Thus, competitors in an industry can assess the actions of other competitors and either initiate some kind of action that disrupts the industry, or react to such a disruptive action (Zhou & Li, 2010:225).

This competitive interaction may increase in size and speed over time, ultimately increasing rivalry among competitors (Nair & Selover, 2012:355). This interaction is what causes environments to become hypercompetitive, turbulent and volatile. In other words, volatility in an industry occurs when the actions of an organisation surprise competitors in such a manner that they are unable to initiate rapid parallel responses or they respond disproportionately – over-reacting or under-reacting – to the preliminary action (Nair & Selover, 2012:356).

Taking a closer look at competitor interactions leading to turbulent and volatile industry environments, a sequence of actions and reactions emerge (D'Aveni *et al.*, 2010:1374). As a matter of fact, Hutzschenreuter and Israel (2009:421) note that competitive strategies are not static phenomena, but rather sequences of “interconnected actions and reactions unfolding over time”. In the early stages of many industries, most competitors attempt to obtain an advantage above the other competitors through improving functional designs, as well as producing products or services that out-perform competition (Christensen *et al.*, 2002:962; Markides, 1999:59). However, once these functional improvements are no longer satisfactory, the competition shifts to a state of innovation (Christensen *et al.*, 2002:964). Thereafter, a strategically innovative competitor will emerge whom will succeed to pocket a large share of the market after realising that radical shifts are needed to gain superior performance over the other competitors (Nair & Selover, 2012:357; Markides, 1999:59).

These disruptive competitors make an effort to be rapid and flexible in the changing environment and develop modular and innovative designs reducing cost, increasing speed and providing a more customisable offering (Christensen *et al.*, 2002:964). Thus, disruptive competitors transcend the functional needs of the market through its flexibility by adhering to the needs of customisation, cost reduction and speed. However, competitors differ in the timing and response of their competitive strategies when changes in the industry occur (Hutzschenreuter & Israel, 2009:426). Thus, the competitor reaching this benchmark first will inherently gain a performance advantage over other competitors which may lead to an increase in market share (Wilden *et al.*, 2013:77). These innovative competitors achieve their success by moving away from imitation and refinement, to establishing novel ways of competing.

Although, eventually the modular interface is adopted and accepted by the other competitors in the market and it becomes an industry standard, opening up the market for even more innovations to take place more rapidly than before (Li & Liu, 2014:2795; Christensen *et al.*, 2002:964). In other words, disruptive competition will lead to an increase in the competitive atmosphere due to the pressure on competitors to deliver ‘something new’ more rapidly than before and being flexible in the sense of adapting to changes in the environment (D'Aveni *et al.*, 2010:1376; Ogilvie, 1998:1). This continuous drive in increased competition and speed is what makes industries hypercompetitive and volatile.

It is important to briefly note that as novel changes occur in the industry, other competitors are required to defend their current market share to stay part of the competitive landscape by deploying defensive strategies (Hutzschenreuter & Israel, 2009:446). Deploying defensive strategies can be beneficial if the strategy either nullifies the unfavourable effects brought about by changes in the industry, or identifies opportunities to capitalise from when change in the industry occurs (Hutzschenreuter & Israel, 2009:444; Utterback & Acee, 2005:4). Thus, changes in the industry will force competitors to either adapt or exit (Reeves & Deimler, 2011:141). Although, defensive strategies may not provide superior performance at this point, it provides organisations with the ability to 'stay in the game' and seek novel ways of competing, even possibly emerging as the next disruptive competitor.

4.4.3 Commoditisation

Another problem rivals face as a result of the interaction in the competitive landscape, is that industries today face the threat of commoditisation (Carpenter & Sanders, 2014; Hax, 2005:19). This could be due to the increased availability of information allowing customers to be more informed about the different options available, or as a result of the increased transparency allowing competitors to improve their offerings based on what other competitors offer (Reimann *et al.*, 2010:188).

Commoditisation occurs when the competitors in the industry provides relatively the same offering to a market of consumers who are price sensitive and find it relatively easy to switch between the offerings available (Carpenter & Sanders, 2014:100; Reimann *et al.*, 2010:188). Reimann *et al.* (2010:193) note that in commoditised environments, a dynamic strategy can drive sustainable superior performance. Thus, in order for an industry to avoid the commodity trap, among other industry stagnations, disruptive strategic activities such as unique innovations may be required (Schrage, 2007:14).

4.4.4 Disruption

Innovative disruptions are part of the evolutionary process of every industry (Santos-Vijande *et al.*, 2012:1080; D'Aveni, 1999:129). Typically, most industries will evolve through extended periods of change that are incremental, punctuated by radical occurrences leading to extensive industry shifts (Sood & Tellis, 2011:343; Lavie *et al.*, 2010:133; Agarwal & Sarkar, 2002:973).

Incremental change can be classified as small and continuous improvements to an existing business (Boons *et al.*, 2013:2). Incremental change is further identified by scholars as activities in which the organisation improves efficiency and productivity (Wang & Rafiq, 2014:58; Junni *et al.*, 2013:299; Prange & Verdier, 2011:127). Disruption can be classified as innovative, unpredictable, novel and radical shifts or changes in the industry environment (Boons *et al.*, 2013:3; Yu *et al.*, 2013:2507; Helfat & Winter, 2011:1246; D'Aveni *et al.*, 2010:1375; Christensen *et al.*, 2002:22; D'Aveni, 1999:130). Moreover, innovative disruptions are often the result of explorative activities (Tamayo-Torres *et al.*, 2014:74; Regnér, 2008:580; March, 1991:71).

Sood and Tellis (2011:342) divide disruptions into three domains, and argue that these disruptions could take place independently. These domains are technology, demand and organisational disruption. Technological disruptions occur when a new technology overtake the performance of the dominant market technology (Sood & Tellis, 2011:342; Agarwal & Sarkar, 2002:973). Demand disruptions take place when a new technology surpasses the entire share of products on the market of the dominant technology (Sood & Tellis, 2011:342). Organisational disruptions occur when the firm's market share making use of new technology exceeds that of the largest firm making use of the higher-share technology (Sood & Tellis, 2011:342; Utterback & Acee, 2005:6). This study will be all inclusive of the abovementioned domains when referring to disruptions.

Incumbents can either face low-end disruptions from new entrants introducing innovations to the market, or high-end disruptions from other incumbents in the industry creating new markets and redefining industry rules (Carpenter & Sanders, 2014:153; Govindarajan & Kopalle, 2006:191). The problem incumbents face regarding disruptive innovations is that they seldom expect smaller companies or new entrants to the market, serving the outer edge

or a niche segment of the market, to develop innovations that will be significant enough to infiltrate the mainstream market (Utterback & Acee, 2005:3). When it comes to new-market creation by another competitor, the incumbents may be resistant to change, especially if it involves cannibalisation of current business practices or disturbances to business relationships that are highly important (Boons *et al.*, 2013:3; Sood & Tellis, 2011:339; Teece, 2010:182). Thus, for disruptive strategies to be effective, they need to align to the environmental context within which it is applied (Wilden *et al.*, 2013:73; Santos-Vijande *et al.*, 2012:1086).

Hutzschenreuter and Israel (2009:444) note that a lack of alignment between the organisation's strategy and its environment could lead to negative effects on firm performance. Therefore, it is extremely important to properly assess and orientate the organisation to the environment within which it operates. This links with strategic adaptability in as far as the organisation's environment evolves and changes. An effective strategy requires the organisation to be able to adapt to environmental changes, which may necessitate the development of dynamic capabilities (Li & Liu, 2014:2794; Wilden *et al.*, 2013).

According to Santos-Vijande *et al.* (2012:1079), dynamic capabilities represent the set of complex abilities that assist the organisation to modify its routines of operations and reconfigure the skills and resources required, whilst adapting to the changes in the environment. Specifically, ambidexterity as a dynamic capability provides an organisation with the abilities required to adapt to environmental changes while remaining competitive in the current market. This is based on the fact that, vital to an organisation's ability to adapt, is its capability to reap profits from exploiting existing positions and assets whilst simultaneously exploring new technologies and markets (O'Reilly, Harreld & Tushman, 2009:84; O'Reilly & Tushman, 2008:189). Consequently, ambidexterity enables the organisation to refine and modify its existing resources, increasing efficiency in the organisation, as well as to develop new products, technologies or services to adapt to changes in the environment (Tamayo-Torres *et al.*, 2014:74). Ambidexterity, thus, serves the dual purpose of managing both existing and new markets simultaneously (Helfat & Winter, 2011:1248).

In summarising the abovementioned theoretical foundation, this study observes that ambidexterity will be an effective dynamic strategy to apply in the ever-changing environment of an emerging economy. However, the level of turbulence in the organisation's environment, frequency of disruption, and the competitive atmosphere would all influence the effectiveness of an organisation's ambidextrous strategy. Hence, it is posited that:

H₃: There is a positive correlation between environmental turbulence and the competitive intensity within an industry.

AND:

H₄: The relationship between ambidexterity and sustainable organisational performance is moderated by environmental turbulence.

4.5 SUMMARY

The opening section of this chapter presented a discussion on dynamic strategies, what they are, and how they link to turbulent business environments. This was followed by a section on how the development of dynamic capabilities, such as ambidexterity, is considered an ideal dynamic strategy in turbulent environments due to the strategy's short- and long-term orientation. Thereafter, a section on emerging economic contexts and the environmental turbulence experienced in these contexts followed. The aforementioned section is important because this study is conducted in an emerging economic context. Lastly, this chapter concludes with a section on competitive intensity, all the elements contributing to the competition in an industry, and how competitive intensity is considered a key driving force behind environmental turbulence. The last two hypotheses deducted from the literature to test the objectives of this study, are presented at the end of the last section.

CHAPTER 5: METHODOLOGY

5.1 Introduction

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CHAPTER 5: METHODOLOGY CONTINUED

5.7.3 **Factor Analysis**

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5.7.5 **Multiple Linear Regression**

5.8 **Summary**

5. METHODOLOGY

5.1 INTRODUCTION

This chapter clearly outlines the research methodology, providing the reader with a comprehensive indication of the methodological approach followed. The methodological discussion includes a section on the epistemological position followed throughout this study. A discussion follows on the deductive approach with reasons as to why it was appropriate to use in this study. Following the discussion on the deductive approach is a section on the research design, sampling method and data collection approaches used to gather the quantitative data necessary to test the hypotheses set out in this study.

This chapter also includes a section on the measurement tools used to obtain feedback from the respondents that participated in this study, as well as a section linking the measured constructs to the relevant measurement items in the final measurement instrument. The data analysis techniques used to analyse the measurement items are also discussed at the end of this chapter.

5.2 RESEARCH METHODOLOGY

According to epistemological positivism, there is a presence of an objective reality in the world of phenomena which is measurable, and any correlation existent among objects in this world can be reasonable and accurately measured through statistical methods (Straub, Boudreau & Gefen, 2004:381). Furthermore, data about these significant entities allows for the assessment of how they relate to each other (Straub *et al.*, 2004:381).

Saunders, Lewis and Thornhill (2012:127) state that in order to assess these objects, existing theory needs investigation to develop hypotheses regarding the correlations among these objects. The authors further wrote that these hypotheses are then tested and wholly or partially confirmed, or negated which will lead to further development or understanding of the theory. This study makes use of an epistemological positivist approach because previous literature had been analysed in the chapters above regarding the correlation between ambidexterity and sustainable long-term performance; environmental dynamism and sustainable performance; and whether a moderating role exists on the ambidexterity –

performance relationship. Hypotheses were formulated based on the literature and then tested empirically.

Saunders *et al.* (2012:23) indicate that the deductive approach moves from theoretical inferences about correlations between multiple concepts in the form of hypotheses, to the testing of those hypotheses by collecting quantitative data. Controls may be used to warrant the validity of the data and the operationalisation of concepts are used to clearly define the concepts under investigation (Gray, 2013:17). Furthermore, sufficient sample size is necessary to improve the generalisability of the data, and the researcher is independent or external to the execution of the research (Saunders *et al.*, 2012:23).

In this study, the concepts were derived from theory and operationalised to define the concepts distinctly. These concepts were then tested quantitatively amongst a sufficient sample size, using controls to ensure data validity. The researcher merely observed the correlation between the concepts and was external to the research conducted. Therefore, this study made use of deduction to analyse the data collected. This study made use of a highly structured approach to aid replication if it would be considered, for instance, in a different context (Saunders *et al.*, 2012).

5.3 GENERAL DESCRIPTION OF THE PROPOSED RESEARCH DESIGN

This study is quantitative in nature. Quantitative research can be collected using many different forms and the data is usually collected with the intention of measuring constructs or concepts in numeric or statistical terms (Kotzé, 2015a:2). This study measured and statistically analysed the ambidexterity, performance, and environmental dynamism constructs numerically through structured open- and close-ended questions.

Statistical studies, such as surveys, aim to capture characteristics of a population by testing hypotheses quantitatively and making interpretations about the characteristics from the sample (Cooper & Schindler, 2014:128). This study investigated occurrences as they naturally take place and reported on the data collected. The aim of this study is, therefore, to investigate and report on the data collected from the sample and then apply the findings to the larger population. As Cooper and Schindler (2014:146) explain, quantitative research

attempts to test theories and answer questions such as; how much, when, how often, who and how many.

Observations and/or proposals made in an attempt to explain, describe and make forecasts based on any data observed and analysed, primary or secondary, is known as empirical research (Cooper & Schindler, 2014:66). This study is typically empirical because it will attempt to explain the relationship between ambidexterity as a dynamic capability and sustainable long-term performance, taking the environment of the organisation into consideration. Thus, gathering knowledge of a specific topic and making observations based on analysis of such knowledge.

Kotzé (2015a:1) further states that basic research has a primary focus of gaining a theoretical understanding or generating and expanding knowledge concerning a specific phenomenon. This study will attempt to broaden the understanding of the relationship amongst ambidexterity, environmental dynamism and sustainable performance, as well as to contribute to empirical evidence available in a developing countries' context with the knowledge analysed.

Non-experimental research, otherwise known as *ex post facto* research, was used in this study. The main purpose of non-experimental research is to report on observations made throughout the research process, wherein the researcher is unable to control or manipulate any variables to avoid introducing bias (Cooper & Schindler, 2014:127). This study did not attempt to modify any of the variables and the focus was placed on reporting observations made about the research data collected. By reporting on the natural occurrences between the constructs, this study was better equipped to clarify the relationships investigated.

To report on the relationships investigated, cross-sectional data research was used in this study. Cross-sectional research is when each participant in the study will be surveyed, interviewed or observed only once to present data at a specific moment in time (Kotzé, 2015a:7). Research constrained by a budget or a specific time-frame may require that cross-sectional research be done (Cooper & Schindler, 2014:128). This research study faced such budget and time constraints. However, this study also intended to survey each participant only once and, therefore, made use of cross-sectional research.

In order to collect the cross-sectional data from the participants, the researcher and designated field workers had to communicate in some or other manner with the participants. Communication research is data collected by communicating directly or indirectly with the participants (Kotzé, 2015a:7). Cooper and Schindler (2014:127) wrote that data in communication research may be a result of telephone conversations or interviews; self-reported or self-administered instruments sent to participants electronically, left in convenient places or by other means; or presenting participants with instruments before or after an experiment. Lewis, Thornhill and Saunders (2016:227) support this statement by noting that, depending on the nature of the research questions or objectives, social networking, telephone calls, e-mails and web-cameras may aid communications between the researcher and the participants. This study made use of direct communication in the form of telephonic surveys as well as indirect communications through e-mails and self-administered surveys to collect the primary data from participants in their respective field settings.

This study used the primary data gathered to obtain a holistic view of the relationships defined in the hypotheses. Primary data is typically defined as data that is unanalysed and raw that is collected for this specific study (Kotzé, 2015a:8). The primary data collected was the self-administered surveys sent to participants through e-mails containing a hyperlink, as well as the telephonic surveys conducted by fieldworkers.

5.4 ETHICAL IMPLICATIONS

This study made use of survey research which required ethical clearance from the Research Ethics Committee of the Faculty of Economic and Management Sciences. The ethical approval can be found in Appendix B (p.121). The final questionnaire and informed consent letter can also be found in Appendix C (p.123) and Appendix D (p. 129) respectively.

5.5 SAMPLING DESIGN

The sampling design developed for a study comprises of the population sample required and unit of analysis, sampling method, sample size and survey method. These elements are all discussed next.

5.5.1 Target Population and Units of Analysis

The proposed study's target population consists of for profit organisations from various industries operating within the South African business environment during the 2017 financial year. The unit of analysis for this study is the organisation since the firm's ambidextrous dynamic capability was measured in relation to other constructs such as environmental dynamism, and the effect it has on the organisation's performance.

5.5.2 Sampling Method

A non-probability sampling method was used to obtain a sample for the study. This method was used because this study did not have an accurate sampling frame available and were relatively homogenous on the constructs being measured (Kotzé, 2015b:3). This study also faced limited resources concerning time and money (Kotzé, 2015b:3).

The specific non-probability sampling method used in this study was convenience sampling. Convenience sampling was used as the non-probability sampling method since this study had no pre-specified or known probabilities available for selecting the sample (Williams, Sweeney & Anderson, 2012:318). In addition to this, the study required a simple data collection method that could be used in a limited timeframe and at low costs in order to access willing respondents in an inaccessible population (Bryman & Bell, 2015:152; Williams *et al.*, 2012:318).

The limitation with regards to the caution with which the findings can be generalised to the entire population, were considered when the sampling method was selected (Williams *et al.*, 2012:318).

5.5.3 Sample Size

The target sample size of this study was to obtain a minimum of 150 responses in order to conduct meaningful statistical analyses.

5.5.4 Survey Method

One of the predominate approaches to collect quantitative data is through surveys (Kotzé, 2015a:9). This study made use of self-administered and telephonic surveys to collect the data used in analysis of the hypotheses. The questionnaires were pre-tested through online self-administered questionnaires completed by ten respondents. The respondents were then asked to comment and provide feedback on the questionnaire at the end. The feedback was reflected upon and the questionnaire was improved accordingly. The final questionnaire can be found in Appendix C (p.123).

After the pre-testing was complete, the final data was collected. This study made use of two survey methods for collecting the necessary data. The first was the online-self-administered questionnaires and the second was telephonic surveys. In the telephonic surveys, a field worker on behalf of the respondent completed the questionnaire. The data was collected by field workers as part of a research team from Research IQ, a market research consulting firm. The data for this study was collected over a two-month period from the month of July 2017 to August 2017. No incentives were provided to motivate individuals to participate in the study.

5.6 DATA COLLECTION

The data collection methodology used in this study comprised of the survey errors that could impact this study, the manner in which the hypothesis were measured and how, a detailed analysis of the hypothesis that were tested and the demographic variables measured of the sample.

5.6.1 Survey Error

The survey errors that may be present in this study involve respondent error and response error respectively. Respondent error may occur in two instances. Firstly, through non-response error (bias) in the form of respondents failing or refusing to answer some or all of the questions contained in the self-administered questionnaires. The telephonic survey method will mostly eliminate this type of error since there will be a field worker guiding the individual through each question. With online surveys, it is more difficult to eliminate this type of error. Nonetheless, the respondent received an error message if a question had not been answered or an option had not been selected. The online self-administered survey required the respondent to answer each question completely before they could move to the next question.

Secondly, non-response error can also occur as a result from respondents whose contact details were incorrect or could not be located. Unfortunately, there is not much that can be done to mitigate this non-response error. However, two follow up e-mails were sent to individuals who could not be reached.

Thirdly, response error (bias) may also arise because of respondents either deliberately or unconsciously misrepresenting information relevant to the study. This error was mostly mitigated by completing a pre-testing of the questionnaire to determine which questions required more specific wording and which questions required explanations. With the telephonic surveys, the field worker was also able to assist the respondent with their understanding of the question.

5.6.2 Measurement

In Table 5.1 is a representation of the link between the research objectives, the hypotheses, the constructs involved in evaluating the hypotheses, and the measurement items used in the final questionnaire. The final questionnaire can be found in Appendix C (p.123).

Table 5.1: Research objectives and survey questions matrix

Research Objective	Hypotheses	Constructs Involved	Question(s) in final questionnaire
To investigate the relationship between ambidexterity, as a dynamic capability, and sustainable long-term performance.	H _{1(alt)} : There is a positive correlation between ambidexterity and sustainable organisational performance.	- Ambidexterity	- Question 3 (divided into two sub-dimensions known as exploration and exploitation)
		- Sustainable Organisational Performance	- Question 2
To investigate whether South African organisations explore and exploit simultaneously.	H _{2(alt)} : There is a positive correlation between exploitation and exploration.	- Exploration	- The items 3.1, 3.3, 3.5 and 3.8 in question 3 measure the exploration sub-dimension of ambidexterity
		- Exploitation	- The items 3.2, 3.4, 3.6 and 3.7 in question 3 measure the exploitation sub-dimension of ambidexterity
To investigate the relationship between competitive intensity and environmental turbulence in an emerging economic context.	H _{3(alt)} : There is a positive correlation between environmental turbulence and the competitive intensity within an industry.	- Competitive Intensity	- Question 4
		- Environmental Turbulence	- Question 1
To investigate the effect of turbulent business environments on the ambidexterity and sustainable performance relationship.	H _{4(alt)} : The relationship between ambidexterity and sustainable organisational performance is moderated by environmental turbulence.	- Environmental Turbulence	- Question 1
		- Ambidexterity	- Question 3 (divided into two sub-dimensions known as exploration and exploitation)
		- Sustainable Organisational Performance	- Question 2

5.6.2.1 Hypotheses

To test the hypotheses generated based on findings throughout the literature, each construct has to be tested, analysed and understood separately. Grasping the ambidexterity construct and the relationship between ambidexterity, sustainable performance and environmental dynamism respectively, as well as the correlation between competitive intensity and environmental dynamism is key to evaluating the hypotheses. Table 5.2, 5.3, 5.4 and 5.5 provide the detailed analysis of the hypotheses developed by the literature of this study.

Table 5.2 provides an in-depth analysis of the hypotheses investigating whether there is a correlation between ambidexterity and sustainable organisational performance. Ambidexterity is known as the simultaneous demonstration of exploitation and exploration. Table 5.3 investigates whether there is a relationship between the two sub-dimensions of ambidexterity.

Table 5.4 provides in-depth information regarding the hypothesis evaluating whether competitive intensity increases environmental dynamism. Lastly, Table 5.5 provides an analysis on whether environmental dynamism is a moderator of the ambidexterity and sustainable organisational performance relationship as measured in the first hypothesis.

Table 5.2: Analysis of Hypothesis 1

Aspect	Detailed questions	
Wording	H _{1(null)} : There is no correlation between ambidexterity and sustainable organisational performance.	
	H _{1(alt)} : There is a positive correlation between ambidexterity and sustainable organisational performance.	
Type of hypothesis	This hypothesis will investigate the correlation between two variables.	
	This hypothesis deals with the correlation between ambidexterity and sustainable organisational performance. Specifically, this hypothesis will test whether there is a positive correlation between the two constructs.	
	This is a directional (one-tailed) hypothesis.	
Key constructs	Measurement	Source of scales
Ambidexterity	Ambidexterity is broken into two sub-dimensions known as exploration and exploitation. The ambidexterity construct is measured in question 3 through a five-point Likert scale ranging from “definitely false” to “definitely true”. Respondents are asked to rate each statement to reflect their organisation’s product and/or service development.	He and Wong, (2004:486)
Sustainable Performance	This constructs is measured in question 2 using a five-point Likert scale ranging from “significantly worse” to “significantly better”. Respondents were asked to rate each statement describing their organisation’s performance in relation to its best competitor in the industry.	Chandrasekaran <i>et al.</i> , (2012:147)

Table 5.3: Analysis of Hypothesis 2

Aspect	Detailed questions	
Wording	H _{2(null)} : There is no evidence that ambidextrous organisations will explore and exploit simultaneously.	
	H _{2(alt)} : There is a positive correlation between exploitation and exploration.	
Type of hypothesis	This hypothesis will investigate the correlation between two variables.	
	This hypothesis deals with the correlation between exploration and exploitation. Specifically, this hypothesis will test whether there is a positive correlation between the two constructs.	
	This is a directional (one-tailed) hypothesis.	
Key constructs	Measurement	Source of scales
Exploration	The items 3.1, 3.3, 3.5 and 3.8 in question 3 measure the exploration sub-dimension of ambidexterity. These questions are measured using a five-point Likert scale ranging from “definitely false” to “definitely true”. These questions measure respondents’ feedback on their organisation’s service and/or product development in terms of exploration.	He and Wong, (2004:486)
Exploitation	The items 3.2, 3.4, 3.6 and 3.7 in question 3 measure the exploitation sub-dimension of ambidexterity. These questions are measured using a five-point Likert scale measuring from “definitely false” to “definitely true”. These questions measure respondents’ feedback on their organisation’s service and/or product development in terms of exploitation.	He and Wong, (2004:486)

Table 5.4: Analysis of Hypothesis 3

Aspect	Detailed questions	
Wording	H _{3(null)} : There is no correlation between environmental turbulence and the competitive intensity within an industry.	
	H _{3(alt)} : There is a positive correlation between environmental turbulence and the competitive intensity within an industry.	
Type of hypothesis	This hypothesis will investigate the correlation between two variables.	
	This hypothesis deals with the correlation between environmental turbulence and competitive intensity. Specifically, this hypothesis will test whether there is a positive correlation between the two constructs.	
	This is a directional (one-tailed) hypothesis.	
Key constructs	Measurement	Source of scales
Environmental Turbulence	Environmental turbulence is measured in question 1. Respondents were asked to rate their organisation's external environment on a five-point Likert scale ranging from "strongly disagree" to "strongly agree".	Jansen, Tempelaar, Van den Bosch and Volberda (2009:17)
Competitive Intensity	This construct is measured in question 4 through a five-point Likert scale asking respondents to rate industry competition. The scale ranges from "strongly disagree" to "strongly agree".	Auh and Menguc, (2005:1657)

Table 5.5: Analysis of Hypothesis 4

Aspect	Detailed questions	
Wording	H _{4(null)} : Environmental turbulence has no effect on the relationship between ambidexterity and sustainable organisational performance.	
	H _{4(alt)} : The relationship between ambidexterity and sustainable organisational performance is moderated by environmental turbulence.	
Type of hypothesis	This hypothesis will investigate the effect of environmental turbulence on the relationship between ambidexterity and sustainable organisational performance.	
	Non-directional (two-tailed) hypothesis	
Key constructs	Measurement	Source of scales
Environmental Turbulence	Environmental turbulence is measured in question 1. Respondents were asked to rate their organisation's external environment on a five-point Likert scale ranging from "strongly disagree" to "strongly agree".	Jansen <i>et al.</i> , (2009:17)
Ambidexterity	Ambidexterity is broken into two sub-dimensions known as exploration and exploitation. The ambidexterity construct is measured in question 3 through a five-point Likert scale ranging from "definitely false" to "definitely true". Respondents are asked to rate each statement to reflect their organisation's product and/or service development.	He and Wong (2004:486)
Sustainable Performance	This construct is measured in question 2 using a five-point Likert scale ranging from "significantly worse" to "significantly better". Respondents were asked to rate each statement describing their organisation's performance in relation to its best competitor in the industry.	Chandrasekaran <i>et al.</i> , (2012:147)

5.6.2.2 Demographic variables

The final questionnaire (Appendix B, p.122) for this study included four demographic questions, which aimed to determine the respondent's position in the company, highest qualification, years of work experience and industry in which the respondent's organisation operates. The questions pertaining to respondent's position in the company, highest qualification and industry were all measured on a multiple-choice, single-response scale that was designed by the researcher. The years of work experience question was measured using an open-ended self-completion question designed by the researcher, which allowed the participants to respond freely. These measurement items can be found in questions five to eight in the final questionnaire (Annexure C p 121).

5.7 DATA ANALYSIS

This study used various methods to interpret the results of the data collected. Firstly, this study had a look at the descriptive statistics of the responses for the measurement scale. Then, this study used the Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test of sphericity to validate whether one could conduct factor analysis on the measurement items. Thereafter, factor analysis was used to validate the internal reliability of the questionnaire's questions for each construct. Following the factor analysis, the Pearson's product moment correlation test was used to analyse the correlations as depicted by the hypotheses. Lastly, a multiple linear regression model was used to analyse the moderating impact environmental dynamism had on the ambidexterity-performance relationship. Below is a brief description of each technique.

5.7.1 Descriptive Statistics

The descriptive statistics present the summarised view of the frequencies, percentages, means, standard deviations and spread of the responses to each measurement item (Green & Salkind, 2013:131). This provides a broad view of what the data looks like to gain an understanding of the results.

5.7.2 Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity

The Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test of sphericity was used to determine whether it is suitable to conduct a factor analysis on the data collected (Penny, 2011:83). The Kaiser-Meyer-Olkin measure of sampling adequacy required the value of each measurements to be above 0.6 and Bartlett's test of Sphericity requires the level of significance values to be below 0.05 ($p < 0.05$) in order for factor analysis to be suitably used on the data (Vivilaki, Dafermos, Kogevinas, Bitsios & Lionis, 2009:331).

5.7.3 Factor Analysis

"Factor analysis is a technique used to identify factors that statistically explain the variance and covariance among measures" (Green & Salkind, 2013:282). Hence, factor analysis was used to determine which of the items in the four constructs measured carry statistical significance and should be included in the final analysis of the data to determine the correlations hypothesised. Two stages of factor analysis is required namely factor extractions to improve interpretation of the factors as well as direct oblimin rotation to assist with the final decision of which underlying factors to include (Green & Salkind, 2013:283). Factor analysis also determines the unidimensionality of the scales used to measure the constructs in a study (Green & Salkind, 2013:283). In other words, the multiple underlying questions of each measurement item was evaluated through exploratory factor analysis on the grounds of determining whether they accurately represent the construct they measured (Fabrigar & Wegener, 2014:23).

5.7.4 Pearson's Product Moment Correlation Test

The Pearson's product moment correlation test assesses whether there is a linear relationship between two constructs within a population as well as what the strength and size of that relationship is (Green & Salkind, 2013:232). This technique was used to evaluate the correlations as set out in hypotheses one to three.

5.7.5 Multiple Linear Regression

Multiple regression analysis is used in cases when one wants to determine the result or scores of more than one independent variable on a single dependent variable (Green & Salkind, 2013:257). In other words, what the relation is between a single dependent variable and multiple independent variables (Williams *et al.*, 2012:673). In this study sustainable organisational performance is the dependant variable, where the two sub-dimensions of ambidexterity, namely exploration and exploitation, and environmental dynamism are independent variables.

5.8 SUMMARY

From the approach adopted by this study, it is clear that this study will be collecting data from respondents once on a set of measurement items. Two approaches, namely telephonic surveys and self-completion questionnaires, were used to collect the minimum responses of this study in the limited time available. All three possible survey errors were mitigated as much as possible using different techniques. Once the data was collected, it was consolidated and tested for accuracy and reliability through the Kaiser-Meyer-Olkin measure of sampling adequacy and the Bartlett's test of sphericity, followed by the factor analysis.

Factor analysis was conducted to determine which items for each measurement scale could be statistically used to analyse the data collected. Each of the final measurement items were determined and the internal reliability of each item was subsequently tested to determine statistical viability for analysis. Pearson's product moment correlation technique was used to assess the correlations as set out in the hypotheses and a multiple regression model was used to assess the hypothesis with a moderating variable. This data is processed in the following chapters and observations are provided on the data and the hypotheses that were developed during the deduction phase of gathering and synthesising current research. The next chapter comprises of a discussion on the statistical results.

CHAPTER 6: RESULTS

6.1 Introduction

6.2 Descriptive Statistics

6.2.1 Environmental Turbulence

6.2.2 Organisational Performance

6.2.3 Ambidexterity

6.2.4 Competitive Intensity

6.2.5 Univariate Descriptive Statistics on Demographic Variables

6.2.6 Factor Analysis and Internal Reliability

6.3 Hypothesis Tests

6.3.1 Correlations Between Measured Items

6.3.2 Moderation of the Ambidexterity-Performance Relationship

6.4 Summary

6. RESULTS

6.1 INTRODUCTION

This chapter analyses and reports on the data collected. This chapter will specifically include a discussion on the descriptive statistics, including a response frequency discussion on the five measured items. The results on the correlational hypotheses is analysed and reported, as well as the result for the moderation hypothesis.

A discussion on the descriptive statistics for the constructs is presented first. Each construct is discussed in the order that they were measured. Thereafter, the univariate descriptive statistics for the demographic questions are briefly discussed. It is followed by the results of the factor analysis to indicate the internal reliability of the measurement items. A section on the correlational hypotheses follows. The last of the content discussed in this chapter is the results for the moderating hypothesis.

6.2 DESCRIPTIVE STATISTICS

Table 6.1 presents acceptably normal distributions based on the findings of the skewness, kurtosis, standard deviation and mean of each of the factors. The visual distribution curves of each of the five factors can be found in Figures 6.5, 6.6, 6.7, 6.8 and 6.9. According to the composite responses, the two constructs with the highest mean (*M*) ratings are environmental dynamism and competitive intensity, indicating confirmed presence of these two elements among respondents.

Environmental dynamism with a rating of 4.01 (*SD*=0.76) equalled that of competitive intensity with a score of 4.00 (*SD*=0.76) on a five-point rating scale. The ambidexterity sub-dimensions exploration and exploitation displayed mean scores of 3.94 (*SD*=0.79) and 3.77 (*SD*=0.66) respectively on a five-point rating scale. Sustainable organisational performance has the lowest mean score of all the constructs which is still quite high at 3.72 (*SD*=0.76) on a five-point rating scale. A discussion on the frequency statistics of the constructs is presented below.

Table 6.1 contains the descriptive statistics that resulted from the data collected. The most important to take note of is the means and the standard deviations.

Table 6.1: Descriptive statistics for the five constructs

		Environmental Dynamism	Sustainable Organisational Performance	Exploration	Exploitation	Competitive Intensity
n	Valid	157	152	151	151	150
Mean (M)		4.01	3.72	3.94	3.77	4.00
Median		4.00	3.83	4.00	3.75	4.10
Std. Deviation (SD)		0.76	0.76	0.79	0.66	0.76
Skewness		-1.10	-0.82	-1.11	-1.02	-0.96
Kurtosis		1.60	0.85	1.94	2.74	1.10
Minimum		1.00	1.00	1.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00

6.2.1 Environmental Turbulence

As measured in Figure 6.1, the rate and change of stability of the organisation's external environment measures the environmental turbulence experienced by South African organisations. At least 69.5% of the respondents agree that there is significant turbulence present in their industries. There is strong agreement among the respondents that different types of changes in their industries occur on a continuous basis (84.7%) and that environmental changes in their industries are intense. Only 33.1% of respondents indicate that no significant changes has yet occurred in their industries this year.

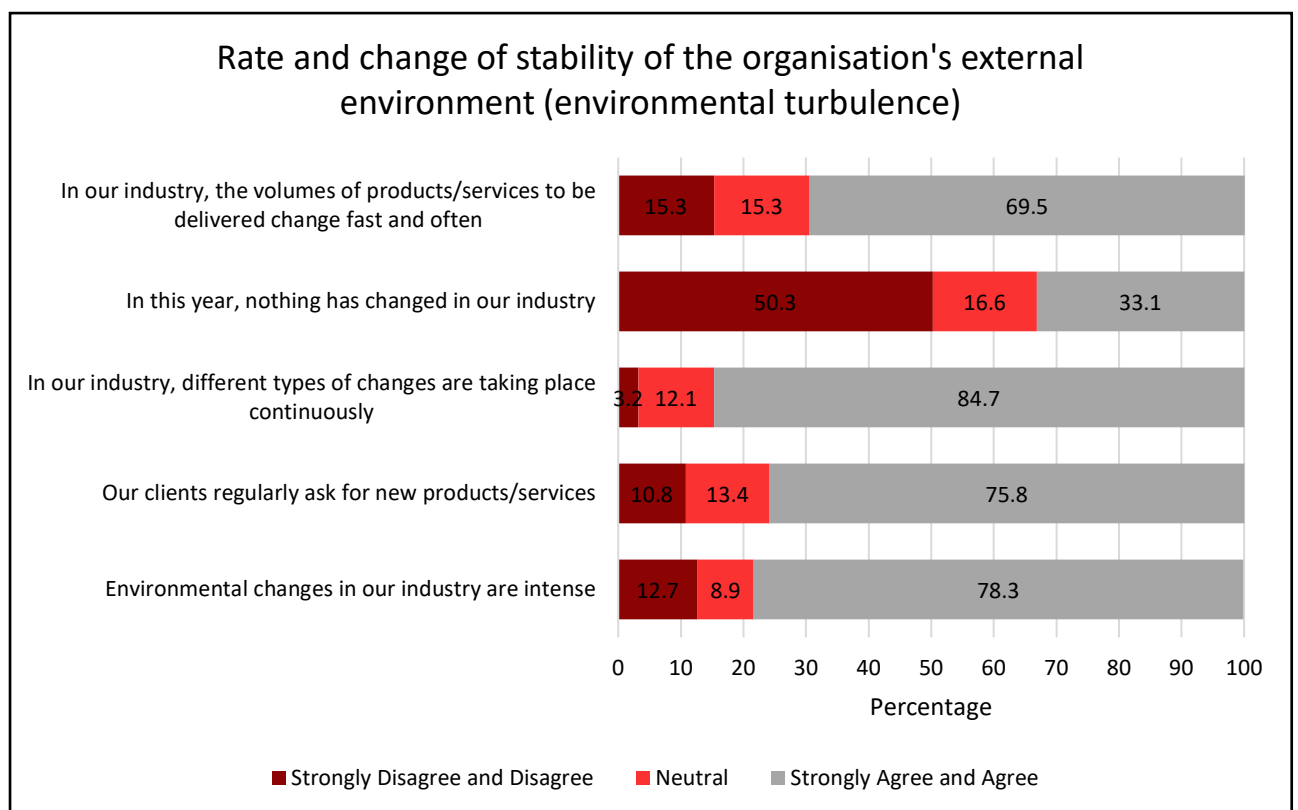


Figure 6.1: Frequency statistics for the environmental turbulence construct

6.2.2 Sustainable Organisational Performance

Figure 6.2 measures how respondents compare their organisation's performance to their best competitor's performance. The results show that 80% of respondents view their overall performance as better than their best competitor's performance. Interestingly, only 44% of the respondents indicate that they have possession of a larger market share than their best competitor, and 52% of respondents indicate that their market share growth has been significantly more than that of their best competitor. Approximately 72% of the respondents indicate that their sales growth (73.8%) and profit growth (72.1%) have been significantly more than their best competitor, whilst 56.5% of respondents rate their return on investment (ROI) higher than what was achieved by their best competitor.

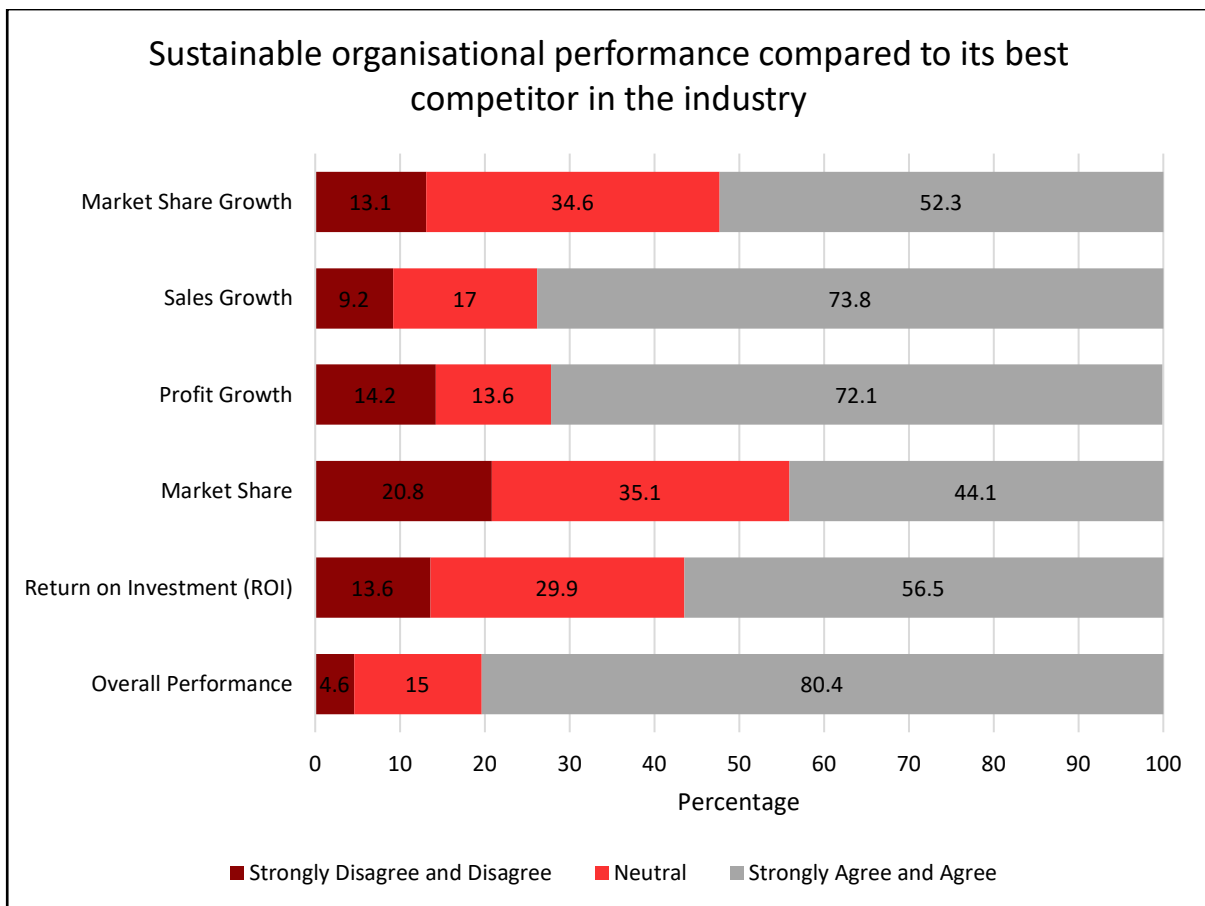


Figure 6.2: Frequency statistics for the sustainable organisational performance construct

6.2.3 Ambidexterity

Organisation product and/or service development and outcome which was measured by the elements in Figure 6.3, is an indication of how prone South African organisations are to explore and exploit. In terms of exploitation, respondents indicate that they are mostly prone to improve existing products and/or services (82.2%), where after flexibility and adaptation to their product and/or service is prioritised (77.6%). Enhancement of existing markets is still of importance to respondents (62.2%), however, only 48% of respondents indicate that they aim to reduce production and/or service costs.

Respondents indicate in terms of their exploration elements that they mainly introduce new generations of products or services (80.9%). Respondents indicate that 75% of the organisations have entered new technological fields over the past year, whilst 71.7% of the respondents indicate that their organisation has extended their product and/or service range. Still of high value to respondents (65.6%), but scoring the lowest of the exploration elements, was the opening up of new markets.

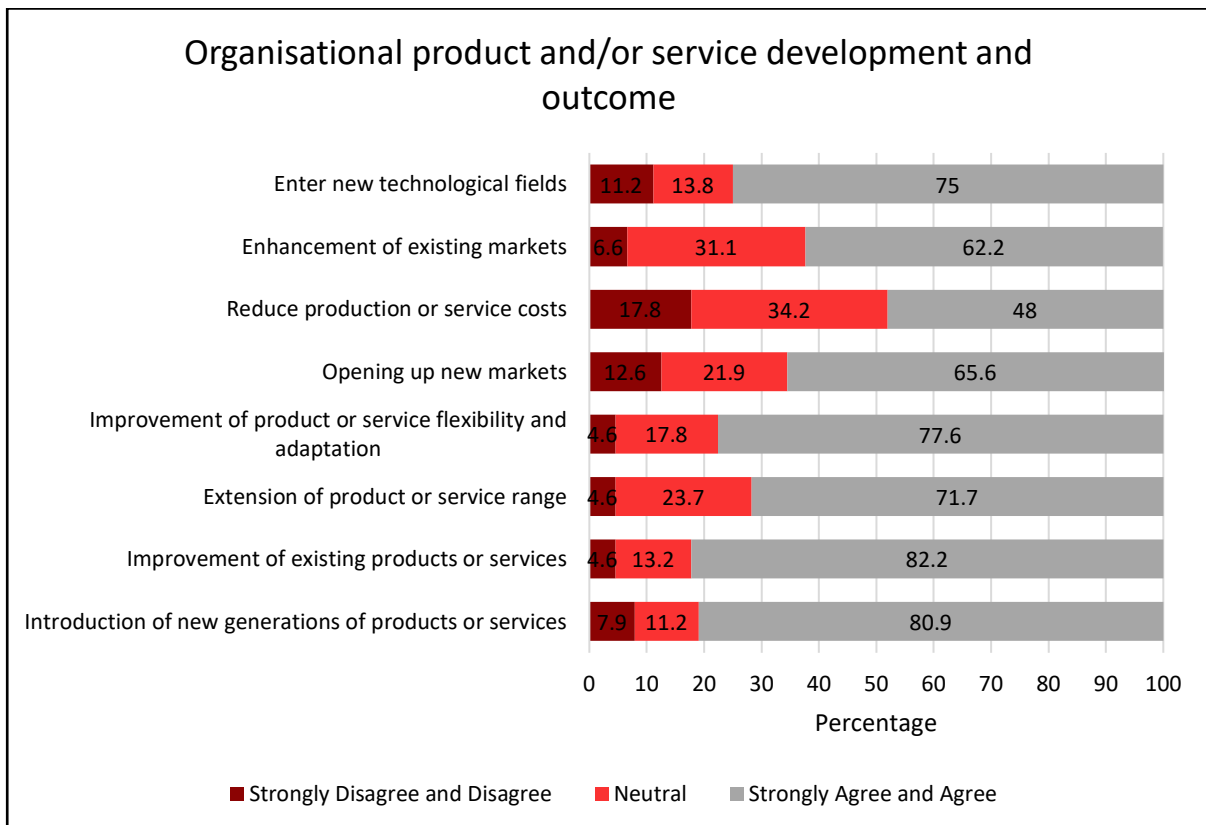


Figure 6.3: Frequency statistics for the ambidexterity construct

6.2.4 Competitive Intensity

In Figure 6.4 it can be seen that there is an overall high competitive intensity present in South African industries. A mere 19% of respondents indicate that their competitors are relatively weak, posing no immediate threat to their organisation's performance. Respondents indicate that competition in their industries is cut-throat (85.3%), particularly price competition (82.7%). Respondents also indicate that there is significant presence of promotion wars in their industries (73.3%), substitutability of their products and/or services is high (72%), and the frequency of new competitive moves in their industries is significant (64%).

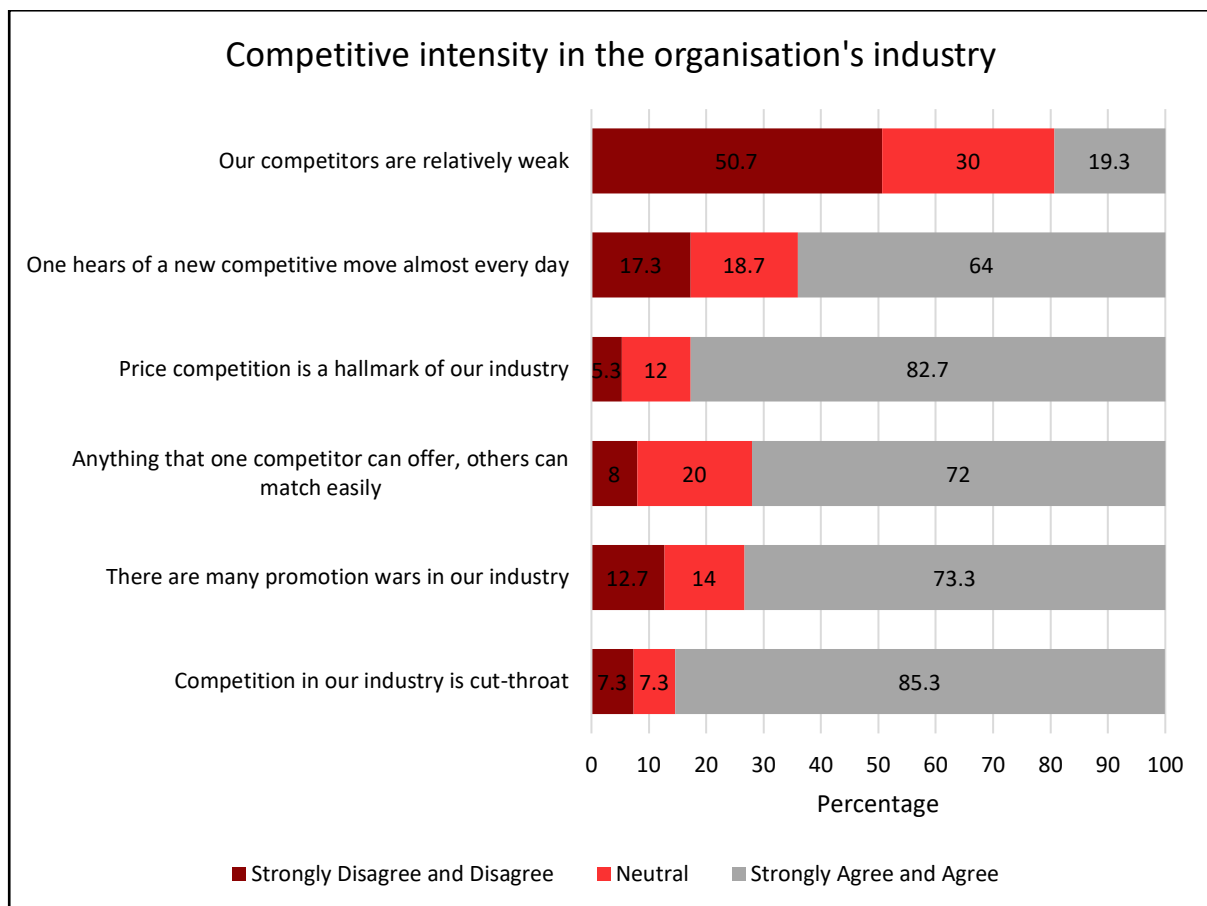


Figure 6.4: Frequency statistics for the competitive intensity construct

6.2.5 Univariate Descriptive Statistics on Demographic Variables

A total of 157 completed surveys were collected from the sample of which there was a minimum of 150 usable responses per question. In Table 6.2 is a demographic profile of the respondents that participated in this study.

The spread of the positions held in organisations by respondents is presented graphically in Figure 20 (in Appendix G, p. 135). A large portion of respondents hold senior management positions (47.3%), executive positions (22%) and middle management positions (19.3%). The remaining portion of respondents held positions in junior management, specialist roles and technical or administrative roles. In terms of the years of work experience held by respondents, Figure 21 (in Appendix G, p. 135) indicates that 36% of respondents have between 11 and 20 years' worth of work experience. It was found that 23.4% of respondents have between 21 and 30 years of work experience, and 15.6% of respondents have between 31 and 40 years of work experience. The respondents with 41 or more years of work experience is reported at 8.1%, where the remaining respondents report that they have between 1 and 10 years of work experience (16.8%).

Figure 22 (in Appendix G, p. 135) demonstrates the spread of the different qualifications that respondents hold. The largest proportion of respondents hold Bachelor's degrees (29%) or Diplomas (24%). One can see that 15% of respondents hold Matric certificates, 14% hold Honours degrees, and 11% hold Masters degrees. Only 6% of the respondents have a Certificate, with only one respondent whom has achieved a PhD/Doctorate degree (1%).

In Figure 23 (in Appendix G, p. 135), the spread of responses from the different industries is graphically presented. The highest chosen option was the "other" option, which 31% of the respondents chose. The "other" option required respondents to indicate their industry if not on the list. Most of these respondents were from industries such as entertainment, development, construction, mining, retail, wholesale, property and trading. There were high response rates from the manufacturing (14%), business services (11%) and finance industries (9%) as well. The results indicate that the respondents represented a good spread across many different industries in the South African market.

Table 6.2: Demographic profile of respondents

Demographic Questions	n	%
Position held within organisation (n=150; %=100%)		
Executive	33	22.00
Senior Manager	71	47.30
Middle Manager	29	19.30
Junior Manager	10	6.70
Specialist	1	0.70
Technical / Administrative	6	4.00
Years of work experience (n=150; %=100%)		
1-10 Years	25	16.80
11-20 Years	54	36.00
21-30 Years	35	23.40
31-40 Years	24	16.10
41+ Years	12	8.10
Highest qualification achieved (n=150; %=100%)		
Grade twelve (Matric)	22	14.68
Certificate	9	5.97
Diploma	36	24.00
Bachelor's Degree	44	29.35
Honours Degree	21	14.05
Master's Degree	17	11.32
PhD/Doctorate	1	0.63
Industry (n=150; %=100%)		
Agriculture	5	3.30
Manufacturing	21	14.00
Business services	16	10.70
Finance	14	9.30
Transport	8	5.30
Information and Communication Technology (ICT), including web-based/online businesses	8	5.30
Health care	9	6.00
Education	7	4.70
Customer services	5	3.30
Hospitality and Tourism (e.g. restaurants, hotels or guesthouses)	10	6.70
Other	47	31.30

Note: The missing responses were excluded from the percentages set out in this Table in order for the percentages to add to a 100. These are the valid percentages of actual responses provided.

6.2.6 Factor Analysis and Internal Reliability

As can be seen in Table 6.3, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy resulted in 0.695 for environmental dynamism, 0.793 for organisational performance, 0.776 for the exploration sub-dimension of ambidexterity, 0.752 for the exploitation sub-dimension of ambidexterity, and 0.813 for competitive intensity.

These results are all above the recommended threshold of 0.6 which means that these constructs are reliable (Pallant, 2011:190). Furthermore, the Bartlett's Test of Sphericity for all the measures of the constructs were found to be statistically significant ($p < 0.000$). Thus, it was determined that for each of the constructs a factor analysis can be conducted to determine the internal reliability of the measurement items used to collect results. The factor analysis results are provided in Tables 10 to 19 in the section below, according to the constructs measured.

6.2.6.1 Kaiser-Meyer-Olkin Measure and Bartlett's test

Table 6.3: Results for the Kaiser-Meyer-Olkin Measure and Bartlett's test for the five constructs measured

Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity						
		Environmental Dynamism	Sustainable Performance	Exploration	Exploitation	Competitive Intensity
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.695	0.793	0.776	0.752	0.813
Bartlett's Test of Sphericity	Approx. Chi-Square	128.103	512.379	203.282	139.354	274.596
	df	10	15	6	6	15
	Sig.	0.000	0.000	0.000	0.000	0.000

Note: This Table contains the KMO measures of sampling adequacy and the Bartlett's test of Sphericity for the five dimensions measured. The KMO value has to be above the recommended threshold and the Bartlett's test results should fall below the level of significance required to deem the dimension appropriate for factor analysis.

6.2.6.2 Environmental Dynamism

Jansen *et al.* (2009:17) developed the scale used to measure the environmental dynamism construct. The environmental dynamism scale consisted of five items that were measured using a five-point Likert scale ranging from one (“Strongly disagree”) to five (“Strongly agree”). Respondents were asked to indicate on the measurement scale the extent to which the scale items demonstrated the external environment of their organisation. Item 4 of this scale was reverse scored, however, the factor analysis discussed below concluded that it be left out of the final analysis of the results. Question 1 presents the measurement of the environmental dynamism construct and can be found in the final questionnaire in Appendix C (p.123).

For the environmental dynamism construct there was one factor produced based on the eigenvalue of 2.209 (Table 6.4) being greater than 1 (Fabrigar & Wegener, 2014:109). Unidimensionality was confirmed for this construct as only one factor was delivered. The rotated factor matrix carrying the factor load of each of the measurement items is presented in Table 6.5, indicating the correlation between each of the items. The internal consistency reported in Table 6.5 indicated that items 1.1, 1.2, 1.3, and 1.5 were above the acceptable threshold and the internal reliability of the construct as a whole presented at $\alpha=0.725$ (Table 6.14), which is also above the acceptable threshold considered as satisfactory (Chuang, 2004:462).

Table 6.4: Total variance of each factor extracted for environmental turbulence

Total Variance Explained						
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.209	44.188	44.188	1.627	32.536	32.536
2	0.995	19.892	64.080			
3	0.725	14.499	78.579			
4	0.655	13.103	91.682			
5	0.416	8.318	100.000			

Extraction Method: Principal Axis Factoring.

Note: This Table contains the eigenvalues for each of the five factors extracted for the environmental turbulence construct, as well as the total amount of variance ascribed to each variable.

Table 6.5: Factor matrix presenting the internal consistency for the environmental turbulence construct

Factor Matrix ^a	
	Factor 1
q1_1	0.601
q1_2	0.606
q1_3	0.576
q1.4rec	
q1_5	0.748

Extraction Method: Principal Axis Factoring.^a

Note: One factor extracted. Nine iterations required. This Table contains the results of the one factor that was extracted for the environmental turbulence construct. Reverse score item(s) indicated with “rec” behind item number.

6.2.6.3 Sustainable Performance

This construct was measured using the scale developed by Chandrasekaran *et al.* (2012:147). The six scale items presented in question two of the final questionnaire (Appendix C, p.123) were measured using a five-point Likert scale ranging from one (“significantly worse”) to five (“Significantly better”). The scale items required respondents to evaluate the statements of their organisation in relation to its best competitor in the industry.

In Table 6.6, the first eigenvalue of 3.773 for sustainable performance resulted in one factor extraction proving unidimensionality of the construct. The factor loadings of all six the items for the sustainable performance construct demonstrated strong internal reliability of values from $\alpha=0.65$ and higher in Table 6.7, with a Cronbach alpha value of 0.881 which is above the acceptable threshold and considered satisfactory. The Cronbach alpha value can be seen in Table 6.14.

Table 6.6: Total variance in factor extractions for sustainable performance

Total Variance Explained						
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.773	62.889	62.889	3.352	55.874	55.874
2	0.780	12.997	75.886			
3	0.559	9.324	85.209			
4	0.466	7.759	92.968			
5	0.269	4.489	97.457			
6	0.153	2.543	100.000			

Extraction Method: Principal Axis Factoring.

Note: This Table contains the eigenvalues for each of the six factors extracted for the sustainable performance construct as well as the total amount of variance ascribed to each variable.

Table 6.7: Factor matrix presenting the internal consistency for the sustainable performance construct

Factor Matrix ^a	
	Factor 1
q2_1	0.660
q2_2	0.696
q2_3	0.657
q2_4	0.819
q2_5	0.858
q2_6	0.772

Extraction Method: Principal Axis Factoring.^a

Note: One factor extracted. Five iterations required. This Table contains the results of the one factor that was extracted for the sustainable performance construct.

6.2.6.4 Ambidexterity

He and Wong (2004:486) developed a comprehensive measurement scale that is widely used to measure ambidexterity's two sub-dimensions namely explore and exploit. The items 3.1, 3.3, 3.5 and 3.8 in question 3 measure the exploration sub-dimension and the items 3.2, 3.4, 3.6 and 3.7 in question 3 measure the exploitation sub-dimension. Question 3 in the final questionnaire can be found in Appendix C (p. 123). Furthermore, the scale items are measured on a five-point Likert scale that ranges between one ("Definitely false") and five ("Definitely true"). Respondents had to indicate the extent to which each statement represented the organisation's product and/or service development and outcome over the past year.

As mentioned before, the ambidexterity construct was divided into two sub-dimensions. For the exploration sub-dimension one factor was extracted after only one eigenvalue resulted in a value larger than 1 (eigenvalue of factor 1 = 2.545 in Table 6.8), proving unidimensionality (Fabrigar & Wegener, 2014:109). The rotated factor matrix delivered internal reliability values of all the items above the acceptable threshold (Table 6.9) with an internal reliability of $\alpha=0.808$ (Table 6.14). The reliability of this sub-dimension for use in the final analysis was confirmed.

Table 6.8: Total variance in factor extractions for exploration

Total Variance Explained						
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.545	63.619	63.619	2.110	52.744	52.744
2	0.674	16.857	80.477			
3	0.462	11.551	92.028			
4	0.319	7.972	100.000			

Extraction Method: Principal Axis Factoring.

Note: This Table contains the eigenvalues for each of the four factors extracted for the exploration sub-dimension of ambidexterity, as well as the total amount of variance ascribed to each variable.

Table 6.9: Factor matrix presenting the internal consistency for the exploration sub-dimension of ambidexterity

Factor Matrix ^a	
	Factor 1
q3_1	0.813
q3_3	0.525
q3_5	0.717
q3_8	0.812

Extraction Method: Principal Axis Factoring.^a

Note: One factor extracted. Seven iterations required. This Table contains the results of the one factor that was extracted for the exploration sub-dimension of ambidexterity.

For the second sub-dimension of ambidexterity, exploitation, there was one eigenvalue of 2.313 (Table 6.10) which resulted in one factor extraction proving the sub-dimension is unidimensional. After rotating the factor, the internal reliability for the measurement items were acceptable (in Table 6.11) and the measurement items delivered a Cronbach alpha value of 0.747 which is above the acceptable threshold and can be seen in Table 6.14.

Table 6.10: Total variance in factor extractions for exploitation

Total Variance Explained						
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.313	57.815	57.815	1.773	44.337	44.337
2	0.719	17.979	75.794			
3	0.495	12.371	88.165			
4	0.473	11.835	100.000			

Extraction Method: Principal Axis Factoring.

Note: This Table contains the eigenvalues for each of the four factors extracted for the exploitation sub-dimension of ambidexterity, as well as the total amount of variance ascribed to each variable.

Table 6.11: Factor matrix presenting the internal consistency for the exploitation sub-dimension of ambidexterity

Factor Matrix ^a	
	Factor 1
q3_2	0.737
q3_4	0.602
q3_6	0.570
q3_7	0.738

Extraction Method: Principal Axis Factoring.^a

Note: One factor extracted. Seven iterations required. This Table contains the results of the one factor that was extracted for the exploitation sub-dimension of ambidexterity.

6.2.6.5 *Competitive Intensity*

Auh and Menguc (2005:1657) developed a six item measurement to evaluate the competitive intensity of an industry. The scale items were measured in question 4 through a five-point Likert scale (Appendix C, p.123). Respondents had to rate the extent to which the scale items represented their industry's competitive intensity on a scale ranging from one ("Strongly disagree") to five ("Strongly agree"). Item six was reverse scored. The factor analysis discussed below concluded that item six be left out of the final analysis of the results.

Table 6.12: Total variance in factor extractions for competitive intensity

Total Variance Explained						
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.987	49.790	49.790	2.584	43.072	43.072
2	1.019	16.981	66.770	.276	4.596	47.669
3	0.746	12.430	79.201			
4	0.503	8.389	87.590			
5	0.442	7.370	94.960			
6	0.302	5.040	100.000			

Extraction Method: Principal Axis Factoring.

Note: This Table contains the eigenvalues for each of the six factors extracted for the competitive intensity construct, as well as the total amount of variance ascribed to each variable.

Table 6.13: Factor matrix presenting the internal consistency for the competitive intensity construct

Factor Matrix ^a		
	Factor	
	1	2
q4_1	0.688	
q4_2	0.771	
q4_3	0.472	
q4_4	0.752	
q4_5	0.845	-0.321
q4.6rec		

Extraction Method: Principal Axis Factoring.^a

Note: Attempted to extract 2 factors. More than 25 iterations required. (Convergence=0.003). Extraction was terminated. The values of the two factors extracted are presented in this Table. Reverse score item(s) indicated with “rec” behind item number.

For the competitive intensity measure, two eigenvalues of 2.987 and 1.019 (Table 6.12) were produced, leading to two factors being extracted as can be seen in Table 6.13. Thus, this construct is not unidimensional. When looking at the two factors, the internal reliability values in factor one all fall within the acceptable range. The second factor produced a second value for item 5 with an unacceptable Cronbach alpha value of -0.321. Moreover, item five is also loaded on factor one with an acceptable value of 0.845. It was subsequently decided that factor two had to be omitted since item 5 was the only item included in the factor extract. Scale item six did not produce any values in either of the factor extracts and was omitted from the rest of the statistical analysis. The Cronbach alpha value for the competitive intensity sub-dimension resulted in

0.827, which is above the acceptable threshold and considered as satisfactory (Table 6.14).

Table 6.14: Reliability statistics for the five dimensions measured

Dimension	No of Items	Cronbach's Alpha (α)
Environmental Dynamism	4	0.725
Sustainable Organisational Performance	6	0.881
Exploration	4	0.808
Exploitation	4	0.747
Competitive Intensity	5	0.827

Note: This Table contains the internal reliability statistics of each of the constructs measured as determined from the data collected.

6.3 HYPOTHESES TESTS

6.3.1 Correlations Between Measured Items

Hypotheses 1, 2, and 3 deal with correlations between the four constructs investigated in this study. The null and alternative hypotheses are as follows:

$H_{1(\text{null})}$: There is no correlation between ambidexterity and sustainable organisational performance.

$H_{1(\text{alt})}$: There is a positive correlation between ambidexterity and sustainable organisational performance.

$H_{2(\text{null})}$: There is no evidence that ambidextrous organisations will explore and exploit simultaneously.

$H_{2(\text{alt})}$: There is a positive correlation between exploitation and exploration.

$H_{3(\text{null})}$: There is no correlation between environmental turbulence and the competitive intensity within an industry.

$H_{3(\text{alt})}$: There is a positive correlation between environmental turbulence and the competitive intensity within an industry.

All four these hypotheses are directional (one-tailed) hypotheses, however, they were tested at a 1% level of significance ($\alpha=0.01$) as two-tailed hypotheses. This was done

in order to avoid committing a Type II error (β) of not rejecting the null hypotheses, when statistically it cannot be accepted (Cooper & Schindler, 2014:436).

An interval level of measurement was used to determine the respondents' scores on environmental dynamism, sustainable organisational performance, ambidexterity's two sub-dimensions namely exploration and exploitation, and competitive intensity. The parametric significance test used to evaluate the hypotheses stated above is the Pearson's product moment correlation. The two assumptions that this test is based upon, hold that a random sample from the population were used where there is normal distribution between the variables, and that a linear relationship exists between the variables being measured (Green & Salkind, 2013:126; Pallant, 2011:124).

Upon visual inspection of the scatterplots in Figures 6.10, 6.11, 6.12 and 6.13, it is clear that linearity exists between the two variables measured in each test. Similarly, based on the visual inspection of the bell curves in Figures 6.5, 6.6, 6.7, 6.8 and 6.9, it demonstrates that the variables tested are normally distributed (post completion of the factor analysis). The assumptions were satisfied and the Pearson's product moment correlation test was used to test the correlations between the variables.

The correlations computed among the five dimensions measured is presented in Table 6.15, as well as graphically presented in Figures 6.10, 6.11, 6.12 and 6.13. A p value of below 0.005 was required to demonstrate significance. All the correlations in Table 6.15 below has significance levels $p=0.005$, and it is shown that correlation coefficients of 0.388 and above resulted. Cohen (in Faul, Erdfelder, Buchner & Lang, 2009:1152) reported that relationships can be depicted as "large", "medium", and "small", demonstrating the strength of the relationship. In accordance with this, the relationships found in this study is reported as "strong" as a synonym for "large", "moderate" as a synonym for "medium", and "weak" as a synonym for "small".

For the first relationship measured between ambidexterity and sustainable organisational performance the scatterplots of the two sub-dimensions (Figures 6.10 and 6.11) visually suggest that a positive linear relationship exists between both the exploration and exploitation sub-dimensions with sustainable organisational performance respectively. The statistics in Table 6.15 concurs that there is indeed a

moderate positive relationship, $r(150) = 0.543$, between exploration and sustainable performance. Similarly, a moderate positive relationship, $r(150) = 0.504$, between exploitation and sustainable organisational performance is reported in Table 6.15. These relationships suggest that an increase in both or either of the two sub-dimensions of ambidexterity may be greatly responsible for an increase in sustainable organisational performance. The null hypothesis was subsequently rejected.

The second relationship tested the correlation between the two sub-dimensions of ambidexterity, exploration and exploitation. The visual presentation of the relationship depicted in the scatterplot in Figure 6.12 suggests that a strong positive relationship between the two constructs exist. This is further supported by the findings in Table 6.15 where the correlation of $r(149) = 0.786$ demonstrates a significantly strong relationship between the two sub-dimensions. It can be deduced that an increase in the one sub-dimension of ambidexterity would lead to an increase in the other sub-dimension holding true to the theory of ambidextrous behaviour in organisations where organisations are able to simultaneously explore and exploit. Thus, the null hypothesis can be rejected.

The third hypothesis investigates the relationship between environmental dynamism and competitive intensity. Visually the scatterplot (Figure 6.13) indicates a positive relationship which is supported by the findings in Table 6.15, showing a positive relationship moderate in strength, $r(148) = 0.531$. Therefore, it may be suggested that if the competitive intensity in an industry increases, so will the environmental turbulence of that industry. It is important to note that competitive intensity is not the only variable that could lead to increased environmental dynamism, yet the relationship is strong enough that the null hypothesis could be rejected.

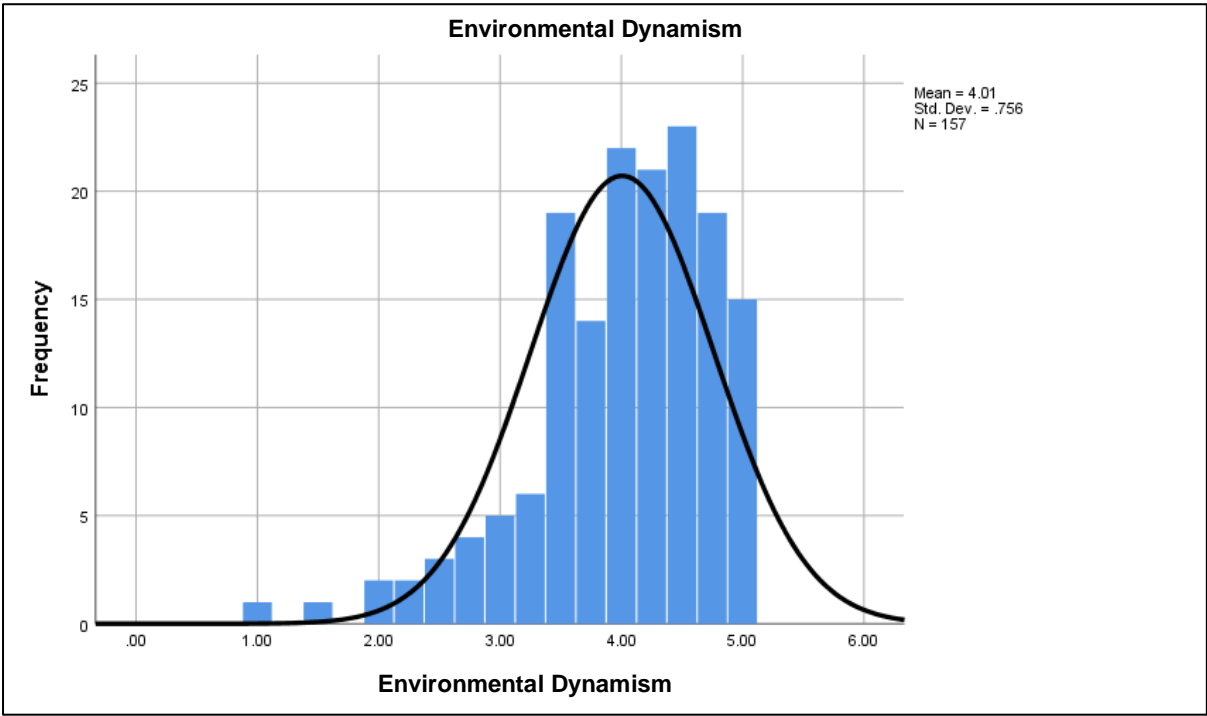


Figure 6.5: Histogram and distribution curve for environmental dynamism

Note: This Figure demonstrates the spread of the responses and the distribution curve indicates how evenly distributed they are for the environmental dynamism construct.

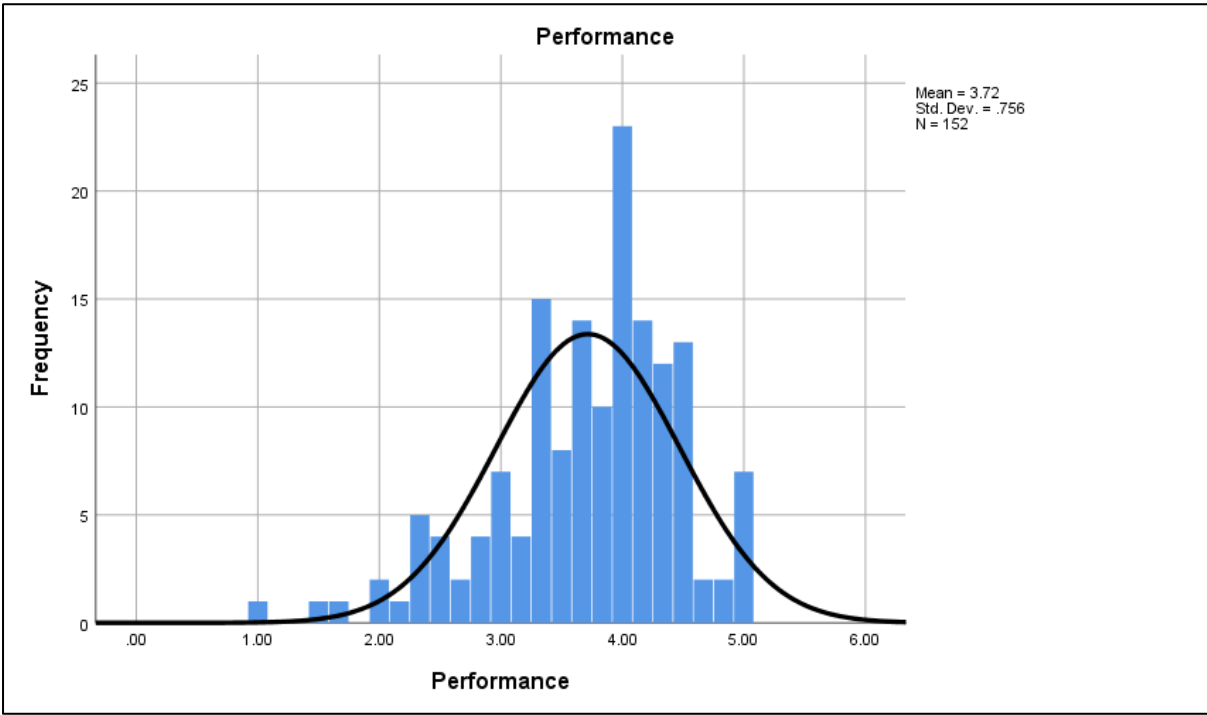


Figure 6.6: Histogram and distribution curve for sustainable organisational performance

Note: Performance = Sustainable Performance
This Figure demonstrates the spread of the responses and the distribution curve indicates how evenly distributed they are for the sustainable performance construct.

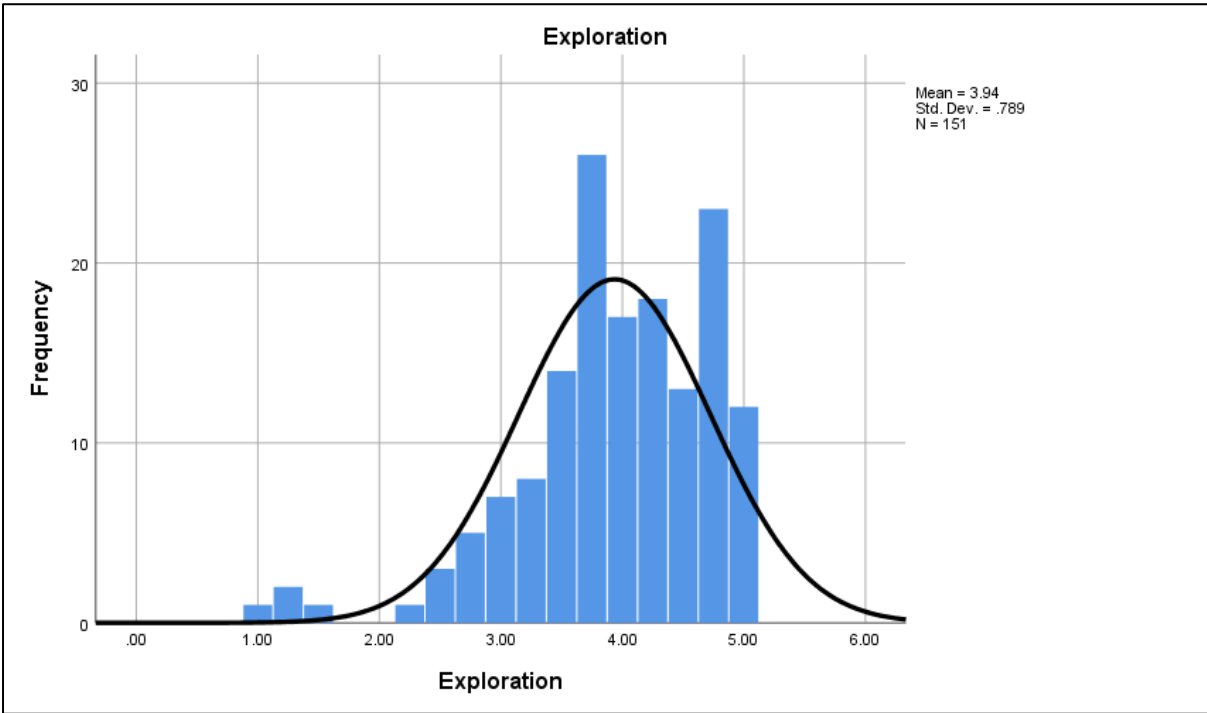


Figure 6.7: Histogram and distribution curve for exploration

Note: This Figure demonstrates the spread of the responses and the distribution curve indicates how evenly distributed they are for the exploration sub-dimension of the ambidexterity construct.

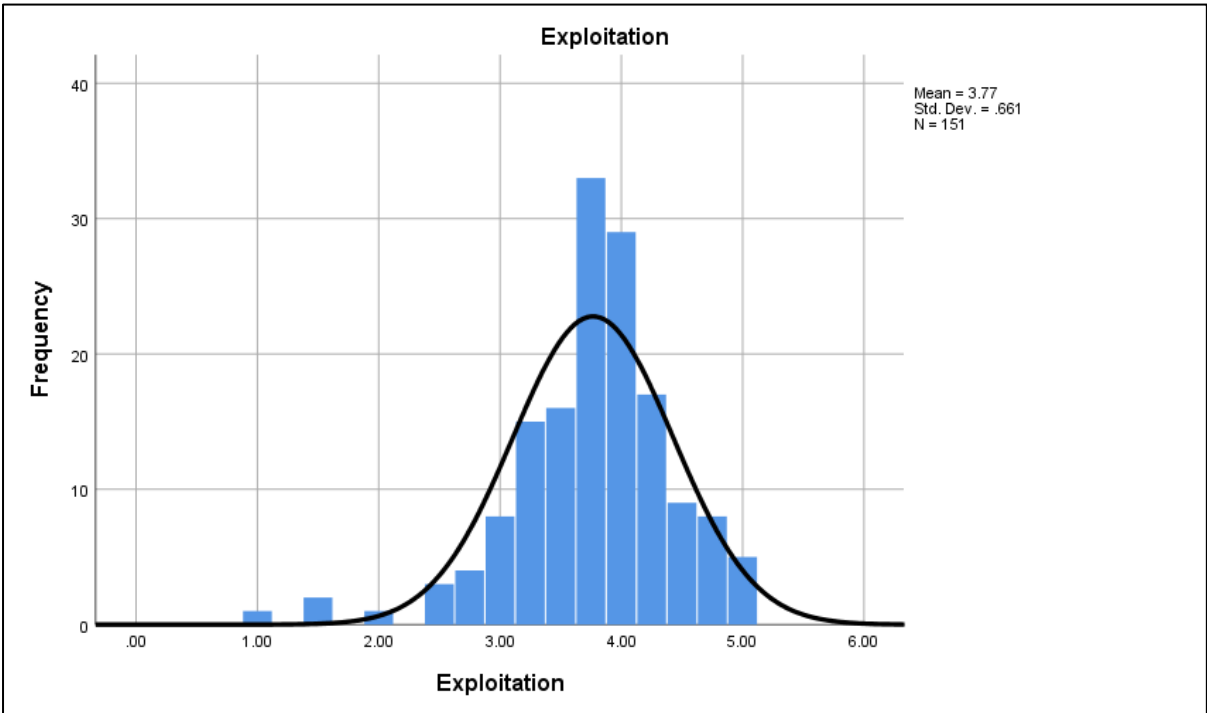


Figure 6.8: Histogram and distribution curve for exploitation

Note: This Figure demonstrates the spread of the responses and the distribution curve indicates how evenly distributed they are for the exploitation sub-dimension of the ambidexterity construct.

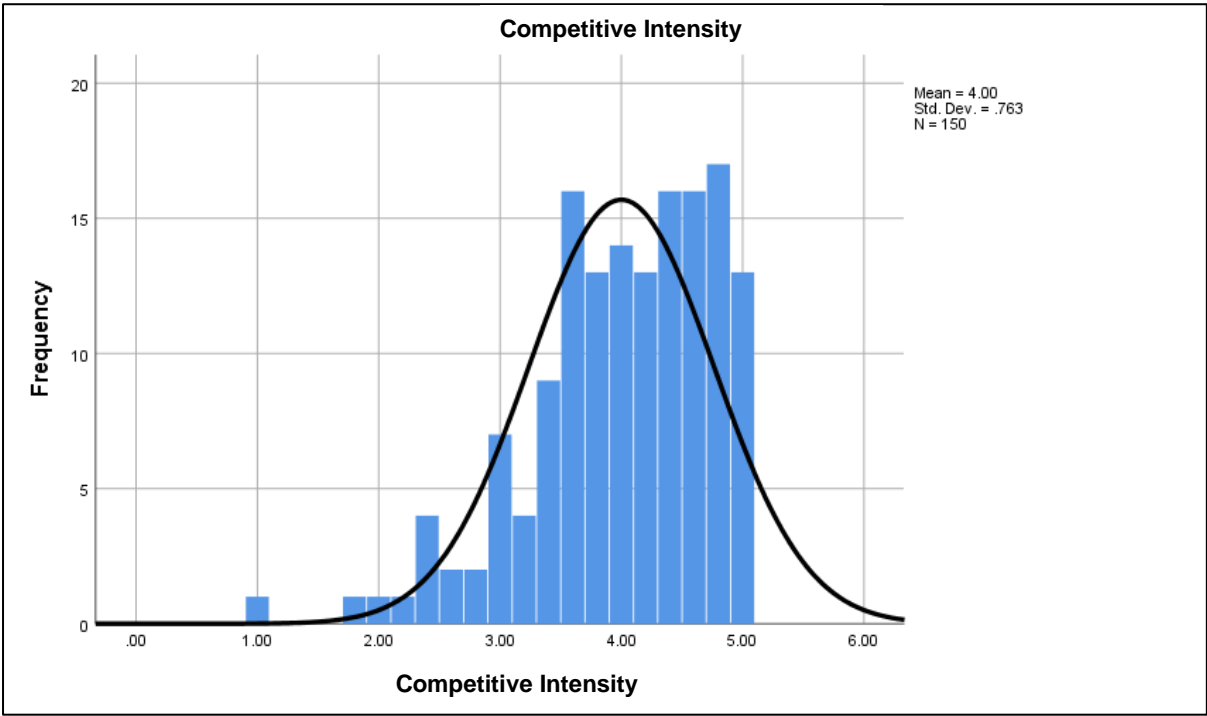


Figure 6.9: Histogram and distribution curve for competitive intensity

Note: This Figure demonstrates the spread of the responses and the distribution curve indicates how evenly distributed they are for the competitive intensity construct.

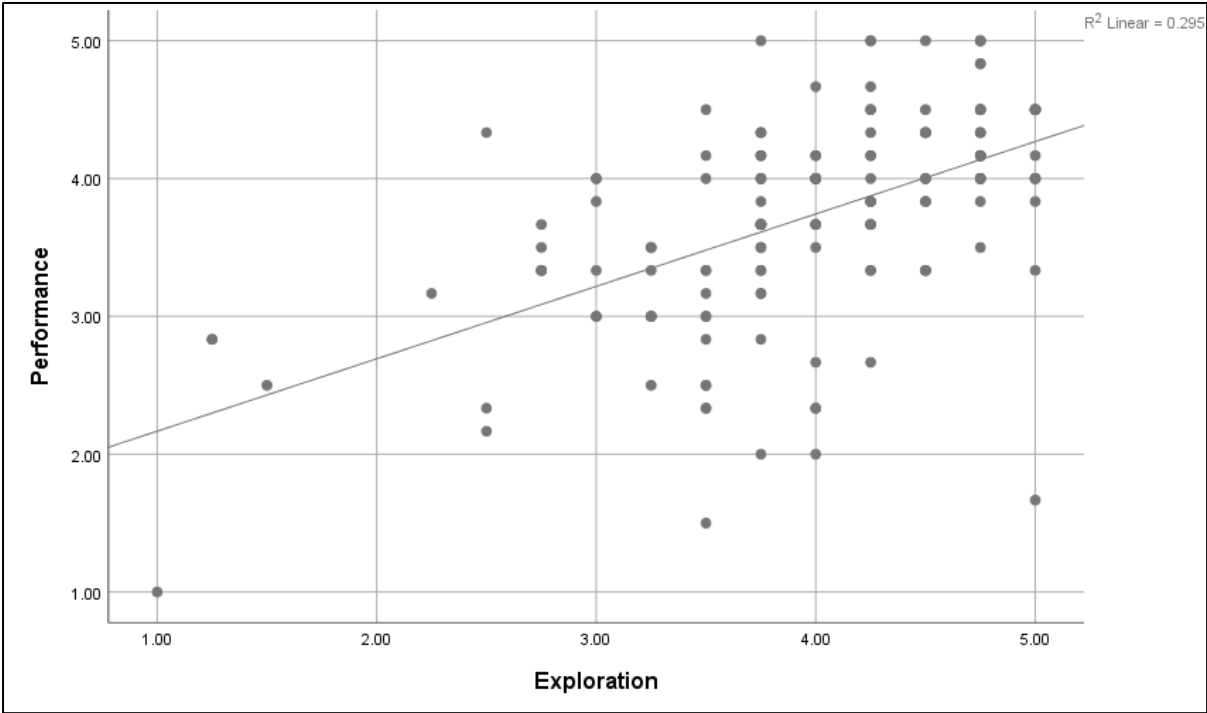


Figure 6.10: Scatterplot of the correlation between ambidexterity sub-dimension exploration and sustainable organisational performance

Note: This scatterplot visually depicts the strength and direction of the relationship between the sustainable performance construct and the exploration sub-dimension of ambidexterity.

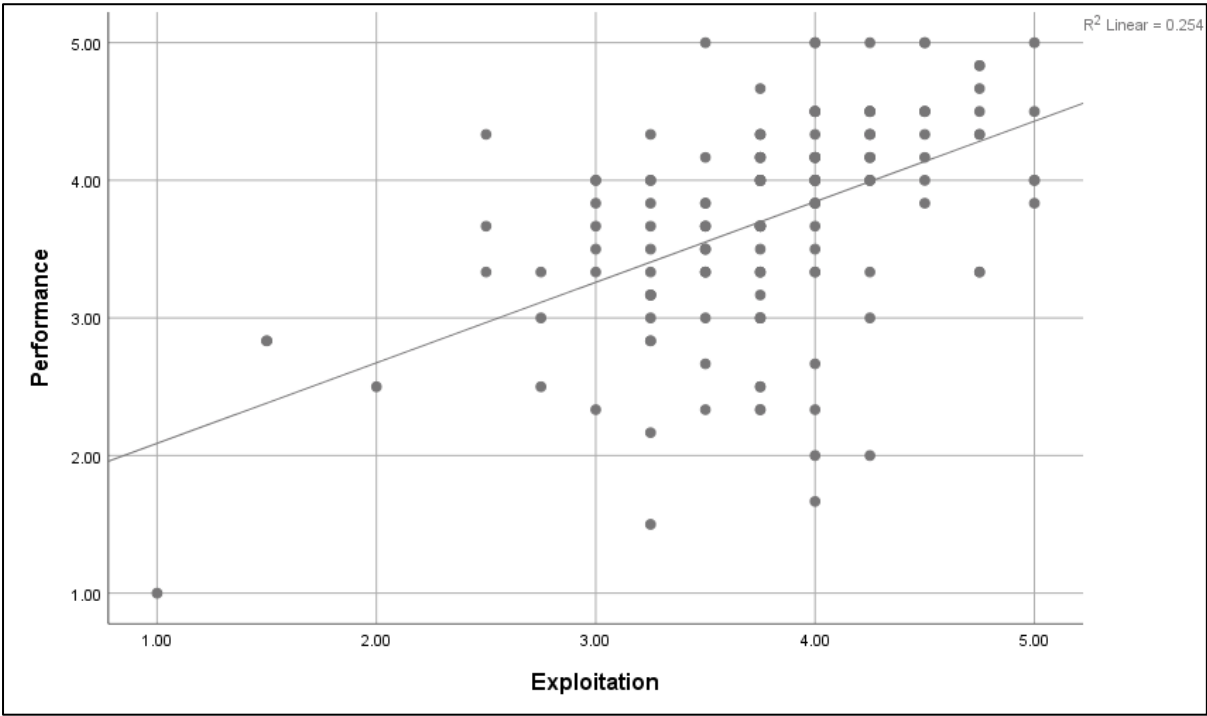


Figure 6.11: Scatterplot of the correlation between ambidexterity sub-dimension exploitation and sustainable organisational performance

Note: This scatterplot visually depicts the strength and direction of the relationship between the sustainable performance construct and the exploitation sub-dimension of ambidexterity.

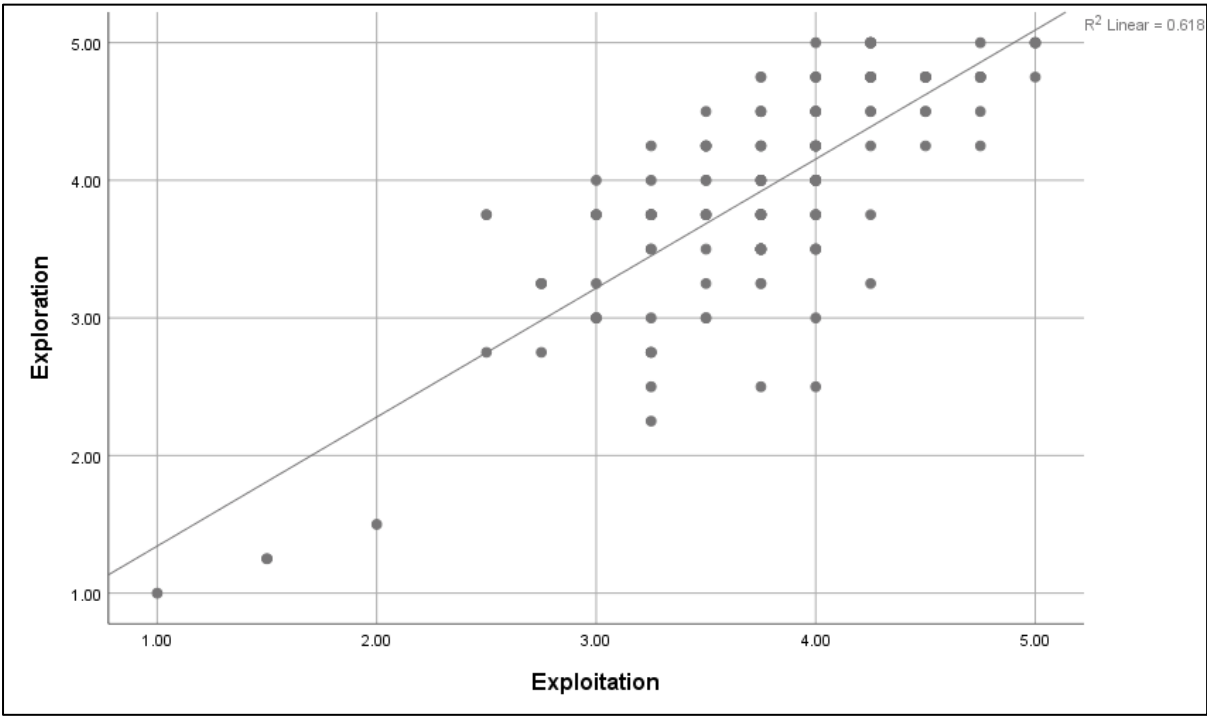


Figure 6.12: Scatterplot of the correlation between exploration and exploitation

Note: This scatterplot visually depicts the strength and direction of the relationship between the exploration sub-dimension of ambidexterity and the exploitation sub-dimension of ambidexterity.

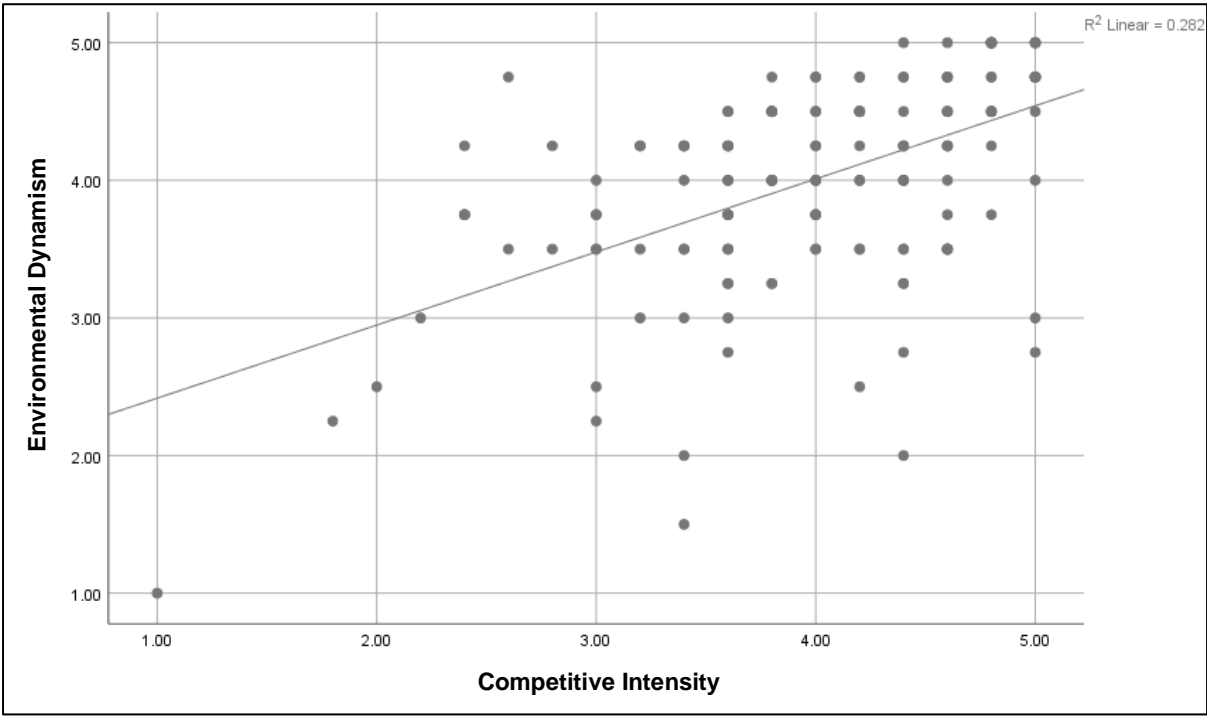


Figure 6.13: Scatterplot of the correlation between environmental dynamism and competitive intensity

Note: This scatterplot visually depicts the strength and direction of the relationship between the environmental dynamism construct and the competitive intensity construct.

Table 6.15: Pearson's product moment correlation test results between the five dimensions

		Correlations				
		Environmental Dynamism	Sustainable Organisational Performance	Exploration	Exploitation	Competitive Intensity
Environmental Dynamism	Pearson Correlation (<i>r</i>)	1	0.388**	0.591**	0.486**	0.531**
	Sig. (2-tailed)	-	0.000	0.000	0.000	0.000
	n	157	152	151	151	150
Sustainable Organisational Performance	Pearson Correlation (<i>r</i>)	0.388**	1	0.543**	0.504**	0.449**
	Sig. (2-tailed)	0.000	-	0.000	0.000	0.000
	n	152	152	149	149	148
Exploration	Pearson Correlation (<i>r</i>)	0.591**	0.543**	1	0.786**	0.605**
	Sig. (2-tailed)	0.000	0.000	-	0.000	0.000
	n	151	149	151	151	149
Exploitation	Pearson Correlation (<i>r</i>)	0.486**	0.504**	0.786**	1	0.593**
	Sig. (2-tailed)	0.000	0.000	0.000	-	0.000
	n	151	149	151	151	149
Competitive Intensity	Pearson Correlation (<i>r</i>)	0.531**	0.449**	0.605**	0.593**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	-
	n	150	148	149	149	150

Note: ** Correlation is significant at the 0.01 level (2-tailed)

6.3.2 Moderation of the Ambidexterity-Performance Relationship

Hypothesis 4 deals with the moderation by environmental turbulence of the ambidexterity and sustainable organisational performance relationship. The null and alternative hypothesis are as follows:

H_{4(null)}: Environmental turbulence has no effect on the relationship between ambidexterity and sustainable organisational performance.

H_{4(alt)}: The relationship between ambidexterity and sustainable organisational performance is moderated by environmental turbulence.

Hypothesis 4 was tested at a 5% level of significance ($\alpha=0.05$) as two-tailed hypothesis. As noted above in the scatterplots (Figures 6.10 and 6.11), there is a clear relationships between the two sub-dimensions of ambidexterity and sustainable organisational performance. The correlation coefficients of 0.543 and 0.504 both supported this. However, this hypothesis required statistically significant evidence for whether environmental dynamism had a moderating influence on this relationship between the two sub-dimensions of ambidexterity and sustainable organisational performance.

A multiple regression model was used to examine what the moderating effect of environmental turbulence will be on the ambidexterity and sustainable performance relationship. The dependent variable in this analysis was sustainable organisational performance and the independent variables were exploration, exploitation and environmental dynamism as can be seen in Table 6.16 and 6.17. The test was separately conducted on the two sub-dimensions of ambidexterity, namely exploration and exploitation, but reported on together.

Environmental turbulence was examined as a moderator of the relationship between ambidexterity and sustainable performance. Environmental dynamism and the exploration sub-dimension of ambidexterity were entered in the first step of the regression analysis. Similarly, for the second sub-dimension of ambidexterity, environmental dynamism and exploitation were entered in the first step.

Table 6.16: Analysis of coefficients with exploitation as the moderating variable

Coefficients ^a								
Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	Sustainable Performance (Y)	1.146	0.347		3.302	0.001		
	Exploitation	0.479	0.093	0.413	5.154	0	0.766	1.305
	Environmental Turbulence	0.189	0.08	0.189	2.357	0.02	0.766	1.305
2	Sustainable Performance (Y)	1.159	0.389		2.979	0.003		
	Exploitation	0.478	0.096	0.412	4.994	0	0.729	1.372
	Environmental Turbulence	0.187	0.083	0.187	2.268	0.025	0.725	1.379
	IntExploitEnvD	-0.003	0.035	-0.006	-0.076	0.94	0.828	1.208

Note: Y = Dependent Variable: Sustainable performance

Table 6.17: Analysis of coefficients with exploitation as the moderating variable

Coefficients ^a								
Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	Sustainable Performance (Y)	1.456	0.309		4.716	0		
	Environmental Turbulence	0.105	0.085	0.105	1.233	0.22	0.653	1.531
	Exploration	0.465	0.083	0.481	5.62	0	0.653	1.531
2	Sustainable Performance (Y)	1.403	0.362		3.872	0		
	Environmental Turbulence	0.113	0.09	0.113	1.255	0.212	0.59	1.694
	Exploration	0.469	0.084	0.485	5.572	0	0.635	1.574
	IntExplorEnvD	0.01	0.036	0.022	0.279	0.78	0.768	1.303

Note: Y = Dependent Variable: Sustainable performance

The second step required the input of the interaction term between environmental dynamism and exploration, as well as environmental dynamism and exploitation which had to be tested separately due to the fact that both are separate dimensions. The results on the interaction between exploration and environmental dynamism did not explain a significant moderation in the increase or decrease in sustainable organisational performance. Upon looking at the significance in the interaction between exploration and environmental turbulence, a value of 0.780 resulted exceeding the 95% significance level ($\alpha=0.05$). Similarly, a value of 0.940 resulted from the interaction between exploitation and environmental turbulence also exceeding the significance level of 0.05.

This indicated that there is not a significant explanation for any moderation of environmental turbulence on the ambidexterity and sustainable organisational performance relationship. Therefore, the null hypothesis stating that environmental turbulence has no moderating effect on the ambidexterity and sustainable performance relationship could not be rejected.

6.4 SUMMARY

Firstly, this chapter reported on the descriptive statistics for the measured items demonstrating acceptable distribution curves, means, standard deviations and frequencies. Furthermore, Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test of sphericity were conducted to determine whether it is suitable to conduct a factor analysis on the measurement items. It was deemed suitable and a factor analysis was conducted to determine internal reliability of the measurement items. Then a Pearson's product moment correlation test was used to report on the correlation hypotheses.

The results in this chapter indicated that moderate to strong positive relationships exist between most of the variables, which was also found through visual inspection of the scatterplots and the results of the Pearson's product moment correlation tests. Hypotheses one to three could all reject their null hypotheses on statistically significant grounds. The last hypothesis delivered results that were not deemed statistically significant after making use of a multiple linear regression model to analyse the data. The null hypothesis could not be statistically rejected. The next chapter will provide further discussion of, and the implications of the findings presented in this chapter.

CHAPTER 7: DISCUSSION, MANAGERIAL IMPLICATIONS, DELIMITATIONS AND OPPORTUNITIES FOR FUTURE RESEARCH

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7. DISCUSSION, MANAGERIAL IMPLICATIONS, LIMITATIONS AND OPPORTUNITIES FOR FUTURE RESEARCH

7.1 INTRODUCTION

This chapter begins with an overview of the study and the main objectives. A discussion on the results of the hypotheses tests is provided, along with how the results reflect on current research. It is followed by a discussion section on the managerial implications of the results, after which the limitations faced in this study is discussed. A section on the contributions of this study follows and this chapter concludes with possible recommendations for future studies.

7.2 OVERVIEW OF THE STUDY

The interest of this study is five-fold. Firstly, this study aimed to determine the ambidexterity and sustainable performance relationship in a developing country context such as South Africa. Secondly, this study would reinforce the notion that ambidexterity's two sub-dimensions known as exploration and exploitation could be applied simultaneously and was present in the South African context. Thirdly, this study investigated the relationship between the competitive intensity of South African industries and environmental turbulence. Lastly, this study aimed to determine if environmental turbulence has a moderating effect on the ambidexterity and sustainable performance relationship. Additionally, this study theoretically explored the link between dynamic capabilities, such as simultaneous exploration and exploitation, and the organisation's ability to achieve sustainable long-term performance.

The main contribution of this study was the theoretical clarification of the link between ambidexterity as a dynamic capability and the different contexts in which the ambidexterity strategy is applied. Adding to this the study reinforced the notion that ambidexterity should be simultaneous exploration and exploitation in order to sustain long-term performance contributing to the body of knowledge that sought to clarify the link between sustainable long-term performance and ambidextrous strategies. Furthermore, this study investigated whether environmental dynamism played a moderating role in the ambidexterity and sustainable performance relationship. Finally, the gap as identified by Li and Liu (2014:2793) was addressed in this study where the empirical research aimed to improve our

understanding conducted in a developing country context on dynamic capabilities, such as ambidexterity and the relationship it has with sustainable long-term performance.

7.3 DISCUSSION AND MANAGERIAL IMPLICATIONS

As was mentioned above, this study had a few main objectives it aimed to achieve. The outcomes are briefly summarised in Table 7.1. The first objective was to investigate the relationship between ambidexterity, as a dynamic capability, and sustainable organisational performance. The results were positive which proved that such a relationship exists. Both the sub-dimensions of ambidexterity displayed statistically significant moderate positive relationships with sustainable organisational performance. This indicated that organisational ambidexterity, known in this study as simultaneous exploration and exploitation, and sustainable long-term performance were positively related.

These findings reinforced the argument as stated by He and Wong (2004:483), that an “ambidextrous firm capable of operating simultaneously to explore and exploit is likely to achieve superior performance”. Similarly, the results concurred with findings and arguments of many of the initial authors whom investigated the relationship between ambidexterity and sustainable long-term performance (Junni *et al.*, 2013:305; O’Reilly & Tushman, 2008:199; March, 1991:83). Thus, management is advised to look into adopting the ambidextrous strategy of simultaneous exploration and exploitation, for improved short-term performance that can be sustained over the long-term because of dual focus on both current and future market opportunities.

The second objective of this study was to investigate whether South African organisations explore and exploit simultaneously. The two sub-dimensions of ambidexterity was tested using the scale designed by He and Wong (2004:486) which they used to measure ambidexterity. It was suggested that management in organisations facing dynamic environments should synthesise these paradoxical sub-dimensions to simultaneously explore and exploit as this may improve performance (Wang & Rafiq, 2014:71; He & Wong, 2004:492). The results obtained after the empirical investigation confirmed that there was a strong positive relationship between exploration and exploitation, which indicated that organisations in developing contexts could simultaneously explore and exploit. The results

were in line with the suggestions made by Wang and Rafiq (2014:71); Martini *et al.* (2013:10); and Andriopoulos and Lewis (2009:709), which argued that demonstrating exploitation to refine and optimise current business operations, while simultaneously exploring novelty and innovation to prepare for future markets is a key capability management in dynamic and changing environments should equip themselves with.

At this point the investigation of this study reiterated what Luo and Rui (2009:57) noted, that ambidexterity is at the heart of an organisation in possession of dynamic capabilities which will enable the organisation to develop a strategy for sustainable performance. This linked the results of the first two hypotheses in that simultaneous exploration and exploitation was positively related to improved organisational performance. It should be clear at this point that management should embrace the paradoxical elements of simultaneously exploring and exploiting if they aim to develop a dynamic strategy for sustained long-term performance.

However, even though there was a positive relationship found between ambidexterity and sustainable performance, it would be beneficial to investigate some of the moderating factors that could impact this relationship as noted by Junni *et al.* (2013:310); especially in developing and emerging economic contexts as they tend to be more unstable and unpredictable (Zhou & Li, 2010:224). This instability could be fuelled by many things in the environmental context of which competitive intensity is one of the greatest causes of instability in the business environment (Wilden *et al.*, 2013:78). Thus, this study aimed to investigate the relationship between competitive intensity and environmental turbulence in an emerging economic context as its third objective.

The empirical results indicated that a positive, but moderate relationship existed between competitive intensity and environmental turbulence. One can deduce that competitive intensity had a significant effect on environmental turbulence, however, there may be other factors that could contribute to this as well. Key to take note of in the results is that the empirical findings indicated that there was significant dynamism experienced in the developing business environment of South Africa. Wilden *et al.* (2013:88) noted that when organisations compete in turbulent environments with high competition, dynamic capabilities might provide management with the ability to deal with competitive pressure, survival and even sustainable performance. Moreover, Wilden *et al.* (2013:88) noted that environmental

turbulence affects the degree to which dynamic capabilities such as ambidexterity has an influence on the sustainable performance of the organisation. Studies investigating the dynamic capability and sustainable performance relationship and which factors moderate this relationship have found that there is a moderating role that environmental dynamism plays in the relationship between sustainable performance and dynamic capabilities such as ambidexterity (Li & Liu, 2014:2795; Eisenhardt *et al.*, 2010:1271; Zhou & Li, 2010:229).

The final objective of this study investigated the effect of turbulent business environments on the ambidexterity and sustainable performance relationship. Interestingly, the findings of this study contradicted that of Li & Liu (2014:2795), Eisenhardt *et al.* (2010:1271) and Zhou & Li (2010:229). There was no significant moderation displayed by the turbulence in the environment on the ambidexterity and sustainable performance relationship. There may be many reasons for these findings. Perhaps if the sample had been larger there might have been different results. Response error could have been involved and there may have been a lack of clarity on the meaning of the questions. It may also be possible that environmental dynamism played a different role in the ambidexterity and sustainable performance relationship. It may have been a causal factor or an effect of this relationship. It is advised that future studies place more focus on this, specifically in the emerging market context.

Lastly, this study theoretically explored the link between dynamic strategies and ambidexterity, as well as how ambidexterity could enable an organisation to sustain long-term performance. It is a definite requirement based on the findings of this study for organisations to employ strategies that increases performance such as simultaneous exploration and exploitation. Luo and Rui (2009:59) defined dynamic strategy as the response to industry change and the creation of proactive intentions towards change in the organisation's environment. Thus, a dynamic strategy enables the organisation to demonstrate optimal performance in their current market while simultaneously preparing or even creating future markets. This points to the fact that management carries the responsibility to enable the organisation to develop and deploy dynamic capabilities in order to adapt to its current and future markets (Deviatykh & Sobakina, 2014:22).

Table 7.1: Summarised outcome of the main objectives

Research Objective	Hypotheses	Constructs Involved	Conclusive findings of hypotheses
To investigate the relationship between ambidexterity, as a dynamic capability, and long-term performance.	H _{1(null)} : There is no correlation between ambidexterity and sustainable organisational performance.	- Ambidexterity	- The null hypothesis was rejected as there was proof of a positive relationship.
	H _{1(alt)} : There is a positive correlation between ambidexterity and sustainable organisational performance.	- Sustainable Organisational Performance	
To investigate whether South African organisations explore and exploit simultaneously.	H _{2(null)} : There is no evidence that ambidextrous organisations will explore and exploit simultaneously.	- Exploration	- The null hypothesis was rejected as there was proof of a positive relationship.
	H _{2(alt)} : There is a positive correlation between exploitation and exploration.	- Exploitation	
To investigate the relationship between competitive intensity and environmental turbulence in an emerging economic context.	H _{3(null)} : There is no correlation between environmental turbulence and the competitive intensity within an industry.	- Competitive Intensity	- The null hypothesis was rejected as there was proof of a positive relationship.
	H _{3(alt)} : There is a positive correlation between environmental turbulence and the competitive intensity within an industry.	- Environmental Turbulence	
To investigate the effect of turbulent business environments on the ambidexterity and performance relationship.	H _{4(null)} : Environmental turbulence has no effect on the relationship between ambidexterity and sustainable organisational performance. H _{4(alt)} : The relationship between ambidexterity and sustainable organisational performance is moderated by environmental turbulence.	- Environmental Turbulence	- The null hypothesis could not be rejected.
		- Ambidexterity	
		- Sustainable Organisational Performance	

7.4 LIMITATIONS

A few limitations were faced by the study that are worth taking note of. Firstly, to obtain access to the sample that would represent the population proved to be a difficult task. Adding to this challenge, this study faced budget and time constraints. These constraints meant that an appropriate sampling method had to be chosen. The non-probability sampling method known as convenience sampling was used due to these limitations faced by the study. However, using non-probability sampling methods introduced the further limitation that the results of the study should be applied to the population with caution due to the lack of an accurate sampling frame.

Secondly, this study made use of self-administered surveys and telephonic surveys, which introduced the methodological limitations in the form of survey errors. The possible survey errors that may have had an impact on this study was three-fold. Firstly, there may have been presence of respondent error or bias in the form of respondents failing or refusing to answer some or all of the questions contained in the self-administered questionnaires. This study attempted to minimise this error by making use of two different data collection techniques.

Thirdly, another form of respondent error may have presented itself known as non-response error. This occurs when respondents cannot be located or contacted due to incorrect contact details. Not much can be done to mitigate this error, however, this did not prevent the study from obtaining the target sample. It only delayed the process slightly.

Lastly, this study may also have been limited by a presence of response error or bias. This takes place when the respondents deliberately or unconsciously misrepresent information relevant to the study. Completion of pre-testing of the data collection instrument was done to mitigate this bias. This study also made use of field workers and telephonic surveys to assist with the mitigation of this risk.

7.5 CONTRIBUTIONS

As noted in the beginning of this study, there are a few reasons why this study can be viewed as valuable to management scholars and the academic body of knowledge.

There were many scholars who argued that there is a shortage of empirical investigations into the relationship between dynamic capabilities, such as ambidexterity, and sustainable performance in emerging economic contexts (Deviatykh & Sobakina, 2014:3; Karabag & Berggren, 2014:2213; Adeniran & Johnston, 2012:4098; Ambrosini & Bowman, 2009:40; Raisch & Birkinshaw, 2008:397; Pablo *et al.*, 2007:690). Another gap identified in the literature was that of Junni *et al.* (2013:310). The authors noted that there were mixed results around the ambidexterity and sustainable performance relationship and called for clarification on this relationship.

This study found that there was a positive relationship between ambidexterity as a dynamic capability and sustainable organisational performance. Furthermore, this study was conducted in South Africa known as an emerging economy. Hence, the contribution of this study satisfies the need for empirical evidence between dynamic capabilities and sustainable performance, as well as the need for empirical studies from emerging economies. This study also contributed to the clarification of the ambidexterity and sustainable performance relationship.

Additionally, there has been a divide in the ambidexterity research around whether it is possible to simultaneously explore and exploit. This study has confirmed that simultaneous exploration and exploitation is indeed possible and recommended in terms of the benefits towards sustainable organisational performance.

Lastly, Junni *et al.* (2013:310) recommended that there should be more investigation into the effect moderators has on the ambidexterity-performance relationship. This study attempted to investigate this effect by nominating environmental dynamism as a moderator of the ambidexterity and sustainable performance relationship. The results were inconclusive, yet contributed to investigations of moderating factors on the ambidexterity and sustainable performance relationship.

7.6 OPPORTUNITIES FOR FUTURE RESEARCH

Since this study produced inconclusive results on the moderating role that environmental dynamism played on the ambidexterity and sustainable performance relationship, it is recommended that future studies investigate other possible roles that environmental dynamism might play. Conducting mixed-method research or more in depth studies of the role of environmental dynamism may provide the answers needed which this study could not provide. A further investigation of other factors that may play a moderating role on the ambidexterity and sustainable performance relationship could also be investigated. This paper contributed to the call from Junni *et al.*, (2013:310) to investigate possible moderating factors, but did not exhaust the opportunity to investigate other moderating factors.

Furthermore, this study theoretically and empirically proved that there was a positive relationship between ambidexterity and sustainable organisational performance. Perhaps it would be beneficial in future research to conduct case studies of this relationship in both emerging economic contexts and advanced economies to compare the results. These results may be beneficial to organisations competing internationally. It could improve their understanding of the impact of dynamic capabilities such as ambidexterity in different contexts, or the importance of understanding the context within which dynamic strategies are applied. Future studies could also consider investigating the ambidexterity and sustainable organisational performance relationship in a specific industry in emerging economic markets.

Lastly, a more comprehensive study of all the drivers of environmental dynamism could aid the understanding of the importance that competitive intensity played in increased environmental turbulence. The findings of such a study may even aid further investigations of the role that environmental dynamism plays in the ambidexterity and sustainable performance relationship.

7.7 SUMMARY

The aim of this study was to investigate the relationship between ambidexterity applied as a dynamic strategy and sustainable organisational performance. As with the Janusian

thinking, ambidexterity provides an organisation with the ability to look backwards and forwards at the same time to optimise current performance and innovate for future markets (O'Reilly & Tushman, 2004:74). As Deviatykh and Sobakina (2014:1) noted, organisations are concerned with how they could sustain their current performance over the long term. Ambidexterity provides an opportunity for organisations to ease their concerns for how they will sustain their performance in both the short- and long-term.

Showing dexterity in exploitation of current opportunities and exploration of new and innovative opportunities is how organisations achieve sustainable performance in the long-term as was empirically proved by this study. Moreover, organisations were cautioned not to place sole focus on exploration or exploitation, but to perform both exploration and exploitation simultaneously to reap the benefits of its contribution to sustained performance.

Ambidexterity is not a trade-off or balance between the two sub-dimensions, nor is it beneficial to separate the two sub-dimensions. Rather, exploration and exploitation is seen as harmonic and complimentary activities which should be simultaneously performed inside an organisation (Wang & Rafiq, 2014:60). This study confirmed this notion by producing results that proved the adoption of simultaneous exploration and exploitation in many South African organisations. This also demonstrated the importance of ambidexterity in emerging economic contexts.

As pointed out in the literature, emerging economies are known for being increasingly turbulent as a result of severe competitive intensity. This study confirmed that increased environmental dynamism was related to increases in competitive intensity. However, it is possible that competitive intensity is not the only driver of environmental dynamism.

Since emerging economies are characterised by turbulence it seemed logical to test the effect this environmental turbulence had on the ambidexterity and sustainable performance relationship. However, the results of this study remain inconclusive regarding this effect.

Some managerial implications of the ambidexterity and sustainable performance relationship based on the results of this study were discussed along with the discussion of the results in this chapter. This included the importance of ambidexterity for the survival of an organisation in the short- and long-term by maintaining superior performance through

exploring and exploiting simultaneously. Managers were cautioned not to ignore the dynamism experienced in the business environment even though the results of this study remain inconclusive as to the effect thereof on the ambidexterity and sustainable performance relationship.

A section followed around the important limitations this study faced. These included time constraints, budget constraints, response error and respondent error. Thereafter, further studies were recommended around the effect of environmental dynamism on the ambidexterity-performance relationship. The recommendations included possible investigation into other moderating factors on the ambidexterity-performance relationship. Another recommendation was made around possible investigation of other contributing factors to environmental dynamism.

In conclusion, satisfactory results were delivered on the main objective of this study. This was that ambidexterity, classified as simultaneous exploration and exploitation, positively contributed towards sustainable performance of organisations in an emerging economy.

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APPENDICES

APPENDIX A: Title Registration and Ethical Clearance

UNIVERSITEIT VAN PRETORIA / UNIVERSITY OF PRETORIA

FAKULTEIT EKONOMIESE EN BESTUURSWETENSKAPPE
FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES

TITELREGISTRASIE: VERHANDELINGS/ PROEFSKRIFTE TITLE REGISTRATION: DISSERTATIONS/ THESES

STUDENTENOMMER / STUDENT NUMBER		12083072			
TITEL (Dri/mnr/mev/mej) / TITLE (Dr/Mr/Mrs/Miss)		Miss			
VAN / SURNAME	Visser	VOORLETTERS / INITIALS	M		
Nootensvan (Indien van toepassing) / Maiden name (if applicable)		N/A			
Adres / Address	690 Rankdoring street				
	Moreleta Park				
	Pretoria, 0044				
Tel nr / Tel no	073 117 1710				
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Faks nr / Fax no	N/A				
DEPARTEMENT / DEPARTMENT		Business Management			
STUDIELEIER/PROMOTOR / SUPERVISOR/PROMOTER		Name		Institution	
		Dr. R. Maritz		University of Pretoria	
MEDE-STUDIELEIER/MEDE-PROMOTOR / CO-SUPERVISOR/CO-PROMOTER		Name		Institution	
		N/A		N/A	
GRAADKURSUS / DEGREE COURSE (e.g. PhD (Economics) / MCom (Internal Auditing))		MCom Business Management			
TITEL / TITLE	<input checked="" type="checkbox"/> Vir goedkeuring deur Nagraadse Komitee / For approval by Postgraduate Committee <input type="checkbox"/> Redaksionele wysiging van titel / Editorial change of title				
	<input checked="" type="checkbox"/> Let asseblief op die taalkundige korrektheid van die titel Please ensure that the title is grammatically correct <input checked="" type="checkbox"/> Moet asseblief <u>NIE</u> die volle titel in hoofletters tik nie Please <u>DO NOT</u> type the full title in capital letters				
Dynamic strategy: Investigating the ambidexterity-performance relationship					
ROETE / ROUTE					
Departementale lid: Nagraadse Komitee Departmental member: Postgraduate Committee	Departements-hoof Head of Department	Navorsings-ondersteuning Research Support Kamer/Room EBW 2-16 EMS	Nagraadse Komitee Postgraduate Committee	SA Nagraadse Koördineerder SA Postgraduate Co-ordinator	Student Admin (Skutel titel in op stelsel) (Capture title on system)
Datum/Date:	Datum/Date:	Datum/Date:	Datum/Date:	Datum/Date:	Datum/Date:

27 July 2017

Dr R Maritz
Department of Business Management

Strictly confidential

Dear Doctor Maritz

The application for ethical clearance for the research project described below served before this committee on 26 July 2017.

Protocol No:	EMS015/17 (Please use this reference in any correspondence)
Research title:	Dynamic strategy: investigating the ambidexterity-performance relationship
Principal researcher:	M Visser
Student/Staff No:	12083072
Degree:	MCom: Business Management
Supervisor/Promoter:	Dr R Maritz
Department:	Business Management

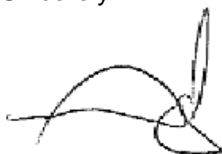
The decision by the committee is reflected below:

Decision:	Approved
Conditions (if applicable):	None
Period of approval:	26 July 2017 – 25 July 2018

The approval is subject to the researcher abiding by the principles and parameters set out in the application and research proposal in the actual execution of the research. The approval does not imply that the researcher, student or lecturer is relieved of any accountability in terms of the Codes of Research Ethics of the University of Pretoria if action is taken beyond the approved proposal. If during the course of the research it becomes apparent that the nature and/or extent of the research deviates significantly from the original proposal, a new application for ethics clearance must be submitted for review.

Please convey this information to the researcher. We wish you success with the project.

Sincerely



pp PROF RS RENSBURG
CHAIR: COMMITTEE FOR RESEARCH ETHICS

cc: Prof AJ Antonites
Student Administration

APPENDIX B: Final Questionnaire

QUESTIONNAIRE

Resp. no.

- Dynamic strategy: Investigating the ambidexterity-performance relationship -

Dear respondent

Thank you for your willingness to complete the dynamic strategy survey. The purpose of this survey is to determine how product development takes place in organisations from emerging economic contexts (i.e. South Africa), how these organisations depict their performance and the levels of environmental turbulence present in the different industries of organisations. The survey should not take more than **15 minutes** to complete. This is an anonymous and confidential survey. You cannot be identified and the answers you provide will be used for research purposes only.

Please answer all the questions by placing a cross (✕) in the appropriate block. There are no right or wrong answers.

SECTION A:

Q1. A number of statements describing the rate of change and stability of the external environment of the organisation over the past year appear below. Please read each statement carefully and then indicate the extent with which the statements demonstrate the external environment of your organisation¹.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1.1 Environmental changes in our industry are intense.	1	2	3	4	5
1.2 Our clients regularly ask for new products/services.	1	2	3	4	5

¹ [Environmental Dynamism – Jansen et al. (2009) Strategic leadership for exploration and exploitation; pp.17]

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	
1.3	In our industry, different types of changes are taking place continuously.	1	2	3	4	5
1.4	In this year, nothing has changed in our industry.	1	2	3	4	5
1.5	In our industry, the volumes of products/services to be delivered change fast and often.	1	2	3	4	5

Q2. A number of statements describing the performance of your organisation appear below. Please read each statement carefully and then indicate the extent to which the following statements indicate how your organisation compares to its best competitor in your industry over the past year².

	Significantly worse	Worse	Neither worse nor better	Better	Significantly better	
2.1	Overall Performance.	1	2	3	4	5
2.2	Return on Investment (ROI).	1	2	3	4	5
2.3	Market share.	1	2	3	4	5
2.4	Profit growth.	1	2	3	4	5
2.5	Sales growth.	1	2	3	4	5
2.6	Market share growth.	1	2	3	4	5

² [Performance – Chandrasekaran et al. (2012) Antecedents to ambidexterity competency; pp.147]

Q3. A number of statements describing product development in an organisation appear below. Please read each statement carefully and then indicate the extent to which the statements represent product and/or service development and the outcome over the past year in your organisation³. (Select the option that describes your organisations movement over the past year.)

	Definitely false	False	Neither true nor false	True	Definitely true
3.1 Introduction of new generations of products or services.	1	2	3	4	5
3.2 Improvement of existing products or services.	1	2	3	4	5
3.3 Extension of product or service range.	1	2	3	4	5
3.4 Improvement of product or service flexibility and adaptation.	1	2	3	4	5
3.5 Opening up new markets.	1	2	3	4	5
3.6 Reduce production or service costs.	1	2	3	4	5
3.7 Enhancement of existing markets.	1	2	3	4	5
3.8 Enter new technological fields.	1	2	3	4	5

³ [Ambidexterity – He and Wong (2004) Exploration vs. Exploitation; pp.486]

Q4. A number of statements describing industry competition appear below. Please read each statement carefully and then indicate the extent to which you agree or disagree that the statements below represent the competitive intensity over the past year in your industry⁴.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
4.1	1	2	3	4	5
4.2	1	2	3	4	5
4.3	1	2	3	4	5
4.4	1	2	3	4	5
4.5	1	2	3	4	5
4.6	1	2	3	4	5

SECTION B: DEMOGRAPHIC QUESTIONS:

Q5. What is the current position you hold in your organisation? Please choose the option most relevant to your business.

Executive	1
Senior Manager	2
Middle Manager	3
Junior Manager	4
Specialist	5
Technical / Administrative	6

Q6. How many years of work experience do you currently have? _____ years.

⁴ [Competitive Intensity - S. Auh, B. Menguc (2005) Balancing exploration and exploitation; 1657]

Q7. Please indicate your **highest** qualification that you have obtained.

Grade twelve (Matric)	1
Certificate	2
Diploma	3
Bachelor's Degree	4
Honours Degree	5
Master's Degree	6
PhD/Doctorate	7

Q8. In which **industry** does your organisation conduct business? Please choose the option most relevant to your business. *The statements continue on the next page.*

Agriculture	1
Manufacturing	2
Business services	3
Finance	4
Transport	5
Information and Communication Technology (ICT), including web-based/online businesses	6
Health care	7
Education	8
Social Services	9
Customer services	10
Hospitality and Tourism (e.g. restaurants, hotels or guesthouses)	11
Other: Please specify:	12

**Thank you for completing the survey.
We appreciate your assistance.**

APPENDIX C: Informed Consent Form



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Economic and
Management Sciences

Dept. of Economic and Management Sciences

Title of the study

Dynamic strategy: investigating the ambidexterity-performance relationship

Research conducted by:

Ms M Visser
u12083072
Cell: 073 117 1710

Dear Participant

You are invited to participate in an academic research study conducted by Madeleine Visser, Masters student from the Department of Economic and Management Sciences at the University of Pretoria.

The purpose of the study is to determine whether ambidexterity is employed by organisations in emerging economic contexts how these organisations perform and what level of environmental turbulence is present in the organisation's industry.

Please note the following:

- This is an anonymous study survey as your name will not appear on the questionnaire. The answers you give will be treated as strictly confidential as you cannot be identified in person based on the answers you give.
- Your participation in this study is very important to me. You may, however, choose not to participate and you may also stop participating at any time without any negative consequences.
- Please answer the questions in the attached questionnaire as completely and honestly as possible. This should not take more than 15 minutes of your time.
- The results of the study will be used for academic purposes only and may be published in an academic journal. We will provide you with a summary of our findings on request.
- Please contact my study leader, Dr. Rachel Maritz at 0124206312 and/or rachel.maritz@up.ac.za if you have any questions or comments regarding the study.

Please sign the form to indicate that:

- You have read and understand the information provided above.
- You give your consent to participate in the study on a voluntary basis.

Participant's signature

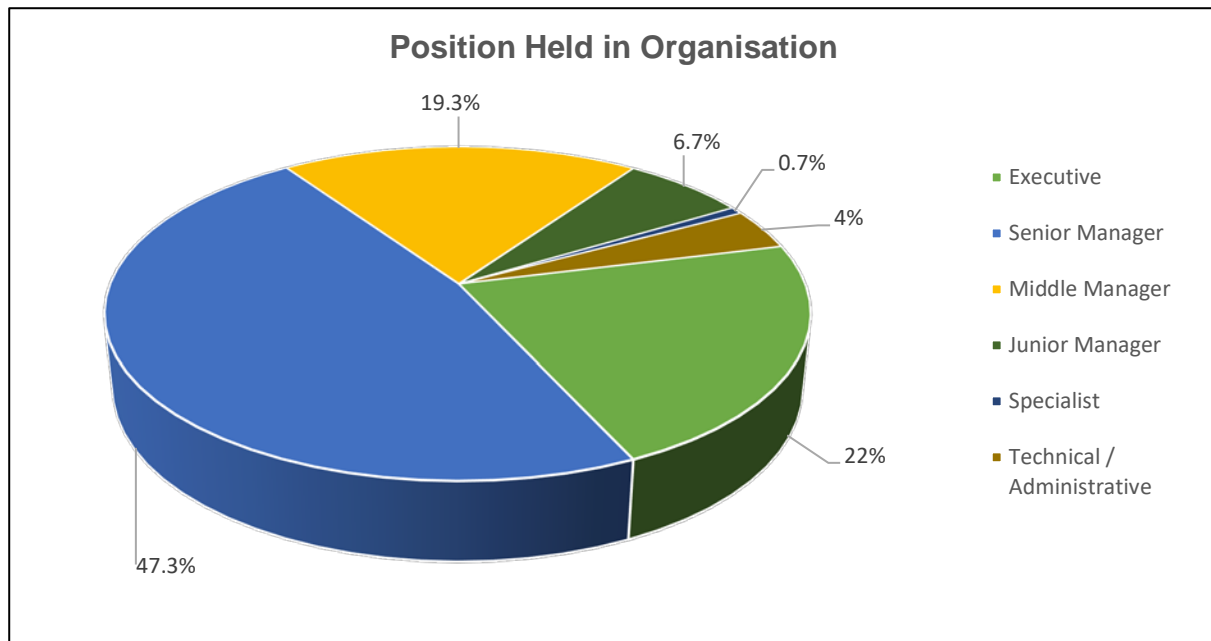
Date

APPENDIX D: Results and Figures

UNIVARIATE DESCRIPTIVE STATISTICS FOR DEMOGRAPHIC VARIABLES

Survey Question 5:

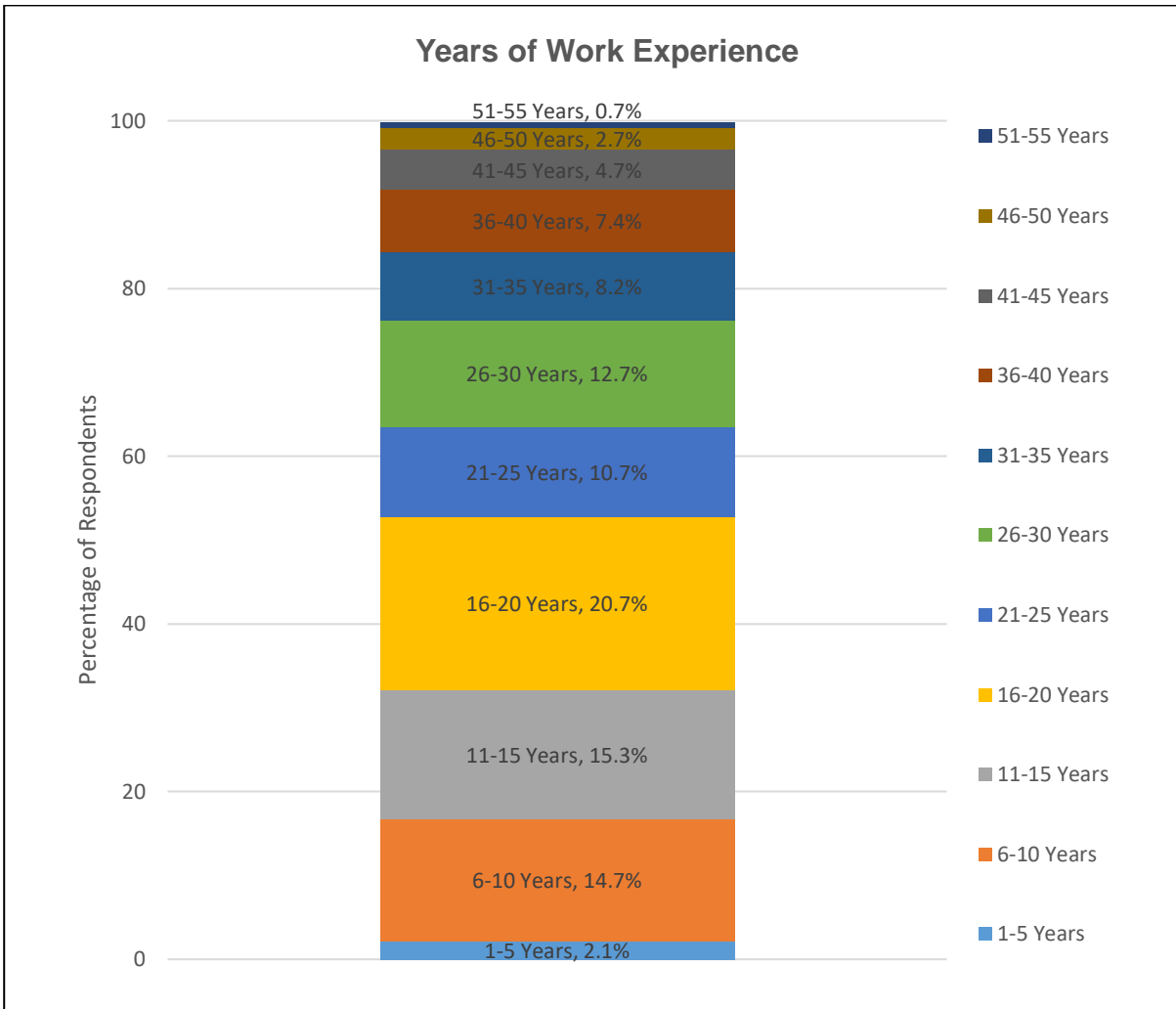
Figure 8.1: Positions held in the organisation by respondents



The spread of the positions held in organisations by respondents is presented graphically in Figure 20. A large portion of respondents hold senior management positions (47.3%), executive positions (22%) and middle management positions (19.3%). The remaining portion of respondents held positions in junior management, specialist roles and technical or administrative roles.

Survey Question 6:

Figure 8.2: Years of work experience that respondents had



In terms of the years of work experience held by respondents, Figure 21 indicates that 34% of respondents have between 11 and 20 years of work experience. It was found that 22% of respondents have between 21 and 30 years of work experience and 15% of respondents have between 31 and 40 years of work experience. The respondents with 41 or more years of work experience is reported at 7%, where the remaining respondents have between 1 and 10 years of work experience.

Survey Question 7:

Figure 8.3: Highest qualification achieved by respondents

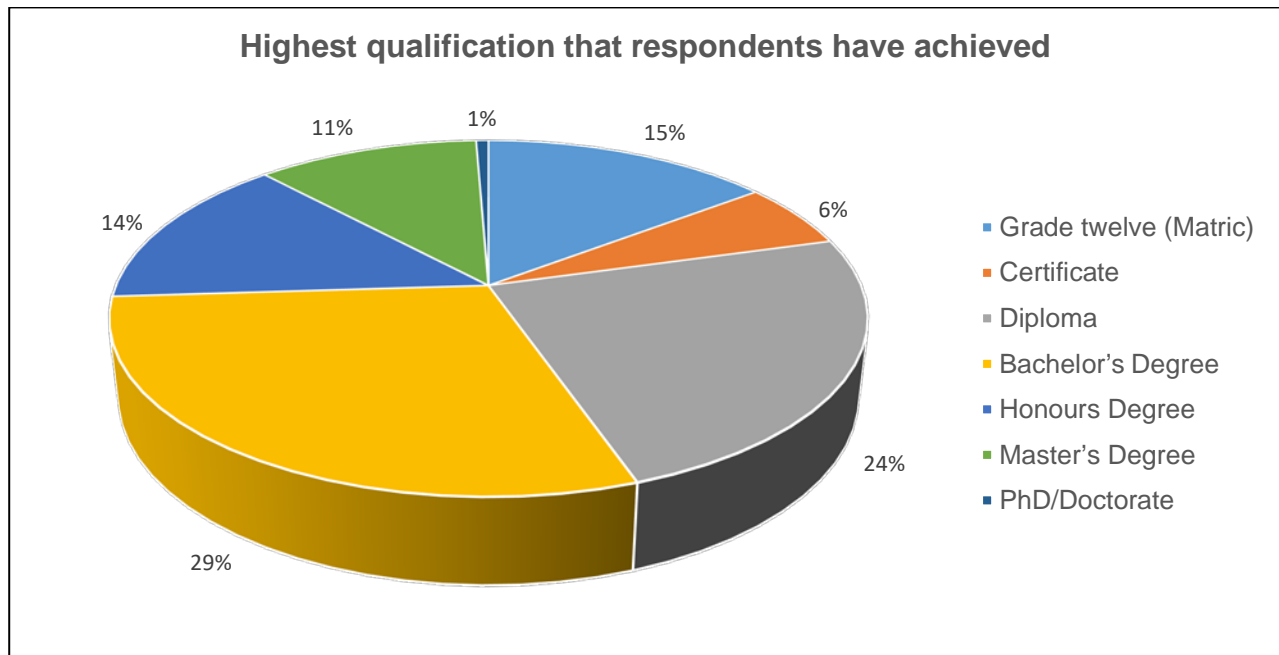


Figure 22 demonstrates the spread of the different qualifications that respondents hold. The largest proportion of respondents hold Bachelor's degrees (29%) or Diplomas (24%). One can see that 15% of respondents hold Matric certificates, 14% hold Honours degrees and 11% hold Masters degrees. Only 6% of the respondents have a Certificate with only one respondent whom has achieved a PhD/Doctorate degree (1%).

Survey Question 8:

Figure 8.4: Industries of respondents

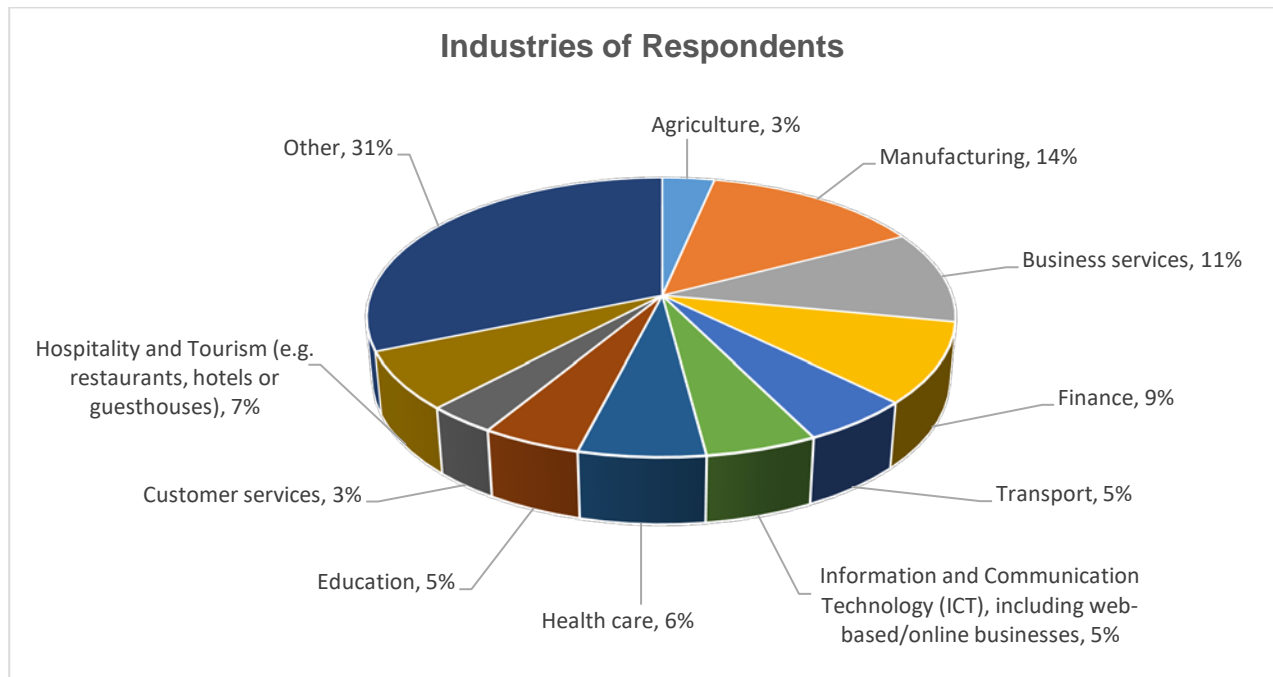


Figure 23 depicts the spread of industries from which the participants in this study came. The largest percentage (31%) is allocated to the “other” option on the measurement scale which included industries such as property and community development, retail and wholesale, law and regulation, entertainment, packaging, and panel beating. The second largest of the responses originated from the manufacturing industry with 14%. The smallest amount of responses came from the customer service (3%) and agriculture (3%) industries.