THE RELATIONSHIP BETWEEN ENTREPRENEURIAL ORIENTATION, ORGANISATIONAL ORIENTATION AND INNOVATION PERFORMANCE OF MANUFACTURING SMALL AND MEDIUM ENTERPRISES IN KWAZULU NATAL PROVINCE

Submitted in fulfilment of the requirements of the degree of Doctor of Philosophy in Management Sciences (Business Administration) in the Faculty of Management Sciences at the Durban University of Technology

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ABSTRACT

This study was conducted to investigate the relationship between entrepreneurial orientation, organisational orientation, and innovation performance of manufacturing small and medium enterprises (SMEs) in KwaZulu Natal province. To instil innovation culture, an organisational architecture of SMEs should accommodate both organisational and entrepreneurial factors in order to create a synergy that is likely to achieve innovation objectives of SMEs. The empirical investigation was based on a quantitative study and used a cross-sectional survey design to collect data from owner-managers of 308 small and medium firms in the manufacturing sector. The provincial SMEs database from the Kwa-Zulu Natal Department of Economic Development and Tourism was used and it contained an estimate population of 1255 SMEs. This study found that there was a positive and significant correlation between entrepreneurial orientation and organisational orientation dimensions. It further established that organisational and entrepreneurial dimensions were correlated with innovation performance dimensions in the SMEs. An aptly entrepreneurial orientation is proven to be grounded in a related organisational orientation. This implies that an organisational strategy, its culture, structure, systems and the management style in SMEs strengthen the entrepreneurial strategy leading to improvements in the standard of the product, the process, the market position and the business model of SMEs. In the same context, other organisational factors such as available rewards, SMEs' age, size and ownership provided another dimension and an insight into the innovation performance of SMEs. Based on the findings, the researcher suggests two models: the proximity model of the correlation between entrepreneurial orientation and organisational orientation and the new model of innovation performance for SMEs. The managerial implication is that the success of an entrepreneurial strategy of an SME is rooted into organisational orientation dimensions: culture, structure, strategy, systems and management style of owner-managers. However, an organisational orientation is proven to be driven by a mindset which, if entrepreneurial, leads to an entrepreneurial orientation and consequently achieve an innovation performance of SMEs. With such variables, the study recommends new approaches in line with the suggested models in support of manufacturing SMEs and the manufacturing sector in terms of managerial decision-making about firms' innovation performance and competitiveness at organisational and sectorial levels.

Key terms: Entrepreneurial orientation; organisational orientation; innovation performance, innovativeness; proactiveness; risk-taking; entrepreneurial alertness; self-efficacy, structure; culture; systems; management style; strategy; manufacturing; and SMEs.

DECLARATION

I, Gustave Mungeni Kankisingi, hereby declare that **"The Relationship between Entrepreneurial Orientation, Organisational Orientation and Innovation Performance of Manufacturing Small and Medium Enterprises in KwaZulu Natal Province"** is my own work and has never been submitted to any other university for any degree. All the sources that I have used or quoted have been indicated and acknowledged by means of relevant references.

Gustave Mungeni Kankisingi

Signature ……..... Date…….

DEDICATION

To my late father, **Philippe Mingilingili Kankisingi**,

I dedicate this thesis.

I will always regard him as a source of inspiration and encouragement during my academic journey.

He taught and challenged me to work hard despite the adversities of life.

He always believed in my intellectual abilities to reach this level.

He laid the foundation and paved the way for my education.

This study is completed in his honour.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ST: Strategy

P1: Product

P2: Process

P3: Position

P4: Paradigm

SY: Systems

STU: Structure

I: Innovativeness

PR: Proactiveness

SE: Self-efficacy

MS: Management style

FA: Factor analysis

GVA: Gross value added

RT: Risk taking propensity

OC: Organisational culture

GDP: Gross domestic product

OO: Organisational orientation

IP: Innovation performance

EA: Entrepreneurial alertness

IDEA: The entrepreneurial idea

EI: entrepreneurial intelligence

EO: Entrepreneurial orientation

IO: Intrapreneurial orientation

ESE: Entrepreneurial self-efficacy

R&D: Research and development

PG: Personal goals of the entrepreneur

SMEs: Small and Medium Enterprises

GEM: Global Entrepreneurship Monitor

DTI: Department of Trade and Industry

OOQ: Organisational orientation questionnaire

SPSS: Statistical package for social sciences

PE: Personal environment of the entrepreneur

SEDA: Small Enterprise Development Agency

4 P's: Product, Process, Position and Paradigm

EOQ: Entrepreneurial orientation questionnaire

SMMEs: Small, medium and micro enterprises

PC: Personal characteristics of the entrepreneur

BE: Business environment for the entrepreneurial idea

FACETS: Focus, advantage, creativity, ego, team and social

SECI: Socialisation, Externalisation, Combination and Internalisation

KZN-DEDT: KwaZulu Natal Department of Economic Development and Tourism

CHAPTER ONE: INTRODUCTION AND CONTEXT OF THE STUDY

1.1. INTRODUCTION

It is unrealistic to consider innovation performance in small and medium enterprises (SMEs) without introspectively scrutinising firms' organisational and entrepreneurial orientation in the endeavour. The entrepreneurial orientation appears to be one of the solutions for business sustainability. Yet, it remains critical to predict the organisational orientation that embraces entrepreneurial strategy. The organisational architecture that accommodates organisation and entrepreneurial factors creates a synergy that is likely to achieve innovation objectives of SMEs. In addition, how to reward intrapreneurs in order to improve entrepreneurial behaviour remains problematic especially in the context of small and medium enterprises. Kirchmer (2017:2) states that constant changing business environments bring new opportunities and challenges for SMEs. For organisation survival, innovation has to become a part of daily business activities. It is the reason why Von Stamm (2016:2) maintains that there is a necessity to establish shared definitions of innovation and to create opportunities to identify common ground in the organisation. In this context, systematic and well managed-innovation becomes a core focus area for high performing organisations. It is a fact that South Africa is still categorised as an efficiency-driven economy rather than an innovation-driven economy (GEM South Africa 2017:13). An innovation-driven economy is regarded as focusing on innovation, with most organisations producing their products with well-designed processes and launching them as new to the market and within their respective industries. This is critical for SMEs in the context of the current high competitiveness and the challenges posed by the 4th industrial revolution.

The chapter clarifies the research context and problem under investigation and outlines the aim and objectives of the study. Lastly, it will indicate the significance, delimitation and structure of this research.

1.2. CONTEXT OF THE STUDY

The trend in international economies shows that both developing and developed countries adapt their national or regional policies to support entrepreneurship, through the development of small and medium enterprises or firms. Performance of SMEs rests upon their ability to innovate, take risk and be proactive (Soininen, Puumalainen, Sjogren and Syrja 2012:929; Atkinson 2013:4). The ability to create, encourage and maintain entrepreneurial spirit in organisations impacts positively on the firm performance (Wong and Aspinwall 2004:46;

Potocan and Mulej 2009:2). Yet, any effort to instil entrepreneurial spirit in the organisation requires a corresponding organisational architecture.

In this context, Hornsby, Kuratko, Shepherd and Bott (2009:237) state that managers at various levels (as part of this architecture) play different roles that present a form of structural ability to execute entrepreneurial ideas. In addition, Thompson (2004:243) points out that, despite much work that has been done over the years, it is difficult to link personality characteristics with the way people are going to behave. However, regardless of personality, potential can only be unleashed under the right conditions and opportunities. For most organisations, it is observed that the more effective they have been in the past, the more likely they are to resist change. This difficulty of change is because the culture of the organisation becomes a part of the people who are likely to perform work. In changing those old patterns, people have to alter not only their behaviour but also their values and their views of themselves (Khalid, Omar, Agil and Khalid 2013:23). Aptly, innovation is a major contributor and driving force for competiveness and growth of organisations. However, Kuratko (2017:3) states that not all SMEs are entrepreneurial ventures unless the emphasis is on innovation, profitability and growth.

One of the characteristics of entrepreneurial firms refers to the commitment of owner-managers to innovation (Covin and Slevin 1991; Kuratko, Hornsby and Bishop 2005:276). Innovation requires capacity. Fu, Li and Johnson (2011:385) assert that experience and learning have always been considered as a dimension of innovation and are likely to play a crucial role in SMEs innovation performance. There is a necessity for a reward system that supports innovation. In this context, Jarboe and Alliance (2001:7) confirm that when people move, formal or informal knowledge becomes mobile and immobile at the same time. Closely related to that, Lewis (2011:2-3) reiterates that entrepreneurs need creativity and updated skills to improve performance. In this quest, several studies acknowledge that knowledge is practised to support innovation especially as a collective (Nelwell, Robertson, Scarbrough and Swan 2009:209; Capasso, Dagnino and Lanza 2005:88-89). In this same context, Hawryszkiewycz (2010:74-79) opines that knowledge needs to flow through the organisation to give it life and dynamism. Proper management of innovation and innovation process inputs such as research and development spending increases SMEs performance. However, people must see things in the perspective shaped by organisational culture to ensure that the knowledge flow leads to innovation and business performance. In contrast, Maruta (2012:39) asserts that innovative

workers do not like to be told what to do and how to do it. This opposes the paternalism culture of SMEs. Innovation is often considered to be changes in a product and the way it is created and delivered to customers (process innovation). However, this description is incomplete unless it considers other areas such as where innovation takes place, (market position) and business models (paradigm) innovation (Francis and Bessant 2005:171). Market position relates to the situation in which a new product is introduced to customers into a new context.

In summary, the successful performance of SMEs depends on them being entrepreneurial. The entrepreneurial behaviour by individuals within these organisations is driven by owners and managers who contribute to the structural makeups of these entities. In cases where there is an entrepreneurial organisational culture, knowledge will be created and innovation performance will likely result. According to Morrison (2014:333), organisations nowadays are able to reach competiveness and sustainability in a highly globalised economy through risk-taking, continual innovation, flexibility, and the toleration of failure under certain circumstances.

The next section will address the problem under investigation.

1.3. RESEARCH PROBLEM

It remains imperative for small and medium enterprises in manufacturing sector to design strategies that address entrepreneurial orientation to enhance innovation performance. Wong and Aspinwall (2004:46) emphasise that small and medium enterprises in the manufacturing sector act as the foundation of a manufacturing economy and support the success of large organisations. For example, the Department of Economic Development and Tourism report (2010:11-13) confirms that manufacturing sector contributes over 24% to KwaZulu Natal's gross domestic product (GDP) and 21.2% to South Africa's manufacturing gross value added (GVA). Unfortunately, SMEs in eThekwini are not sufficiently innovative and are not optimally contributing to the economy as they should (EDGE 2013:35). This may apply to other manufacturing SMEs in the rest of the country. However, the South Africa innovation policy success lies on how it incorporates both the economic and social environment of innovation. For instance, although KwaZulu-Natal province shows a slightly positive outlook on investment R&D in comparison with other provinces, the province faces the challenge in creating sustainable employment opportunities in manufacturing industry (South African National Council on innovation 2017:66).

According to Wong and Aspinwall (2004:48), and Bullinger, Bennert and Brunswicker (2007:24) innovation processes in SMEs are inefficient and non-systematic resulting in a slow conversion of innovation ideas into a high market value product and service. In this context,

competitiveness of SMEs is dependent upon a sound management of business competencies within the enterprise. Employees may be entrepreneurial oriented, but, according to McCrockey, McCrockey and Richmond (2005:22), there is a need for them to be driven by opportunities of upward mobility. Employees are influenced by working conditions in the organisation such as reward for their efforts (Goodboy and McCrockey 2008:289). Closely related to that, Kuratko, Morris and Covin (2011:38) state that the benefits of innovation, size and scope of an organisation are significant for entrepreneurial orientation success.

Entrepreneurship has so far been seen in the SME sector as a business start-up ability rather than a consolidation of an existing business. Capasso et al., (2005:159) and Nelwell, et al., (2009:210) postulate that any organisation innovation strategy should not neglect people to avoid rigidity as human resources are likely to become an obstacle to achieve innovation. Consequently, rigidity is likely to arise in the firm if a reward system is not aligned with innovation objectives. Members in the organisation are likely to incorrectly perceive the process of entrepreneurial strategy in SMEs. In fact, other possible difficulties are likely to appear for SMEs to manage the transition from a start-up entrepreneurial position to an entrepreneurial stage. Selvaraja, Akmaliah, and Pihie (2017:153) state that entrepreneurial leadership is more comparable to transformational leadership than it is with transactional leadership. For example, indifferently- orientated members consider rewards to be the reason to remain in the SMEs.

In this context, a balance between freedom and discipline will entail competencies, appropriate leadership and a predisposition of members to support innovations. This balance seems difficult to be achieved in the context of SMEs characterised by centralised control and resource constraints. In the same context, Kuratko, et al., (2011:62) accentuate that because innovation is about breaking rules with probability of failure, the balance between freedom and discipline is needed for innovation success. A high commitment to entrepreneurial orientation necessitates small and medium firms to be creative, proactive, to maintain openness and to take risks. Hence, this commitment may hamper daily business operations of SMEs and, consequently, innovation performance is likely to be affected either positively or negatively.

Love and Roper (2013:11) stipulate that globalising markets and open models of innovation pose skills and people management challenges for small firms, and necessitate a new ecosystem of skills in SME to maintain or retain skilled and entrepreneurial people in the organisation.

Also expressed by Von Stamm (2016:1) is a view that small and medium firms strive to achieve both innovation and operational excellence such as cost cutting and efficiencies. It is similarly complex for SMEs to adapt from being entrepreneurial to becoming intrapreneurial. It therefore seems essential in an attempt to innovate to investigate relationship between entrepreneurial orientation and organisation orientation and their impact on the innovation performance. There is also interest to consider the size and age of SMEs, the reward available, the market scope and the ownership of SMEs with regard to innovation performance. For entrepreneurial orientation to succeed and innovation performance to take place, there is a need for redefinition of the management of SMEs with the establishment of new business operational models, various reward systems, and adaptive organisational structures (Morrison 2014:334).

Problem statement

The relationship between entrepreneurial orientation, organisational orientation and innovation performance in SMEs is not clear. For innovation performance to successfully take place, there is a need to understand the organisational dynamics that lead to an entrepreneurial orientation. These dynamics and the resultant orientations are made complex by the disparate interplay between individual and organisational behaviours.

1.4. AIM AND OBJECTIVES OF THE RESEARCH

This research aims to investigate the relationship between the entrepreneurial orientation, organisational orientation, and innovation performance of manufacturing small and medium enterprises. This is premised on the current model of corporate entrepreneurship which recognises organisational and individual behaviour as instrumental in making changes in organisations (Kuratko, et al., 2011:51). Perceived organisational orientation of SMEs as antecedent to employees' behaviours and commitment to changes in firms is also to be confirmed.

To determine the correlation between entrepreneurial orientation, organisational orientation and innovation performance (objective 1)

- To investigate the relationship between organisational orientation and entrepreneurial orientation of SMEs (sub-objective 1.1).
- To investigate the relationship between entrepreneurial orientation and innovation performance of SME (sub-objective 1.2).
- To investigate the relationship between organisational orientation and innovation performance of SMEs (sub-objective 1.3).

To determine the impact of entrepreneurial orientation and organisational orientation on innovation performance (objective 2)

To establish the effect of demographic factors on innovation performance (objective 3)

- To determine the impact of market scope, available rewards, the size and age of the business on innovation performance of SMEs (sub-objective 3.1)
- To determine the differences in innovation performance of family and non-family's business in order to support any policy project (sub-objective 3.2).

The next section will state the study's hypotheses to be tested:

1.5 RESEARCH HYPOTHESES

The hypotheses listed will be tested in order to achieve the above-stated objectives. The hypotheses will test the correlationship between the dimensions of entrepreneurial orientation, organisational orientation and innovation performance of manufacturing SMEs. The hypotheses about demographical factors and innovation performance will also be tested. This section states the study hypotheses as follows:

Ho1-5: There is a positive statistically significant correlation between entrepreneurial orientation dimensions and organisational orientation dimensions in SMEs.

Ho6-10: There is a positive statistically significant correlation between entrepreneurial orientation dimensions and innovation performance dimensions in SMEs.

Ho11-15: There is a positive statistically significant correlation between organisational orientation dimensions and innovation performance dimensions in SMEs.

Ho16: Entrepreneurial orientation significantly predicts innovation performance of manufacturing SMEs.

Ho17: Organisational orientation significantly predicts innovation performance of manufacturing SMEs.

Ho18: The combined entrepreneurial orientation and organisation orientation significantly predict innovation performance of manufacturing SMEs.

Ho19: There is a statistically significant difference between the mean values of organisation market scope and innovation performance of SMEs.

Ho20: There is a statistically significant difference between the mean values of organisation size and innovation performance of SMEs.

Ho21: There is a statistically significant difference between the mean values of organisation's age and innovation performance of SMEs.

Ho22: There is a statistically significant difference between the mean values of business ownership and innovation performance of SMEs.

Ho23: There is a statistically significant difference between the mean values of organisation rewards and innovation performance of SMEs.

1.6. SIGNIFICANCE OF THE STUDY

According to Kuratko, Hornsby and Hayton (2015:246), organisations must realise the entrepreneurial necessity for business successes in the twenty-first century. All organisations are exposed to a new global reality addressing innovation, risk-taking, and entrepreneurial mindsets and leadership (Kuratko and Morris 2013:950). In this context, the organisational orientation as a construct refers to organisational factors aiming to instil entrepreneurial culture within an existing organisation. There is a change in priority in firms that emphasises on developing and encouraging entrepreneurial tendencies and practices at different levels in the organisation (Taatila and Down 2012:755); therefore, assessing entrepreneurial orientation becomes a matter of great urgency and practically important for firms' survival and competitiveness. However, it becomes important to examine the correlationship between organisational orientation and entrepreneurial orientation in small and medium enterprises. The researcher argues that members' contribution, commitment and satisfaction that impact productivity and innovation performance of any organisation have often been related to personal and organisational factors. Thus, to examine the organisational and entrepreneurial factors could assist in predicting the innovation performance of small and medium firms. In this context, Kuratko, et al., (2015:247) further confirm that resource constraints and changing and complex market conditions create significant challenges for organisational survival restricting growth through entrepreneurial and innovation activities. Cooper, Alvarez, Carrera, Mesquita and Vassolo (2006:4) state that new and small firms in developing countries will operate with some advantages such as the proximity to a focal market which creates a market opportunity and a low cost of production factors. It remains unclear, however, whether these advantages are sufficient to lead to growth and innovation.

Under these conditions, it remains critical to understand the entrepreneurial process within a more integrative framework. Innovations are the expression of entrepreneurial activity and likely to contribute to the long-term survival and growth of a business (Kraus, Pohjola, and Koponen 2012:269). GEM (2017:27) evaluates innovation in entrepreneurial initiatives by looking at the context in which the products launched to a market are perceived new to

customers and in the overall competitive environment. In this context, SMEs face directional challenges in their decisions to grow, innovate and compete in domestic, regional and international markets or remain small and avoid complexities of formalisation. This study provide insight into these complexities and suggests methods to enhance innovation performance. The working terms are defined in the next section.

1.7 DEFINITION OF WORKING TERMS

This section intends to provide relevant definitions of the key concepts used in the context of this study. The study adopted the following definitions of working terms:

1.7.1 Innovativeness

Lumpkin and Dess (1996:142) confirmed that innovativeness was the tendency of a firm to engage in and support new ideas, novelty, experimentation, and creative processes leading to new products, services or technological processes.

1.7.2 Risk-taking

Vij and Bedi (2012:20) define risk taking as the tendency to take bold actions with an uncertain outcome. According to Campos, de la Parra and Parellada (2012:63), risk taking implies taking bold actions by venturing into the unknown through committing limited resources to undertake under the conditions of the uncertain.

1.7.3 Proactiveness

Lee and Peterson (2000:406) state that proactiveness is a dimension of entrepreneurial orientation focusing on an opportunity-seeking, forward-looking perspective requiring launching new products ahead of the competition and acting in anticipation in the prospect of demand to initiate change in the business environment.

1.7.4 Self-efficacy

According to Hmieleski and Baron (2008:57), entrepreneurial self-efficacy (ESE) is the degree to which employees perceived themselves as possessing the ability in terms of knowledge, skills and experience to succeed in the performance of various entrepreneurial roles and projects.

1.7.5 Entrepreneurial alertness

Mayo, Helms, Becherer and Finch (2002:2) define entrepreneurial alertness as a propensity to notice and be sensitive to information about objects, incidents, and patterns of behaviour in the environment with a special interest to serve unmet needs with a combination of resources.

1.7.6 Organisational Culture

According to Smit, Botha and Vrba (2017:257), organisational culture is defined as the beliefs and values shared by people in an organisation.

1.7.7 Organisational Strategy

According to Lazenby (2018:365), a strategy is a plan devised to maintain and build a competitive advantage for an organisation.

1.7.8 Organisational Structure

Structure is considered a means in which tasks and people are organised in terms of group speciality and division of work, distribution of authority; activities and reporting relationships; the mechanisms of coordination of organisational activities (Kaplan 2005:41).

1.7.9 Systems

Systems in organisation focus and align on successful implementation of organisational strategies through formal and informal processes and procedures applied to managing the organisation such as management control systems, performance measurement and reward systems, planning, budgeting and resource allocation systems, and management information systems (Lazenby 2018:365).

1.7.10 Management style

According to Ahmad, Nasurdin and Zainal (2013:3), this may be defined as the willingness of the senior managers to instrument and promote entrepreneurial behaviour in order to enhance entrepreneurial success of the organisation.

1.7.11 Product innovation

The product innovation is defined as the novelty of a new product that attracts and persuades consumers to decide to purchase an organisation product over competitors (Smith 2015:27).

1.7.12 Process innovation

According to Kirchmer (2017:7), business process innovation had to be considered important as referring to innovation and business processes synergy.

1.7.13 Position innovation

Position innovations can be defined as the context in which products and services are introduced and the acknowledgement with regard to market variation and changes in consumer behaviour. It brings changes in the context in which those products or services are placed on the market (Cincalova 2017:2).

1.7.14 Paradigm innovation

Lowe and Marriott (2007:70) referred to paradigm innovation as changes in the underlying mental models which frame what an organisation does. In the same context, Lazenby (2016:365) defines a paradigm as what the organisation is about in terms of strategy, goals, activities, mission and values.

1.7.15 Manufacturing SMEs

According to Sunjka and Emwanu (2015:1469), a small medium enterprise is independently owned, run and financed, with a small share of the marketplace or relatively little impact on the sector/industry in which it operates and where one or very few people manage the business without a formalised management structure. In South Africa, the National Small Business Act 102 of 1996 (amended in 2004) also categorises SMMEs into micro, very small, small, and medium enterprises using a complex set of thresholds. These thresholds are defined according to three measures: total number of full-time employees; total annual turnover; and total gross asset value excluding fixed property, by sector and sub-sector (DTI 2008). South African terminology of small, medium and micro enterprises (SMMEs) is equivalent to internationally commonly used terminology of small and medium enterprises (SMEs). This study used SMEs' terminology; and the concepts "enterprise, organisation, firm and business" interchangeably. The Act stipulates that enterprises must show the following characteristics to be considered small and medium enterprises (SMEs):

- Firstly, they require a minimum of five and maximum of two hundred full-time employed members.

- Secondly, in terms of assets, enterprises must possess an annual turnover and gross asset value excluding fixed property not exceeding R50 and R18 millions of respectively. A further description about the classification of SMEs is as follows:

(1) Micro-enterprises

The Act defines micro enterprise as a survivalist business often in informal sector with a minimal asset value, few full-time employed members and generating an income below the minimum standard.

(2) Very small enterprises

Different to micro enterprise, a very small enterprise operates in formal sectors with a minimum of 10 and maximum of 20 full-time employed members.

(3) Small enterprises

A small enterprise is often a well-established business characterised by complex business practices and operating in formal sectors with maximum of 50 full-time employed members.

(4) Medium enterprises

Medium enterprises are operating in different formal business sectors applying complex business practices and structures and comprise minimum of 100 and maximum of 200 full-time employed members.

1.7.16 Entrepreneurs

An entrepreneur referred to an individual who is non-averse to risk taking and able to discover the needs in market environment in order to launch a new enterprise in attempting to meet those needs (Longenecker, Moore, Petty and Palich 2008:5). However, in the context of the corporate, a corporate entrepreneur (intrapreneur) is considered to be a driver behind the implementation of innovative concepts within the existing enterprise (Morris and Kuratko 2002:85).

1.7.17 Entrepreneurial orientation (EO) / Intrapreneurial orientation (IO)

Entrepreneurial orientation refers to the processes, practices and decision-making activities that lead to the introduction of a new product into the market. It is focused on the pursuit of business opportunities by attempting to expand the business through continuous monitoring and scanning of business environment (Lumpkin and Dess 1996). At firm-level, it was often seen

as a strategic dimension comprising management tendencies, philosophies, and decision-making practices that were entrepreneurially oriented (Goktan and Gupta 2015:98). This study used EO and IO interchangeably.

1.7.18 Organisational orientation

Organisational orientation (OO) is defined as a composition of organisation factors that include organisational culture, structure, strategy, management and systems, and resource of the organisation to be taken into consideration in order to determine firm performance (Lumpkin and Dess 1996:152).

1.7.19 Innovation performance

Innovation performance is often described as performance in terms of innovative product that the firm produces using a well-designed and established process in order to position itself into the market through the application of adaptable business models that respond to business requirements (Francis and Bessant 2005:171).

1.8 DELIMITATIONIS OF THE STUDY

The study focused on small and medium enterprises (SMEs) in the manufacturing sector. This sector is believed to be the most active in job creation and economic development. Survivalist businesses were excluded as they have no business architecture to accommodate innovation and they are referred to by the Small Business Act 102 of 1996 as smaller and more informal. According to the Small Business Act 102 of 1996, manufacturing SMEs must have the maximum of two hundred and minimum of five employees. The study included all the sub-sectors of manufacturing SMEs in the KwaZulu Natal province.

1.9 GEOGRAPHIC AREA OF THE STUDY

The choice of the province of KwaZulu Natal has been motivated by its strategic position in the economic mainstream of the country due to its busy ports. Durban is the busiest port on the continent. According to KwaZulu Natal Top Business, there are various key industrial activities in the province such as automobile and component; pulp and paper products; chemicals and petrochemicals; food and beverages; and textiles, clothing and footwear (www.kzntopbusiness.co.za). Furthermore, Durban has got six economic activity areas in the province which include: South Central, North Central, Inner West, North, South and Outer West area. The first two are the focus of this study as they constitute KwaZulu Natal region

where the sample was drawn. According to KZN-DEDT (2010:4), one of the programmes through which the growth and development of the small enterprise sector will be promoted is through the human capital and capacity building programme. It is also important to point out that the researcher lives in Durban. The structure of this study is elaborated on in the next section.

1.10 RESEARCH STRUCTURE

This study will be covered in six chapters and structured as follows:

- Chapter One will introduce the content and orientation of the study and will further state the context of the study and problem to be researched. Significance, aim, objectives, key concepts and delimitation of the study are addressed under this chapter.

- Chapter Two will provide the theoretical background and the critical review of the literature on entrepreneurial orientation, organisational orientation and innovation performance of SMEs. It will also lead to the construction of the study model and the development of hypotheses.

- Chapter Three will focus on research methods, the design and data collection methods. This chapter will further deal with the matter of study's reliability and validity.

- Chapter Four will present the descriptive and inferential statistical results of the study in a format of graphs and tables as well as in quantitative figures such as numbers, frequencies and percentages. It will also analyse and discuss the results to address the study's hypotheses and objectives.

- Lastly, Chapter Five will evaluate, conclude and provide recommendations stemming from the findings of the study. It will also state the limitations of this study and provide suggestions for future research.

CHAPTER TWO: ENTREPRENEURIAL ORIENTATION, ORGANISATIONAL ORIENTATION AND INNOVATION PERFORMANCE

2.1. INTRODUCTION

The entrepreneurship concept captured the attention of many researchers and business practitioners in early 20th century. The conceptualisation of entrepreneurship stemmed from early research of Cantillon (1928) labelled entrepreneurship as a risk-bearing activity in the economy; Drucker (1985) referred to the opportunity-based theory and emphasised that entrepreneurs had an eye for possibilities created by dynamic business environment rather than the problems. Although Drucker asserted that entrepreneurs could only exploit the opportunities created by changes, Schumpeterian in contrast claimed that entrepreneurs were the creators of changes (Simpeh 2011:4). All the above-mentioned authors had, however, a common point about entrepreneurship as they reiterated that it had an impact on economic development (Kuratko 2014:4). Furthermore, Kirby (2004:511) stated that the concept "entrepreneurship" was attached to French meaning "entreprendre" translated in English as "undertake". In this context, Wiklund and Shepherd (2005:71) confirmed that although empirical results were mixed, strategy and entrepreneurship literatures suggested that entrepreneurial orientation (EO) was likely to improve firm performance. At individual level, Krause, Pohjola and Koponen (2005:315) concluded that entrepreneurial orientation at individual level referred to a psychological construct. However, Lumpkin and Dess (1996:138) emphasised that EO should focus its analysis at firm level. In this perspective, Lee and Peterson (2000:405) indicated that EO was crucial for the survival and competitiveness of firms and found that specific cultural tendencies of organisations and countries could facilitate entrepreneurial orientation. As the construct seemed to be more validated at organisational level; the argument stood that the organisation remained the aggregate of individuals especially SMEs that symbolised the person of the owner-managers as an individual who is in control (Lumpkin and Dess 1996:139). In the context of this study, the term intrapreneurial orientation is used interchangeably with entrepreneurial orientation to describe entrepreneurial behaviour and activities in an existing firm (Jacobs and Kruger 2001:2). This chapter will firstly reflect on the previous research models that frame the entrepreneurial orientation's construct. The chapter evaluate the literature on entrepreneurial orientation and organisation orientation in the context of small and medium enterprises in manufacturing sector. In addition, this chapter will revisit the literature on organisation motivational drivers that are necessary for employees to be engaged in intrapreneurial behaviour and possible outcomes. Lastly, it will critically review

the literature on innovation performance and provide the justification for adopting the study model. The next section will discuss the theoretical background of the study.

2.2. THEORETICAL BACKGROUND OF THE STUDY

This section will provide a scientific justification for conducting this study and will introduce entrepreneurial orientation and organisational orientation constructs. Literature shows that entrepreneurial orientation of organisation enhance business performance (Avlonitis and Salavou 2007:575; Simon, Stachel and Covin 2011:5; Mahmood and Hanafi 2013:83). Previous authors also agreed that individual behaviour played a critical role in entrepreneurial orientation (Kuratko, et al., 2011:279; Garrett and Holland 2015:371). In the same vein, Garrett and Holland (2015:369) further stated that the entrepreneurial orientation at individual-level focused on understanding individuals differences in engaging in entrepreneurial actions. In addition, Wales, Monsen and McKelvie (2011:895) confirmed that although previous studies embraced entrepreneurial orientation (EO) as an organisational phenomenon, there was less attention in consideration of how EO was manifested within organisations. In this context, Kollmann and Stockmann (2012:1002) stated that EO could not be converted into entrepreneurial behaviour by the fact that the former is a disposition toward and the latter the actual involvement in entrepreneurial activity. Kollmann and Stockmann (2012:1001) further acknowledged that there was a gap between entrepreneurial orientation and behaviours that might affect the exploration and exploitation of innovation leading to business performance.

It seemed therefore impossible to describe entrepreneurial orientation without integrating entrepreneurial behaviour that is linked to both internal and external factors (Garrett and Holland 2015:369). In the same context, Hisrich and Kearney (2014:74) referred to entrepreneurial climate as a reinforcement approach to develop expected behaviours among individuals throughout an organisation. The entrepreneurial climate was built on the entrepreneurial vision and actions, and it needed to be supported and facilitated by everyone in the organisation at individual and structural levels. Zahra and Covin (1995:46) further emphasised that entrepreneurial behaviours were a critical path for improved performance. These behaviours needed to be encouraged in order to support innovation performance of SMEs.

To understand entrepreneurial orientation and organisation orientation dimensions, Vij and Bedi (2011:2) and Covin and Wales (2012:680) found that there were five dimensions of

entrepreneurial orientation: innovativeness (1), proactiveness (2), risk taking (3), autonomy (4) and competitive aggressiveness (5) that could be analysed in relation to the organisational factors. According to Goodboy and McCrockey (2008:292) and Delvis (2014:1-2), previous research on organisational orientation constructs were with workers' perceptions of the source of credibility of their managers such as competence, trustworthiness and caring which were likely to determine the workers' temperament as extraversion, psychoticism and neuroticism, and being satisfied with their job. Organisation factors rooted from strategic management domain key variables that included strategy (1), structure (2), systems or processes (3), culture (4) and management support (5) (Lumpkin and Dess 1996:153). Regardless of the form of entrepreneurial strategy implemented, an organisation always focused on improving business performance through its strategy, product, market, and internal organisation (Kuratko, et al., 2011:85). In support, Price, Stoica and Boncella, (2013:3-4) reiterated that the entrepreneurial orientation's factors were linked to performance that could be recognised through a positive change in terms of market (1), product (2), process (3) and the all internal organisation (4). However, different models were developed by previous researchers and business practitioners to conceptualise entrepreneurial orientation in organisations. While the list is non-exhaustive, the models of entrepreneurial orientation described in this chapter will constitute the foundation for this study. Furthermore, these models were likely to lead the researcher to build a relevant study model in order to achieve research objectives. Lastly, entrepreneurial orientation dimensions and behaviour models will assist in reviewing necessary literature related to entrepreneurial orientation, organisation orientation, and innovation performance of small and medium enterprises.

The next sections will review the literature relevant to entrepreneurial orientation, organisation orientation and business performance, and will assist in constructing an inclusive model for small and medium enterprise.

2.3. ENTREPRENEURIAL ORIENTATION

2.3.1 Introduction

To manage environmental complexity and uncertainty, organisations have to become entrepreneurial in order to identify and exploit new opportunities through individual and organisation efforts (Hisrich and Kearney 2014:7). In this context, Shoham, Gadot, Ruvio and Schwabsky (2012:227) stated that creativity, openness, proactiveness, autonomy and risk-taking tendency conceptualised the entrepreneurial orientation (EO) of the firm. Although

creativity and innovation are used interchangeably, the former remains the dimension of the latter. In this context, Shoham et al., (2012:228) further stated that new idea involved risk to be taken in absence of any guaranteed outcome. In addition, Rosenbusch, Brinckmann and Bausch (2011:442) asserted that decisions could be made to allocate resources in innovative projects without any real hope of profitable return. Furthermore, according to Hughes and Morgan (2007:651) and Vij and Bedi (2011:20) proactiveness was an opportunity-seeking, forward-looking perspective involving future demand to create, change and shape the business environment. This section will discuss and evaluate the previous literature on factors of entrepreneurial orientation in SMEs. Firstly, the section will emphasise a conceptual context of entrepreneurial orientation at firm level. It will secondly provide an insight into a conceptual development of different perspectives of entrepreneurial orientation dimensions that include: innovativeness, proactiveness, risk taking, autonomy, and competitive aggressiveness in small and medium sized enterprises.

2.3.2 Conceptualising Entrepreneurial Orientation

This section intends to clarify an important conceptual ground of entrepreneurial orientation that shed light to the context of this study. Entrepreneurial orientation was longer considered as organisational construct. At firm-level, it was often seen as a strategic construct comprising management tendencies, philosophies, and decision-making practices that were entrepreneurial oriented (Goktan and Gupta 2015:98). Yet, individual perspective maintained that EO was a psychological construct (Krause, et al., 2005:316).

However, Kuratko and Audretsch (2013:331) identified that entrepreneurial approaches and innovation could be found within any of the five areas: the firm strategy, product, market, internal organisation (structure, processes, systems and capabilities), and a business model. This section will discuss the development of the conceptual dimensions of entrepreneurial orientation seen through different authors' perspectives. It will further describe and evaluate an entrepreneurial orientation as a foundation of innovation performance of firms. Lastly, it will deduce the adopted research model for this study. The next section will analyse EO as a three-dimension construct.

2.3.2.1 Entrepreneurial Orientation as a three-dimension construct

The early studies of Miller (1983) and Miller and Friesen (1982) developed and considered entrepreneurial orientation as a three dimensional-construct that only included innovativeness,

proactiveness and risk taking (Mahmood and Hanafi 2013:83). Miller (1983:770) defined entrepreneurial orientation at firm level as one that engaged in product market innovation, undertook risky ventures and was keen to come up with proactive innovations in order to overcome its competitors. In this context, literature supported Miller (1983) who proved there was a consensus amongst researchers around the initial three dimensions (Wiklund and Shepherd 2005:75). In the same vein, Wiklund, Patzelt and Shepherd (2009:351) affirmed that even in the recent times researchers still preferred to use the original and validated scale of Miller (1983), with innovativeness, risk-taking, and proactiveness as relevant dimensions of entrepreneurial orientation. Rhee, Park and Lee (2010:68) pointed out that innovativeness dimension was described as a search for novel, unusual or creative solutions to challenges facing a firm. According to Avlonitis and Salavou (2007:566) firms could exhibit varying degrees of EO which could be grouped on opposite extremes of a continuum. For example, at one end was the entrepreneurial organisation that included as part of their product market strategies and agenda to undertake aggressive, regular and extensive innovations while taking considerable related risks (Miller and Friesen 1982:1). In contrast, positioned at the other end were the conservative organisations that innovated infrequently and reluctantly while taking reasonable risks (Miller and Friesen 1982:2). Understanding the divergent EO profiles of firms was particularly vital as these could have different performance outcomes for organisations (Avlonitis and Salavou, 2007:567). Cruz and Nordqvist (2010:34); Casillas, Moreno and Barbero (2011:92); Kollmann and Stockmann (2012:1003) and Dada and Watson (2013:792) provided recent empirical studies that considered entrepreneurial orientation as a construct with three core dimensions of risk taking, proactiveness and innovativeness. Next section is an analysis of EO as a five-dimension construct.

2.3.2.2 Entrepreneurial Orientation as a five-dimension construct

Although some authors (e.g., Hughes and Morgan 2007; Lumpkin and Dess 1996; and Covin and Slevin 1989) suggested five dimensions that included autonomy, competitive aggressiveness, innovativeness, proactiveness, and risk-taking remained basis of analysing entrepreneurial orientation, nevertheless, there was still an academic debate to justify the inclusion of the two additional factors (George and Marino 2011:1291) . Dress, Lumpkin and Covin (1997:679) suggested that firms developed an entrepreneurial strategy as a distinctive mode of strategy that combined opportunity-seeking style, generative mode, risk taking and experimentation. Also, Bolton and Lane (2012:221) confirmed that the entrepreneurial strategy sought to be consistent with entrepreneurial orientation dimensions of an organisation. These

dimensions included innovativeness, proactiveness, risk taking, competitive aggressiveness and autonomy. In addition, Kuratko et al., (2011:174) pointed out that even the well-devised entrepreneurial strategies failed unless supported and reinforced by good management practices such as:

1) Developing an entrepreneurial vision
2) Increasing the perception of opportunity
3) Institutionalising change
4) Instilling a desire to be innovative
5) Investing in people's ideas
6) Sharing risk and rewards with employees and
7) Recognising the critical importance of failure.

A critique of the three and five facet constructs of EO will follow in Section 2.4 and the study's choice of the EO construct to be adopted will be justified. The next sections will provide an in-depth discussion of the dimensions of entrepreneurial orientation with emphasis on its application on small and medium enterprises.

2.4 DIMENSIONS OF ENTREPRENEURIAL ORIENTATION

2.4.1 Introduction

This section will analyse the literature review on the entrepreneurial orientation constructs. Firstly, the three facet constructs of EO are discussed. In this case EO includes only innovativeness, proactiveness and risk taking. Secondly, autonomy and competitive aggressiveness constitute the two additional constructs that will be addressed to critique EO with five constructs. Lastly, this study will provide an adopted definition of EO that will serve its purpose.

2.4.2 Innovativeness

Lumpkin and Dess (1996:142) confirmed that innovativeness was a tendency of a firm to engage in and support new ideas, novelty, experimentation, and creative processes leading to new products, services or technological processes. According to Kepes (2011:5), the focus of innovation should be on the idea not the technology. Previous literature agreed that innovativeness was prerequisite for firm success and survival (Rhee, et al., 2010:65), as it improved the competitiveness and sustainability of any firm regardless of size, industry or sector (Dawson and Andriopoulos 2014:377). Likewise, De Jong, Parker, Wennekers and Wu

(2015:983) confirmed that entrepreneurial orientation studies generally regarded innovativeness as a central characteristic of an entrepreneurial organisation. In this context, Kuratko, et al., (2015:245) stated that entrepreneurship centred on a strategy that could facilitate firms' effort to create innovation and cope effectively with the competitive realities. Hisrich and Kearney (2014:36) recognised that innovation was very important for an organisation regardless of its type, size or activity. In such a set-up, creativity leading to innovation could come from individual members of an organisation as a result of knowledge, comprehension of the external environment and the ability to recognise opportunities through the interplay of individual characteristics and competencies, and organisational climate. Figure 2.1 below depicts three core areas in building creativity and innovativeness as the interlinkage between external environment, individual characteristics and competencies, and organisational climate. According to Hisrich and Kearney (2014:36), the first area to be considered was the external environment that involved the collection and processing of information to understand the trends in terms of opportunities and threats. The second area focused on competences in terms of abilities, knowledge, skills, intuition, drive, motivation, open mindedness, risk taking and proactiveness within the organisation (Petterson, Kerrin and Gatto-Roissard 2009:3). Lastly, a supportive organisational climate and culture as well as structures should be established to facilitate creativity and innovation (Shanker, Bhanugopen, van der Heijden, and Farrell 2017:73).

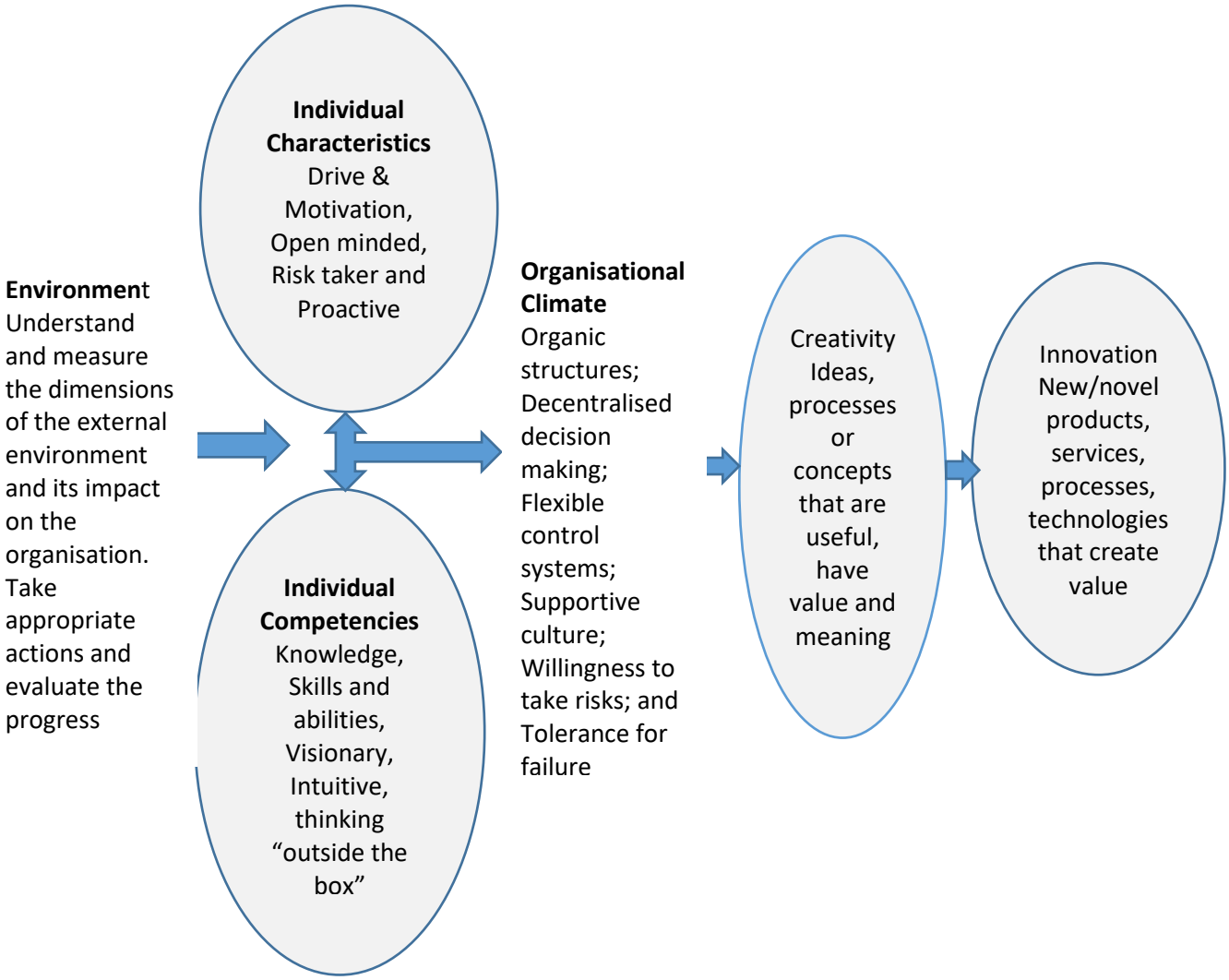


Figure 2.1 Organisational creativity for innovation
Source: Hisrich and Kearney (2014:36)

The following sections will analyse the forms, sources and the process of innovation in organisations. Furthermore, the role of creativity and knowledge as elements of innovation will be assessed.

2.4.2.1 Process of innovation

Smith (2015:100) asserted that the process of innovation was directly linked to an innovation strategy of a firm. Although ideas had to be generated, the selection and implementation of viable ideas allowed a firm to capture the benefits of innovation. Maital and Seshadri (2007:43) argued that innovativeness was a learned capability although there were common elements across the innovation process, as each organisation of this type had to find its unique way based on innovative requirements. Dawson and Andriopoulos (2014:73) maintained that innovation

was a process that could be managed iteratively over time. In this context, the innovation process framework comprised different phases, firstly the search and assessment that required an environmental analysis to identify opportunities and threats. Secondly, the selection of innovation ensured a perfect fit with the business and the knowledge and competencies that might be found within the organisation. Thirdly, the implementation focused on three critical stages: accumulating of knowledge, implementing the project and launching an innovation product or service. Furthermore, Audretsch, Coad and Segarra (2014:745) confirmed that acquiring knowledge was centred on using the existing and new knowledge within and outside the organisation to solve problems without losing sight of changes over time. Lastly, a capturing phase was to ensure that organisation fully benefited from innovation as referred to market and commercial aspects of innovation. Process of innovation is depicted in Figure 2.2.

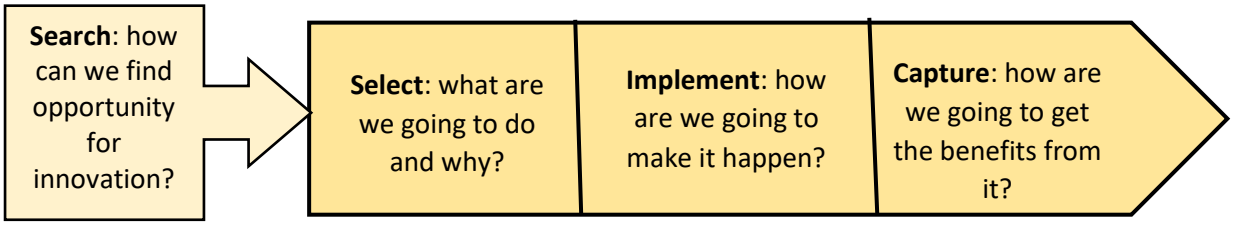


Figure 2.2: A process model of innovation
Source: Dawson and Andriopoulos (2014:73)

Considering the limitations of resources and competencies in SMEs and a need for intensive labour for innovation, Hisrich and Kearney (2014:54-55) postulated that SMEs focus was on incremental innovation such as improving existing innovations to retain their market position. SMEs might further be involved in open innovation as an alternative in order to extend and develop abilities to engage in high potential forms of innovation. Both radical or technological and incremental innovation might follow the same process as shown in Figure 2.3 below. As shown in Figure 2.3, ideas should be generated, analysed, developed, evaluated and implemented for possible innovation.

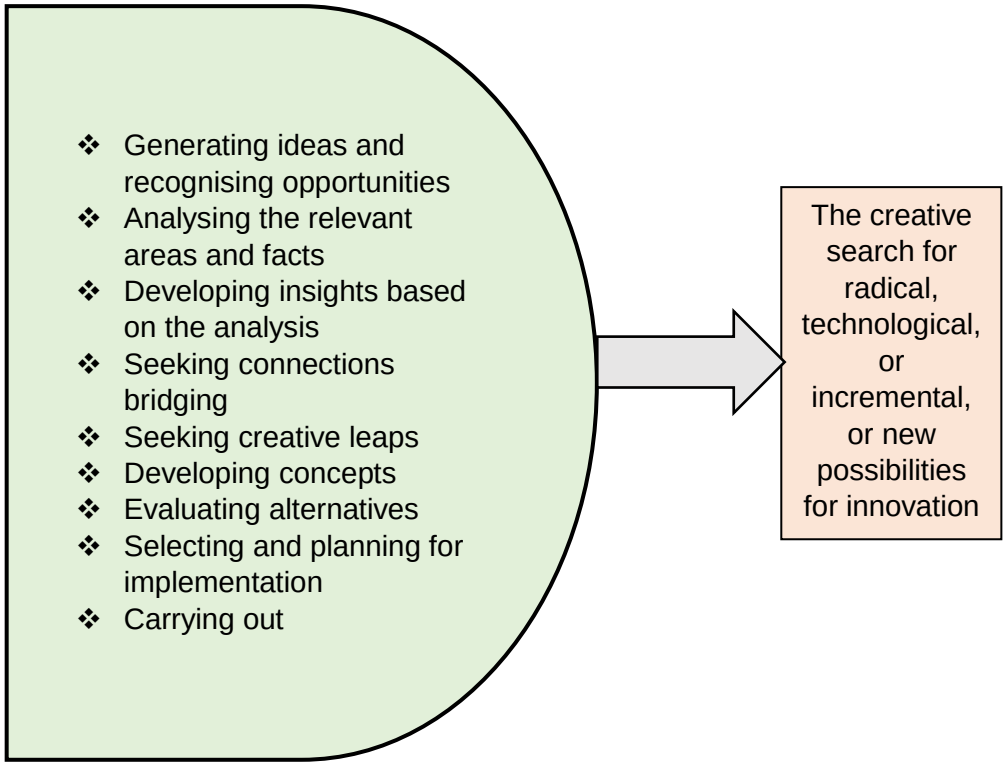


Figure 2.3: Steps in the innovation process
Source: Hisrich and Kearney (2014:55)

2.4.2.2 Sources of innovation: Knowledge transfer and Creativity

Hisrich and Kearney (2014:52) declared that innovation generated by initiatives or creative acts of organisational members could not be predicted because it could not be considered a rational activity. Key source of innovation had to be maintained, motivated, supported, and facilitated in an appropriate organisational context. Next sub-sections will review the knowledge and creativity as the two main sources of innovation.

(1) Knowledge Transfer

Ehlers and Lazenby (2016:16) affirmed that information and knowledge was vital for any process of innovation as a close relationship between information and innovation was obvious. Aptly asserted by Fu, Li and Johnson (2011:386) was a point that experience and learning mattered for knowledge to generate innovation. Laudon and Laudon (2018:447) clarified that knowledge needed to be actionable and shared throughout the firm. In contrast, perceiving tacit knowledge as a dimension of innovation, organisational members played a pivotal role in SMEs' performance (Li, Huang and Tsai 2009:441). In this context, Jarboe and Alliance (2001:7) confirmed that when people move, formal or informal knowledge becomes mobile and immobile at the same time. Similarly, Hawryszkiewycz (2010:74-79) emphasised this in a

metaphor that knowledge was like water, it needed to flow through the organisation to give it life and dynamism. In contrast, the author pointed out that people had to see things in the perspective shaped by an organisational culture to ensure that a knowledge flow led to innovations and business performance. Closely related to that, Lewis (2011:3) reiterated that entrepreneurs needed creativity and updated skills to improve business performance. In this quest, several studies acknowledged that practised knowledge was likely to support innovations and further reaffirmed the notion of collective learning as a source of innovation (Capasso, et al., 2005:88-89; Nelwell, Robertson, Scarbrough and Swan 2009:209). Based on the theory of knowledge creation, the spiral process of socialisation, externalisation, combination and internalisation (SECI) could be used to connect and arrange new and existing knowledge from organisation and individual employees (Nonaka and Konno 1998:43; and Nonaka, Toyama and Konno 2000:9). Maintaining the process of knowledge creation might result in innovations in a firm (Calantone, Cavusgil and Zhao 2002:515). Following the same line of reasoning, Bloodgood, Hornsby, Burkemper and Sarooghi (2015:385) indicated that corporate entrepreneurship was centred on re-energising and enhancing organisation ability to develop the skills through which the innovations might be created. As knowledge was about "who participate and how they participate", Nonaka, et al., (2000:13) emphasised that in knowledge creation, one had to transcend the interaction between individuals, inside and outside, past and present. For example, in socialisation, that interaction was fundamental as tacit knowledge could only be shared through interactions and experiences considered beyond individuals. Along the same lines, given that tacit knowledge required willingness and disposition of employees to share it, Kankisingi and Dhliwayo (2014:10) found that a knowledgeable employee portrayed a facilitation behaviour in SMEs that could result in innovation. Furthermore, in internalisation, individuals could have access to the knowledge of the group and the entire organisation embodied in them. Nonaka and Konno (1998:47) declared that in externalisation, an individual supposed to transcend the inner- and outer-boundaries as employees were able to express their committing to belong to the group, whereas in combination, new knowledge had to be generated through externalisation as exchange information was required.

Figure 2.4 below depicts the SECI process to create knowledge.

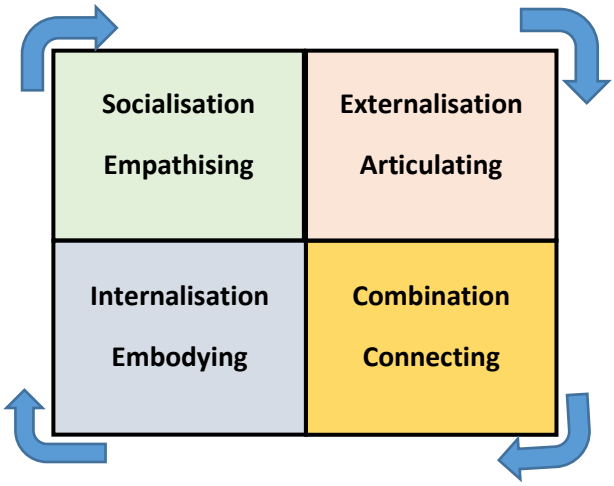


Figure 2.4: The SECI process
Source: Nonaka, Toyama and Konno (2000:12)

In conclusion, Jeon and Kim (2012:212) established that informal learning did not show a significantly positive relationship with innovation. Although informal learning culture was dominant in SMEs, to achieve innovation, knowledge needed to be nurtured and leveraged in the workplace by employees through tasks beyond the routine. In such a configuration, structured learning was likely to enhance innovation more than informal learning that might be informal, incidental or experiential learning (Jeon and Kim 2012:214). Closely related to that, Ortega-Egea, Moreno and Dominguez (2014:606) found that knowledge transfer had an influence on workers' innovation. The next section will critically evaluate creativity in SMEs.

(2) Creativity

To clarify the difference between creativity and innovation, Shoham, et al., (2012:227) confirmed that although creativity and innovation were used interchangeably, the former remained the dimension of the latter. As depicted in Figure 2.5 below, creativity had the following key components that were connected and influenced one another: firstly, employees' drive, motivation and perseverance to use their abilities, secondly the extent of knowledge, skills and expertise determine the abilities of employees to be objective and to think "outside the box". Thirdly, employees' creative thinking and a sense of discovery referred their disposition to involve in new ways of doing things, and, lastly, the search and utilisation of resources and the support system in place were necessary to enhance creativity and creative thinking through a development of new ideas or concepts (Hisrich and Kearney 2014:33).

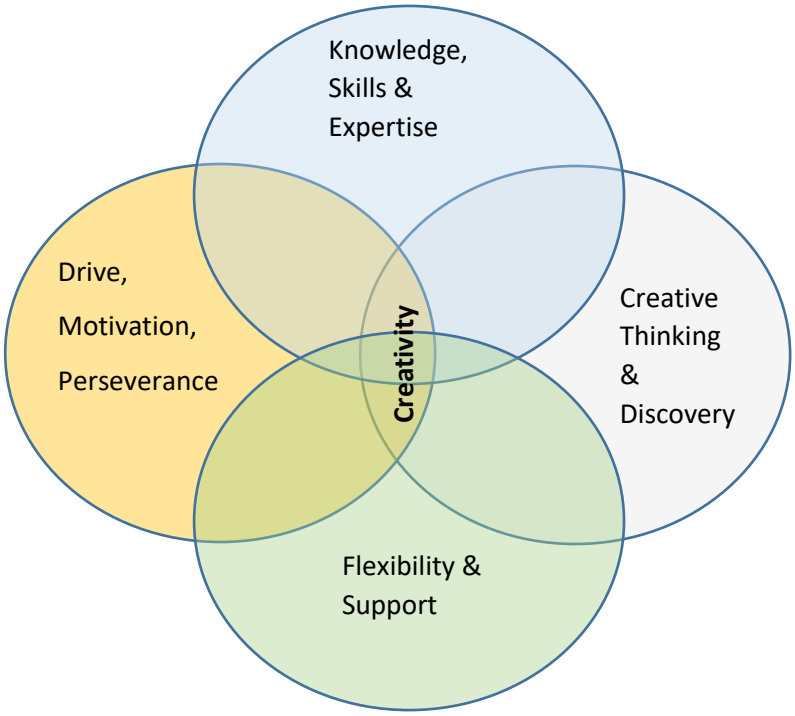


Figure 2.5: The Components of Individuals Creativity
Source: Hisrich and Kearney (2014:33)

In conclusion, Jong and Hartog (2007:42) asserted that innovative behaviour of employees was dependent on interactions with others in the workplace and the role leaders played in enacting and enhancing such behaviour. In support, Kuratko, et al., (2011:62) indicated that although innovation was about breaking rules, individuals who broke rules could not last longer in organisations. De Jong, et al., (2015:983) stated that entrepreneurial orientation studies were initially regarded innovativeness as a central characteristic of an entrepreneurial organisation. However, breaking rules in the context of SMEs was likely to be challenging as owner-managers exercised excessive control in the utilisation of resource and resource constraints (Fini, Grimaldi, Marzocchi and Sobrero 2010:389). Nevertheless, Ahmad, Nasurdin, and Zainal (2012:1) opined that intrapreneurial behaviour was found to be positively related to job performance, while previous literature showed contradictory findings relating to the relationship between innovativeness and performance of SMEs. Rosenbusch, et al., (2011:441) asserted that innovation-performance relationship in SMEs showed controversial results, but found that factors such as firm's age, a type of innovation and an organisational culture had impact on performance. Younger firms seemed to show a stronger relationship with innovation whereas an individualistic culture was found to moderate the link between innovation and SMEs (Rosenbusch, et al., 2011:446).

In conclusion, this study treated the construct innovation as both an EO input and an EO output, hence the construct innovation performance. Nevertheless this will be revisited and discussed in detail. The researcher hypothesises and expects or predicts that innovativeness is likely to be positively correlated with innovation performance in SMEs. The EO proactiveness dimension will be discussed in the next section.

2.4.3 Proactiveness

Lumpkin and Dess (1996:146) and Lee and Peterson (2000:406) stated that proactiveness as a dimension of entrepreneurial orientation was an opportunity-seeking, forward-looking perspective involving introducing new products or services ahead of the competition and acting in anticipation of future demand to create, change and shape the environment. Proactivity was associated with pioneering behaviour and initiative-taking to pursue new opportunity and an attempt to lead rather than follow. In the same context, Vij and Bedi (2012:20) confirmed that proactiveness could be achieved through aggressive behaviour directed at rival firms and a pursuit of favourable business opportunities. Thus, they referred it to the ability and willingness to take initiative and respond effectively to competitors' threats. According to De Jong, et al., (2015:983), proactivity was defined as a self-initiated and future-oriented action that aimed to change and improve the situation or oneself and consequently the internal organisational environment. Therefore, proactiveness was characterised by a high level of awareness of external trends and events, and acting in anticipation thereof. In conclusion, this study anticipates a relationship between organisational orientation dimensions and proactiveness. It further expects that a proactive orientation is likely to achieve innovation performance of SMEs. Aptly, Craig, Pohjola, Kraus and Jensen (2014:199) indicated that proactive firms were likely to influence positively their innovation output. Risk taking proclivity of firms is discussed next.

2.4.4 Risk-taking

According to Lumpkin and Dess (1996:144), the risk-taking behaviour investigated at individual level tended to differ at firm level, although most of entrepreneurially related risk taking studies analysed risk at individual level. Vij and Bedi (2012:20) referred to risk taking as the tendency to take bold actions with an uncertain outcome. An organisation required to deviate when necessary from their prior routines, strategies, business models, and operational environments in order to establish a successful entrepreneurial organisation that could be able to take a stand in accepting risk and understanding that the outcomes of innovation might be

uncertain (Bloodgood, et al., 2015:384). In support, Okhomina (2010:5) confirmed that the ambiguity to tolerance was reported to relate to risk-taking behaviour. Following the same rationale, De Jong, et al., (2015:983) suggested that entrepreneurial orientation "risk taking" had slightly different meaning. While employers were partly or fully responsible for material losses, entrepreneurial workers might face reputation damage, resistance from peer, and even losing their jobs. The extent to which the entrepreneurial employees were able to act without their higher management permission or consensus especially in the context of SME could be problematic. With risk, it was important to bear in mind that something unpleasant was likely to happen (De Jong et al., 2015:984). It can be concluded that a risk taking proclivity was likely to lead to innovation performance. Furthermore, risk taking orientation was also likely to be influenced by the strategic structural and managerial style context of firms. According to Garcia-Granero, Llopis, Fernandez-Mesa and Alegre (2015:1094), scholars found that there was a positive relationship between risk taking propensity and innovation performance in a managerial context of a firm. The following two dimensions complement the above discussed three dimensions in order to extent the analysis of EO to five constructs. The next section will review the autonomy dimension.

2.4.5 Autonomy

According to Lumpkin and Dess (1996:140), autonomy orientation characterising a self-directed individual refers to an independent action of an individual to bring forth ideas. Vij and Bedi (2012:20) further stated that autonomy was the ability and will to be self-directed in the pursuit of opportunities. Furthermore, Urban and Nikolov (2013:3) acknowledged that job autonomy enhanced felt responsibility and flexibility roles which encouraged an employee to devote more efforts to bring changes to the workplace. In addition, the same authors stated that job autonomy enhanced workers' situational control beliefs enabling them to determine independently how to do their job or tasks. The autonomy was recognised a key dimension of entrepreneurial orientation as people in organisations were granted freedom to exercise creativity and they were to leave a secured position to ensure that when they were constrained they were prepared to leave (De Jong, et al., 2015:984). According to Lechner and Gudmundsson (2014:42), employees' empowerment could be promoted through autonomy as opposed to tight workplace controls. Small firms were characterised by less formalisation and unsophisticated control systems that were likely to achieve greater autonomy. Giving autonomy was a matter of trust, Bosma, Stam and Wennekers (2012:5) found that intrapreneurship was more prevalent in high income countries than in low income countries, as

employees in high income countries had more autonomy partly related to a relatively higher educational level than the employees in low income countries. Aggressiveness is discussed next.

2.4.6 Competitive Aggressiveness

According to Covin and Wales (2012:680), competitive aggressiveness is referred to as being proactive to an existing demand in the market. Vij and Bedi (2012:21) further confirmed that competitive aggressiveness could be defined as a firm's propensity to directly and intensively challenge its competitors and outperform them in the marketplace. In addition, Lumpkin and Dess (1996:148) reiterated that competitive aggression was characterised by responsiveness, and as a component of an entrepreneurial orientation, it could be considered a reflection of unconventional willingness rather than a reliance on traditional methods of competing, which might extend to changing contexts, how things are done, or building capabilities and competencies than the competition. With regard to previous literature relating to competitive aggressiveness, overcoming competitors and setting ambitious market share targets were expected or predicted associations between competitive aggressiveness and entrepreneurial performance.

In conclusion, innovation, proactivity, risk taking, competitive aggressiveness and autonomy define features of the entrepreneurial process, representing a range of behaviours that entrepreneurial workers might engage in. These include identifying opportunities and threats, generating and searching out ideas, championing ideas and selling these to peers in the company, putting effort in making it happen, and boldly moving forward in pursuit of opportunities while accepting the risk of potential losses (De Jong et al., 2015:984). The next section will provide the study definition of entrepreneurial orientation and will subsequently adopt and justify EO dimensions considered.

2.4.7 Study Definition of EO Dimension

2.4.7.1 Introduction

Previous studies agreed that it was problematic to construe EO at individual level, but they recognised that an individual's contribution is crucial to firms' EO (Covin and Slovin 1991; Miller 1983; Slevin and Terjesen 2011:975). Employees make a major contribution to leverage EO in any firm, but under the conditions created by the organisation (Slevin and Terjesen 2011:974). This study considered Miller's (1983) measure of entrepreneurial orientation as a

three-dimension construct. The competitive aggressiveness and autonomy dimensions had little empirical validation as compared to the widely validated three factors (Lane and Bolton 2011:229). In this context, this study agreed with the views of Scheepers, Hough and Bloom (2008:52) who argued that autonomy was an internal factor of a supportive organisational climate whereas competitive aggressiveness formed part of the proactiveness dimension and could not represent a separate dimension.

Slevin and Terjesen (2011:975) opined that several well-developed individual-level indicators of entrepreneurial behavior such as entrepreneurial awareness and entrepreneurial self-efficacy were grounded in individual level psychological and cognitive theories.

However, beyond Miller's three dimensions of entrepreneurial orientation approved by this study, the researcher argued that in the context of SMEs, entrepreneurial self-efficacy and entrepreneurial alertness should be adopted as the two additional dimensions. Jain and Ali (2012:295) pointed out that self-efficacy was an intrapreneurial orientation dimension that could be measured as different to risk taking, innovation and proactiveness. Furthermore, limited empirical work existed to validate the entrepreneurial alertness construct, but Gaglio and Katz (2001:97) confirmed that EA played a separate role to innovativeness. In addition, Slevin and Terjesen (2011:975) stated that multiple levels of analysis of entrepreneurial orientation of enterprises were important. The next section will provide an in-depth analysis of self-efficacy in small and medium enterprises.

2.4.7.2 Entrepreneurial Self-efficacy

According to Hmieleski and Baron (2008:57), entrepreneurial self-efficacy (ESE) was the degree to which people perceived themselves as having the ability to successfully perform the various entrepreneurial roles and tasks. The entrepreneurial self-efficacy was considered to be in relationship with performance of the firms. For example, individuals higher in self-efficacy tended to set challenging goals; persist toward the achievement of their goals, even under difficult and stressful circumstances; and recover quickly from failure, even in the face of adverse conditions (Bandura 1999:6). In the same context, self-efficacy was likely to reinforce business continuity and it is therefore the capability of the organisation to continue delivery of products or services at acceptable and predefined levels under turbulent conditions (NHS England 2013:5). The death rate of SMEs, the resource constraints, the lack of access to finance, and other challenges facing SMEs in a turbulent and complex business environment

(Nason, McKelvie and Lumpkin 2015:280) forced small organisations to consider another dimension and ensure that beyond the traditional dimensions of entrepreneurial orientation, resilience and sustainable environment appeared to characterise self-efficacy as an entrepreneurial dimension. Though self-efficacy is normally viewed as an individual orientation, the same can be applied to an organisation. This is more so the case in SME's where the few individuals' perceptions can be aggregated to reflect the organisational posture. Kraus, et al., (2012:162) confirmed that proactive and innovative firm behaviour positively contributed to SMEs' performance during an economic crisis, but risk had to be minimised. In support, although resilience was paramount for SMEs to survive and grow, Douglas and Fitzsimmons (2008:937) asserted that self-efficacy was measured to investigate how it could contribute to EO alongside the three dimensions. From the description above, self-efficacy seemed to relate to the organisational orientation and led the researcher to expect a positive relationship between the factor of organisation orientation and self-efficacy. Jong et al., (2015:984) further confirmed that higher self-efficacy was likely to influence individuals, opportunity and threat perceptions leading to positive decision to pursue opportunities. In conclusion, self-efficacy was likely to create business continuity as an orientation that an organisation should instil to ensure sustainability in case of disruption and resource constraint (Bandura 2009:182). People tended to have control over their negative thinking as they showed higher degree of self-efficacy and consequently portrayed higher individual performance (Herath and Mahmood 2014:24). Furthermore, Akinbobola (2011:93) concurred that productivity of employees in industrial settings was mainly affected by their self-efficacy as a predictor of future behaviour better than past performance. The aggregate individual self-efficacy become an organisational mental state of being. Finally, Herath and Mahmood (2014:26) reiterated that coping with unexpected challenges was a dimension of self-efficacy different from innovativeness, risk taking and proactiveness. Self-efficacy might further address businesses' reaction to insufficient operational capability of SMEs (Hiles 2007:48). Entrepreneurial alertness as the dimension of entrepreneurial orientation was justified by Hills, Lumpkin and Singh (1997)'s study that pointed out that entrepreneurial alertness (EA) was a precursor of opportunity recognition within an organisation. SMEs were naturally characterised by a constant searching for opportunity. In summary, Newman, Obschonka, Schwarz, Cohena, Nielsen (2019:406) confirmed that entrepreneurial self-efficacy had a relationship to innovation as well as other firm characteristics such as strategic orientation, culture and processes. This will be discussed next.

2.4.7.3 Entrepreneurial Alertness

Mayo, et al., (2002:2) defined entrepreneurial alertness as a propensity to notice and be sensitive to information about objects, incidents, and patterns of behaviour in the environment with special interest to serve unmet needs with combination of resources. Furthermore, Hisrich and Kearney (2014:74) asserted that EA emphasis was on opportunities identification and development especially those overlooked as applied to both SMEs and large organisations. Aptly Cooper, et al., (2006:57) confirmed that organisations could establish and enhance entrepreneurial alertness by promoting flexibility and renewal through entrepreneurial mindset. In this context, the entrepreneurial alertness was found to be a superior insight in recognising valuable opportunities as Chell (2008:250) pointed out that entrepreneurial alertness was necessary as it arose from the situation linked to socio-economic values. Chell (2008:41) further declared that alertness to profit opportunities was based on individual differences in perception in the organisation. Closely related to that, Yu (2001:51) stated that even the most obvious opportunity could be ignored by a person who was not motivated to see it, in other words, individuals would not discover any profit opportunity for the organisation if they 'switch off' their alertness systems. Adversities and the pressure of an external environment were likely to make people in SMEs more alert than in the large organisations as failure to recognise and exploit opportunities negatively impact on the performance of enterprises (Fatoki and Oni 2015:212; Lim and Xavier 2015:105). Opportunity identification was enhanced by entrepreneurial alertness and it was critical for an organisation to understand how and why particular individuals were alert (Foss and Klein 2010:145; Fatoki and Oni 2015:215). This is because intrapreneuring was about the recognition or creation of an opportunity that appeared to be a result of individual behaviour and could determine the success or failure of the organisation (Hanson 2015:16). Gaglio and Katz (2001:97), however, recognized theoretical gaps in understanding alertness, arguing that it could be possible to address them by considering alertness to be heuristically driven. They proposed a chronic alertness schema as the heuristic driving awareness, adding that the existing means-ends framework might be inappropriate. Gaglio and Katz's (2001:98) conceptual model and research are designed to answer behaviours and cognitive approaches to the theory of entrepreneurial alertness. These cognitive capacities help entrepreneurs to perceive market needs and/or underemployed resources, and to recognise a "fit" between particular market needs and specified resources. There was an agreement in the literature that a new creative idea could generate money only if it was taken and turned into a product or process (Ehlers and Lazenby 2016:16).

In summary, entrepreneurial self-efficacy and entrepreneurial alertness are assumed to be related to organisational dimensions as individual involvement is rooted in firms' strategic direction to achieve innovation. The sphere of firm-level innovation implied that innovative activity of the firms could not be properly understood without considering the influence of individuals' creativity and alertness to business ideas. In this context, the activation of EA was likely to establish a platform for useful ideas to be generated and exploited in SMEs in order to achieve innovation performance (Montiel-Campos 2018:13). Furthermore, Montiel-Campos (2018:11) found there was a positive relationship between creativity as a source of firm innovation and entrepreneurial alertness. This was corroborated by Tang, Kacmar and Busenitz's (2010:30) study that confirmed that alertness was linked to firm innovation as an alert intrapreneur was likely to discover something that could lead to innovation. The next section will analyse the literature about organisational orientation dimensions in the context of SMEs.

2.5 ORGANISATIONAL ORIENTATION

2.5.1 Introduction

According to Rosso, Dekas and Wrzesniewski (2010:95), the meaning of work ranged from individual attitudes to organisational values and addressed "self, other persons and the work context". Closely related to that, De Jong et al., (2015:984) pointed out that the motivational system was found in planned behaviour such as individual positive attitudes toward entrepreneurial behaviour, to increase the engagement of individuals. The theory of organisational orientation developed by Presthus in (1958) focused on the varying orientations toward work exhibited by employees in an organisation. The theory originally supported that organisational culture was the basis of organisational orientation. However, Tibbles, Richmond, McCroskey and Weber (2008:389) posited that organisational orientation remained consistent across organisations and time. Recently, this perspective received empirical support. In this context, Yushuai, Na and Changping (2014:767) opined that employees were likely to be defined by their entrepreneurial disposition in terms of ability and motivation. The former was based on procedural and cognitive knowledge whereas the latter defined the direction, the extensiveness, and the timing for a certain behaviour. Closely related to that, Thompson (2004:246) asserted that temperament was the driving force behind employees' behaviour. For example, it was identified in the early 60s by McLelland that the key driving force in the personality of entrepreneurs was a "need for achievement". Covin and Slevin (2001:8) and Amolo and Migiro (2014:834) affirmed that the psychological entrepreneurship theories, such

as personality traits, the locus of control and a need for achievement built their analysis around an individual. These theories, firstly, tended to portray the personality traits as referred to characteristics of an entrepreneur in terms of behaviour that included opportunity driven, optimism, perseverance and commitment. Furthermore, the psychological theories showed the locus of control and a need for achievement in terms of ability and motivation of individuals to initiate and to take responsibility of any outcome of their undertaking (Amolo and Migiro 2014:835). Temperament encapsulated the needs and wants of people and could be related to the extent to which talents were exploited. It was further confirmed by Thompson (2004:246) that temperament had both born and made elements as it could certainly be influenced by the environment in which people grew and developed. At organisational level, Kuratko, et al., (2011:326) claimed that the organisational architecture concept emphasised the workplace design such as structure, resource, and systems including a reward system that supports entrepreneurial behaviour. Hisrich and Kearney (2014:75) also reiterated that the motivation and encouragement for innovation and entrepreneurship combined with the utilisation of resources and capabilities could foster innovations and entrepreneurial culture. In the context of SMEs, Miller (1988) supported that a contingency theory was required for the fit of key variables such as strategy, structure, culture, management style and systems; they were all critical for obtaining optimal performance. Wong and Aspinwall (2004:49) also found that performance or lack of performance could be realised through advantages and disadvantages of factors such as ownership and management, structure, culture and behaviour, systems, processes and procedures of SMEs. The researcher argues that the high failure rate of SMEs necessitates an inclusive model that revisits organisational orientation of owner-managers in relation to entrepreneurial activities in firms. This section will assess the organisational antecedents that instil entrepreneurial behaviour in an organisation. Organisational culture as an OO dimension is reviewed next.

2.5.2 Organisational Culture

This section discusses the positive and negative aspects of individualist and collectivist cultures and the possible impact on an entrepreneurial orientation of organisations. Although individual entrepreneurial orientation focused on the analysis at individual level, Kuratko, et al., (2011:281) indicated that there was a need for balance between the individualist and collectivist perspectives of employees to unfold the entrepreneurial process as excess of individualism or collectivism could hinder entrepreneurship of an organisation. According to Goodboy and McCroskey (2008:289), individual differences proved various ways people could approach

their roles in an organisation and the different approaches toward work and the place of work in their lives. In the same vein, Robbins, Odendaal and Roodt (2004:35) asserted that individualism and collectivism referred to the extent to which society rewarded individualistic and collectivistic behaviours. The researcher argues that the individualism or collectivism tends to determine whether an organisation opts to entrepreneurship. The relevant examples are those of individual expectations, reactions to management decisions, and interactions with co-workers, autonomy and dependence.

2.5.2.1 Individualist Orientation

Kuratko, et al., (2011:280) defined individualism as self-orientation, an emphasis on self-sufficiency and control, the pursuit of individual goals that might or might not be consistent with one's colleagues. In another perspective, Nelwell, et al., (2009:5) emphasised that individualistic goals such as improving one's quality of life and making money was key to entrepreneurial motivation. In the same context, Lee and Peterson (2000:405) added that individualistic culture was conducive to entrepreneurial culture. The individualist employees had tendency to be autonomous, self-reliant and emphasised less on conformity, independent disregarding the rules and norms of the group, focus on exchange in the pursuit of opportunity and achievement of goals (Triandis 2001:909-911). Closely related to that, De Clercq and Rius (2007:467) established that employees' performance might be rooted from their individual commitment. Similarly, Smit, Cronje, Brevis and Vrba (2015:290) underlined that individualist employees preferred to work for extrinsic money rewards and tended to work and decide alone. The next section critically analyses a collectivist approach of organisational culture.

2.5.2.2 Collectivist Orientation

Collectivist employees were believed to be dependent and emphasised conformity, obedience, security, and reliability (Triandis 2001:912). Collectivists tended to prefer sharing the fruit of their efforts with their colleagues than to take extra for themselves (Smit et al., 2015:290). This seemed to be a source of employees' motivation in organisations. Smit et al., (2015:291) further indicated that employees' choice of individualistic or collectivistic orientation could force the organisation to adjust its structure. Table 2.1 presents the merits of individualism vs collectivism, and clarifies both positive and negative aspects of individualism and collectivism in the entrepreneurial process of an organisation.

Table 2.1: Merits of Individualism vs Collectivism

POSITIVE ASPECTS	
Individualism	**Collectivism**
❖ Employee develops stronger self-concept, more self-confidence ❖ Consistent with achievement motivation ❖ Competition among individuals encourages greater number of novel concepts and ideas, breakthrough innovations ❖ Stronger sense of personal responsibility for performance outcomes ❖ Linkage between personal effort and rewards create greater sense of equity	❖ Greater synergies from combined efforts of people with different skills ❖ Ability to incorporate diverse perspectives and achieve comprehensive view ❖ Individuals treated as equals ❖ Relationships more personalised, synchronised, harmonious, while interpersonal conflicts are discouraged ❖ Greater concern for welfare for others, networks of social support available ❖ More consensus regarding direction and priorities. ❖ Credit for failures and successes equally shared ❖ Teamwork produces steady, incremental progress on projects
NEGATIVE ASPECTS	
Individualism	**Collectivism**
❖ Emphasis on personal gain at the expense of others, selfishness, materialism ❖ Individuals have less commitment/loyalty, are more "up for sale" ❖ Differences among individuals are emphasised ❖ Interpersonal conflicts are encouraged ❖ Greater levels of personal stress, pressure from individual performance ❖ Insecurity can result from over dependency on one's self ❖ Greater feeling of loneliness, alienation, and anomie ❖ Stronger incentive for unethical behaviour, expediency ❖ Onus of failure falls on the individual	❖ Loss of personal and professional self to group/collective ❖ Greater emotional dependence of individuals on the group or organisation ❖ Less personal responsibility for outcomes ❖ Individual "free ride" on efforts of others, rewards not commensurate with effort ❖ Tendency toward "group think" ❖ Outcomes can represent compromises among diverse interests, reflecting need to get along more than need for performance ❖ Collectivists can take more time to reach consensus, may miss opportunities.

Table 2.1: Merits of individualism vs collectivism
Source: Kuratko, Morris and Covin (2011:280)

De Clercq and Rius (2007:468) reaffirmed that organisational commitment and effort in small and medium-sized firms was dependent on the factors such as individuals' work status in the firm; their perception about the organisational climate and the firm's entrepreneurial orientation. In the South African context, the Ubuntu concept comes between individualism and collectivism. Although Ubuntu tends to characterise collectivism, the concept could be interpreted differently in analysing an entrepreneurial orientation of firms. In this context, Indian, coloured and African communities especially, are characterised by collectivist cultural norms that imply joint business decision making (Taruwinga 2011:61).

In conclusion, the literature proved organisational culture in SMEs was individualist and a source of entrepreneurial culture. Furthermore, individual effort is rewarded and regarded as source of innovation performance. Hence, individualist culture relates to innovation. The next section will critically analyse management style and support at workplace especially in the context of SMEs.

2.5.3 Management Styles and Support in SMEs

Ahmad, et al., (2013:3) stated that management support for change could encourage the employees to embrace entrepreneurial culture within an organisation. The freedom of employees to be involved in entrepreneurial activities might be opposed to paternalism culture of SMEs. The choice of a leadership style could become crucial to enhance the entrepreneurial orientation. A study conducted by Holt, Rutherford and Clohessy (2007:45), and Cope, Kempster and Perry (2011:276) found that management support was a source of significant variations in fostering intrapreneurial behaviour. In the same context, Belousova and Gailly (2013:361) pointed out that it remained unclear how individual employees from different hierarchical ranks in an organisation contributed to entrepreneurial process.

Management style and support (MS) could be realised in the strategy, structure, and culture of the organisation. In the same context, the perception of top management support either to compel employees to ask permission for actions that fall outside their daily duties or to initiate change stemmed from entrepreneurial leadership in SMEs. The degree of willingness of management to promote the intrapreneurial behaviour in supporting the workforce has been considered as the best way to maximum outcome of corporate entrepreneurship (Bhardwarj, Sushil and Momaya, 2011:187). The willingness of the top-level managers to facilitate and promote entrepreneurial behaviour was a cornerstone for entrepreneurial success in the organisation (Ahmad, et al., 2013:3). In this context, Azami (2014:24) confirmed that the

reduced area of action and reduced responsibilities characterised by lower hierarchical rank could affect intrapreneurial efforts in the organisation. MacMillan found that top management support, commitment, style, staffing and rewarding venture activities influence entrepreneurship outcomes and could be measured by the willingness of managers to facilitate and promote entrepreneurial activity in the firm (Bhardwaj, Sushil and Momaya 2007:51). A crisis of leadership in terms of lack of delegation and formal management, and dysfunctional entrepreneurial leadership were believed to have detrimental influences on the development of the firm (Hellriegel, Slocum, Jackson, Louw, Staude, Amos, Klopper, Louw, Oosthuizen, Perks and Zindiye 2013:17). In this context, Cope, et al., (2011:276) suggested the appropriateness of distributed leadership for SMEs as the leadership practice for entrepreneurial firm entailed independence, responsiveness and opportunity driven. The leadership style of managers was likely to determine how members spent their time, what they focused attention on, and how they were likely to make decisions (Kaplan 2005:41). For example, employer's feedback was likely to reaffirm the fairness of the reward system and the attitude towards mistake or success in terms of too great costs of failure and the reward for a successful outcome too small (Farrell and Finkelstein 2011:57). While mistakes might be problematic in the functioning of the business, intrapreneurs should be allowed to commit mistakes as part of the entrepreneurial process to achieve innovation in firms (Azami 2014:24). In addition, Tian and Wang (2009:1) stated that tolerance for failure could be measured by autonomy in work methods, autonomy in judgment, autonomy in abilities and autonomy in decision making by emphasising an appropriate organisation structure to instil a freedom of ideas within the organisation.

In conclusion, the literature reaffirms that the leadership that emphasises tolerance for failure is likely to instil entrepreneurial culture and improve innovation performance. However, the nature of SMEs may lead to limitation in terms of risk taking as the responsibility of control and allocation of resources is centralised and personalised by the owner-managers. The next section will review an organisational structure dimension of OO.

2.5.5 Organisational Structure

The basic organisational structures referred to bureaucratic and organic structures through which the level of control was likely to be determined. The organisational structure was a way of dividing and grouping tasks and distributing them to people with specialised skills and authority. The structure also informed how activities and reporting relationships were grouped, and the mechanisms by which activities in the organisation should be coordinated (Hellriegel,

et al., 2013:301). According to Van Wyk and Adonisi (2012:74), formal structures that underpin flexible responses nurture corporate entrepreneurial actions. Innovation influences the organisational structure. Bhardwarj, et al., (2011:49) specified that the organisation strategy, structure and systems should change in order to accommodate innovation objectives of the firm. In this context, it can be assumed that there is a correlationship between organisational structure and innovation output of a firm. The next section will critically analyse systems as an organisational dimension.

2.5.6 Organisational Systems

Systems focused and aligned on a successful strategy implementation and referred to a formal and informal procedures used to manage the organisation, including management control systems, performance measurement and reward systems, planning, budgeting and resource allocation systems, and the management information systems (Kaplan 2005:42). It appeared paramount to manage systems as innovations within organisations arose at many different points in the development process, including conception, R&D, transfer, production and deployment or marketplace usage (Atkinson 2013:4). Aptly, the study assumption is that organisational systems are likely to correlate with innovation performance of a firm.

2.5.7 Organisational Strategy

According to Kuratko, et al., (2011:51), the need for a strategic change arose due to the entrepreneurial activity driven by individuals' initiatives. Smith (2015:157) confirmed that strategy was likely to be the positioning and actions taken by an enterprise, in response to or anticipation of changes in the external environment, intended to achieve competitive advantage. Kaplan (2005:41) further stated that a strategy was likely to describe and measure the customer outcomes and critical internal processes that were likely to create and deliver the differentiated customer value proposition. The entrepreneurial orientation at firm level allowed firm to build an innovative capability as the basis for making the overall firm more entrepreneurial and accepting of change (Kuratko, Hornsby and Hayton 2015:248). In this context, Lower and Marriott (2007:49) confirmed that organisations were likely to be involved in entrepreneurial management through a range of behaviour that consistently comprised six critical dimensions of business practice such as: strategic orientation, commitment to opportunity, commitment to resources, control of resources, management structure and reward philosophy.

According to Green, Covin and Slevin (2007:356), no relationship was found between strategic readiness and entrepreneurial orientation. Nevertheless, in case the strategic readiness is aligned with organisation structure and management style, it demonstrates a positive relationship with entrepreneurial orientation. Wiklund and Shepherd (2005:76) further asserted that firms needed to use a configurational approach based on the premise that firms had to align their internal and external attributes with the characteristics of business environment to outperform other firms. In such a set-up, Chell (2008:263) confirmed that those attributes appeared to be related to the "dynamic capabilities" that enabled an entrepreneurial individual or a team to drive forward an organisation. For example, SME should be able to have a strategy that aligned the organisational resources with the opportunities and threats of the environment in assessing the configurations of business EO; environment and resources could position an organisation for high performance (Wiklund and Shepherd 2005:77). In addition, Kuratko et al., (2011:85) indicated that while corporate venturing was focusing on adding new businesses, strategic entrepreneurship tended to improve the strategy (1), product (2), market (3), and internal organisation (4) of the business.

In conclusion, the strategic choice of SMEs is likely to correlate with innovation performance. The next section will critically assess different models that support the empirical inquiry of this study.

2.6 MODELS OF ENTRETREPRENEURIAL ORIENTATION

2.6.1 Introduction

This section will present and analyse different models of entrepreneurial orientation and will mostly focus on the models developed by Kuratko, et al., (2011). Research on entrepreneurial orientation in the context of small and medium enterprises requires the consideration of different models. This section will describe and analyse selected models of entrepreneurial orientation which include: sustained corporate entrepreneurship model; entrepreneurial motivation model; entrepreneurial behaviour model; entrepreneurial capability model; and FACETS entrepreneurial model.

2.6.2 A Model of Sustained Corporate Entrepreneurship

A sustained corporate entrepreneurship model emphasise organisational ability as the source of sustaining entrepreneurship. Kuratko, et al., (2011:50) demonstrated that sustainability was dependent upon individual members of the organisation carrying out innovative tasks and the positive perceptions of senior management with regard to the executed tasks. The figure 2.6

illustrates the relationships leading to ongoing entrepreneurship. This model showed that a transformational trigger in terms of external or internal factors creates a threat or an opportunity for a company, and consequently initiates the need for strategic change. The model acknowledged that change happened through entrepreneurial activity driven by individuals within a company. According to Kuratko, et al., (2011:51), this proposed model centred on the individual employee's decision to behave entrepreneurially in their firms. The same authors further confirmed that entrepreneurial activity was the result of the perception by the employees that various organisational variables were present, such as management support, rewards, autonomy, resources, and flexible organisational boundaries. In addition, this model considered that individuals, as agents of strategic change, must be satisfied with what they perceived to be intrinsic and extrinsic rewards to the outcome of the entrepreneurial decision and behaviour. Lastly, this model suggests that both individual behaviour and organisational strategy were instrumental to accommodate major strategic change (Kuratko 2014:88). The figure 2.6 below maps a sustained corporate entrepreneurship model.

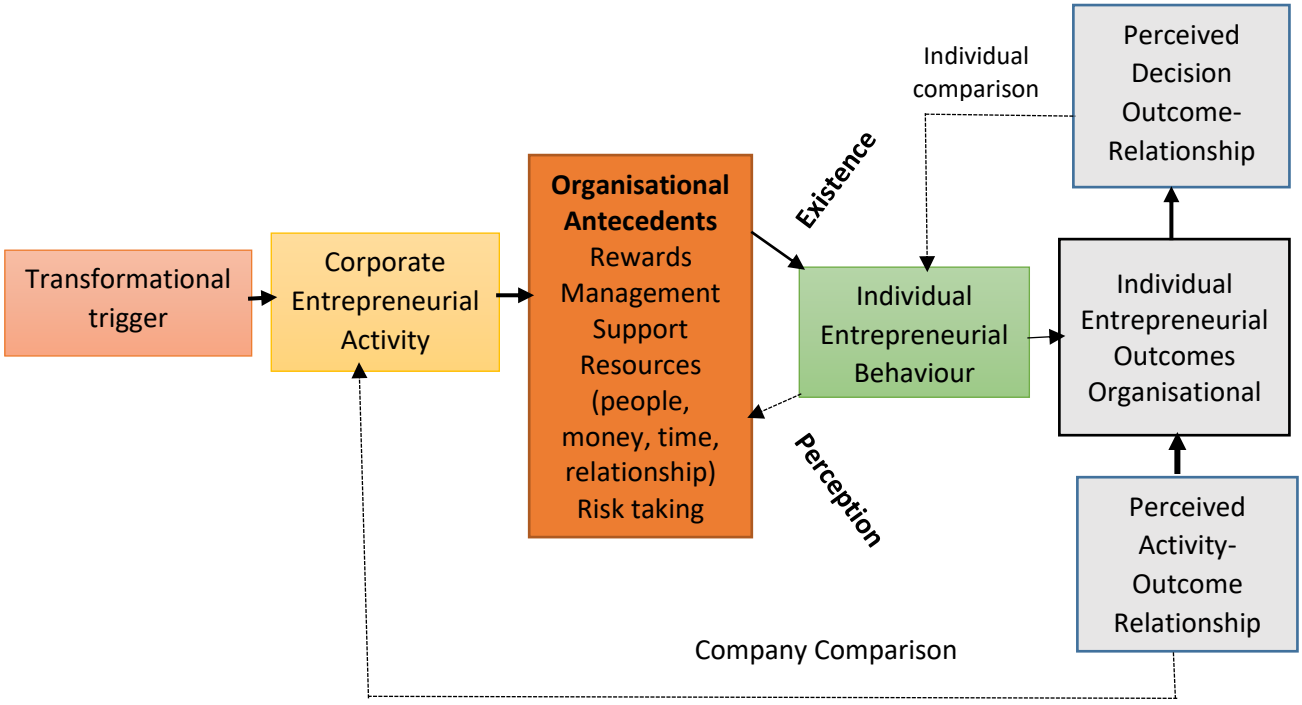


Figure 2.6: A Model of Sustained Corporate Entrepreneurship
Source: Kuratko, Morris and Covin (2011:51)

The sustained corporate entrepreneurship model seemed to be the most comprehensive in terms of entrepreneurial orientation, but emphasises individual contribution. However, it focused on rewarding individual entrepreneurial behaviour for involvement in the entrepreneurial activities of an organisation. In contrast, this model ignores the organisational dimensions beyond management support that pave a way for entrepreneurial orientation to take place

leading to innovation performance. The transformational trigger takes place within organisational boundaries. Any response to threat or opportunity is likely to be successful if the organisational architecture accommodates organisational dimensions that underpin entrepreneurial ones. The next section describes and critically evaluates a model of entrepreneurial motivation of an organisation.

2.6.3 A Model of Entrepreneurial Motivation

According to Kuratko et al., (2011:225), a model of entrepreneurial motivation was based on the premise that the willingness of an employee to sustain a venture was directly related to an entrepreneur's motivation. In the same context, Kuratko (2014:56) stated that although research on psychological characteristics of entrepreneurs seemed not to have an agreed on profile of the entrepreneur, it remained critical to recognise the importance of psychological factors in the entrepreneurial process. This model examined the importance of satisfaction to an entrepreneurial employees' willingness to remain in a venture. According to Kuratko, et al., (2011:224), several factors were likely to interact for an employee to decide on behaving entrepreneurially. Figure 2.7 depicts that individuals were likely to generate an idea or recognise an opportunity, but personal characteristics, personal environment, and personal goals of the entrepreneur, and the business environment for the entrepreneurial idea determine whether an entrepreneur acts on the idea or not (Kuratko 2014:56).

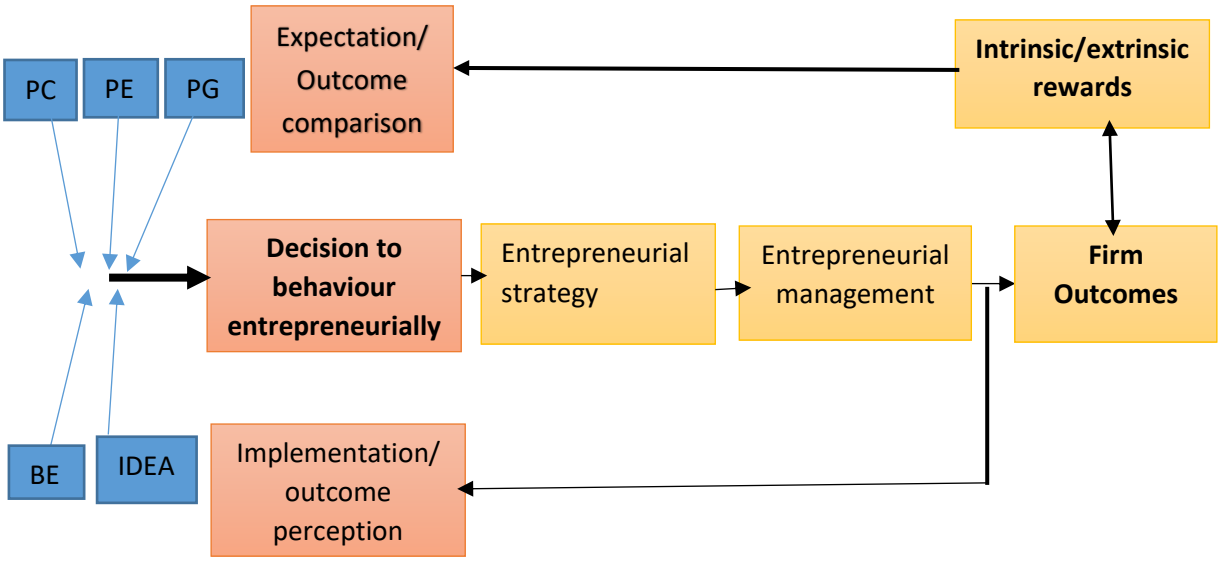


Figure 2.7: A model of entrepreneurial motivation
Source: Kuratko, Morris and Covin (2011:226)

PC: Personal characteristics of the entrepreneur

PE: Personal environment of the entrepreneur

PG: Personal goals of the entrepreneur

BE: Business environment for the entrepreneurial idea

IDEA: The entrepreneurial idea

This model focused on reward as a motivator to personal involvement in organisation's entrepreneurial activities. However, the above model did not establish the correlation between the entrepreneurial orientation dimension and organisational orientation dimensions. The model further ignored organisational factors as it emphasised individual entrepreneurial characteristics rather than organisational entrepreneurial characteristics. This study seeks to empirically investigate whether organisational and entrepreneurial characteristics correlate and whether the correlationship can provide insights into innovation performance of SMEs. The next model will critically analyse the entrepreneurial behaviour in firms.

2.6.4 A Model of Entrepreneurial Behaviour

A model of motivation for entrepreneurial behaviour emphasised the critical role of reward systems of an organisation to unleash the entrepreneurial drive of employees (Kuratko et al., 2011: 253). This model reiterated that employees accept work to achieve rewards. Furthermore, although rewards could take different forms, such as financial, status, power or personal development, the question was whether the employee could be motivated toward specific behaviours. This model assisted in identifying some of the reasons employees might not be motivated to be entrepreneurial on the job. Kuratko, et al., (2011:255) confirmed that an employee not only could generate ideas, but also refine them. The authors further stated that individual motivation to be entrepreneurial on the job was a function of an anticipation that effort spent on entrepreneurial activity would lead to a fair performance evaluation and achieve a proportional reward. The figure 2.8 below depicts that individual effort needed to be rewarded for employee to remain committed to entrepreneurial activities.

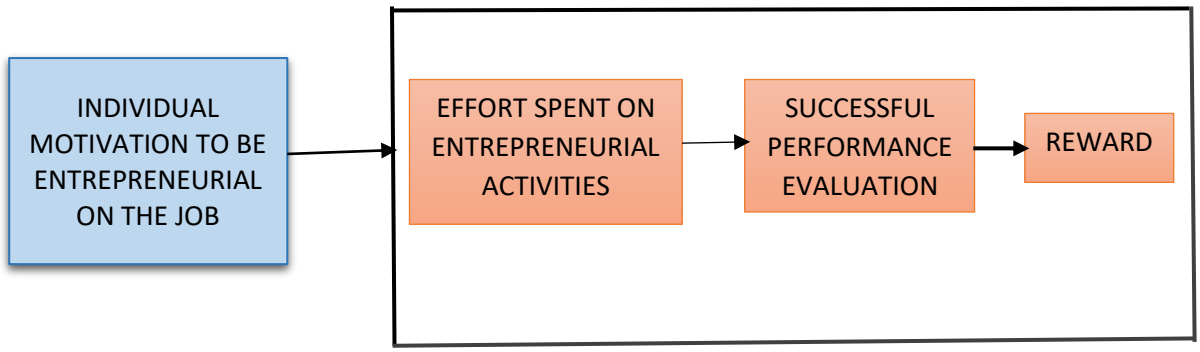


Figure 2.8. A model of entrepreneurial behaviour
Kuratko, Morris and Covin (2011:255)

The model above focused on entrepreneurial effort, outcome of the effort and associated rewards. However, although an individual entrepreneur performance seems crucial for innovation, it could not warrant the innovation performance of an organisation. Both entrepreneurial and organisational factors should co-exist and correlate. The model of entrepreneurial capability of the firms is illustrated next.

2.6.5 Model of Entrepreneurial capability

According to Lewis (2011:430) the word "capability" meant suitableness or adaptation for a purpose: fitness and aptitude. He confirmed that entrepreneurial capability was a function of entrepreneurial intelligence (EI) and entrepreneurial mindsets. EI as a practical knowledge and entrepreneurial mindsets as the way of thinking of entrepreneurs and their outlook on the environment in decision making (Lowe and Marriott 2007:7). As depicted in Figure 2.9 below, possessing entrepreneurial intelligence without entrepreneurial mindsets produced dormant entrepreneurs whereas mindsets without intelligence raised "wannabe" entrepreneurs. Lewis approach as showed in the figure 2.9 below relied on a multiplier effect of both entrepreneurial intelligence and mindsets for an organisation to be entrepreneurially capable. However, the entrepreneurial capability happened to be the result of the equation below where the absence of entrepreneurial activities is equated to zero. Thus, competitiveness in most organisations is underpinned by innovation capabilities (Dooley, Kenny and O'Sullivan 2017:233).

Figure 2.9 Entrepreneurial capability equation
Source: Lewis (2011:431)

Lewis (2011:437) further confirmed that entrepreneurial intelligences included employees' creative, practical and analytical skills whereas entrepreneurial mindsets comprised the determination to succeed or make things happen and commitment to innovation and growth. In this context, the organisational commitment could be seen as an individual stronger desire for permanence and a great will to maintain a high level of effort within an organisation (Akehurst, et al., 2009:281).

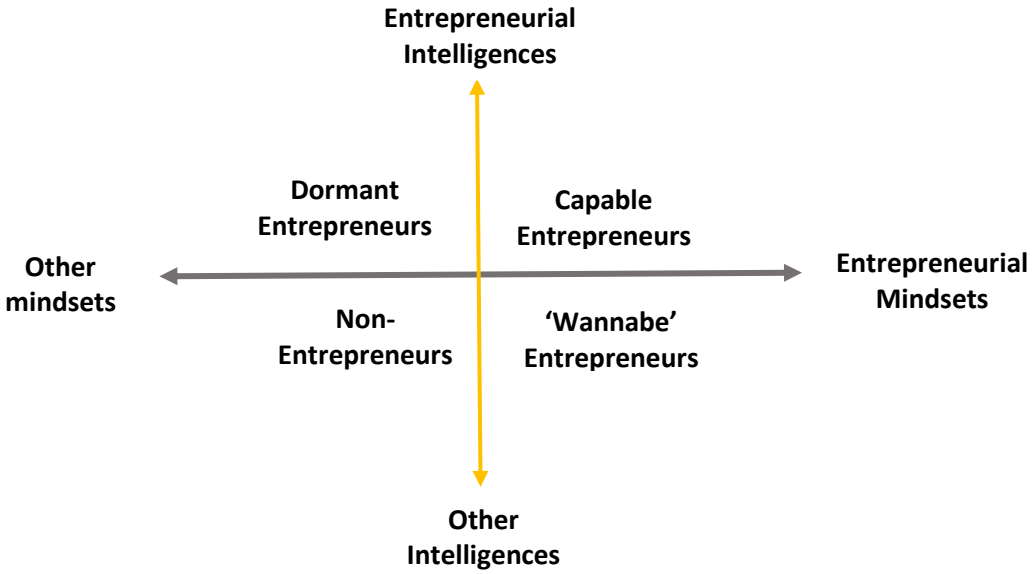


Figure 2.10: A model of Entrepreneurial capability
Source: Lewis (2011:430)

Entrepreneurial capability model focused on the ability of organisational members as a result of entrepreneurial mindset and intelligence. This model emphasised on an individual entrepreneurial capability to start a business, but ignored organisational dynamics that could lead to innovation and growth. An intelligent entrepreneur with entrepreneurial mindset may not achieve innovations if organisational dimensions are not taken into consideration. The next section will analyse FACETS entrepreneurial model.

2.6.6 FACETS Entrepreneurial model

According to Bolton and Thompson (2013:3), the FACETS acronym stood for six characteristics that include: focus, advantage, creativity, ego, team and social. These individual characteristics were grouped into abilities, ego temperament and behaviours of individual entrepreneurs. Bolton and Thompson (2013:14) further emphasised that, advantage and creativity represented the talents of an individual to identify and carry out an entrepreneurial task, whereas ego temperament was considered to have an impact on the effectiveness of the contribution of a team member. Social characteristic was built on the values and behaviours of an individual entrepreneur based on interaction and disposition to render services in an organisation. The FACETS model as depicted in Figure 2.11 below showed that individual entrepreneurs focused on the timing for an activity to be targeted and action to be taken in order to generate creative ideas, to bring opportunity and to solve organisational problems. Fundamentally, this model was built on the premises that an individual had to be driven in

order to contribute to entrepreneurial actions in an organisation environment (Sijde, Shafi and Dad 2012:31).

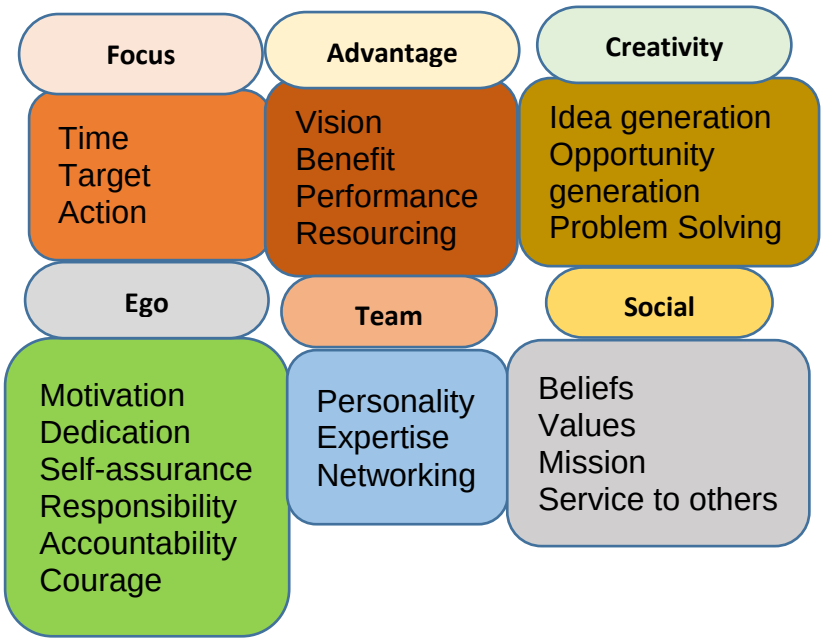


Figure 2.11: FACETS entrepreneur model
Adapted from Thompson (2004:244)

This model is individualistic as it is based on an entrepreneur's commitment and contribution to fulfil entrepreneurial vision. However, it can be argued that all the factors of this model should take into consideration the organisational context that was likely to facilitate the innovation performance of a firm. The following section will summarise different models as discussed and critically reviewed above.

2.6.7 Model Summary

After reviewing the theoretical ground of this study, critical points could be deduced from the previous entrepreneurial models. All the above-described models provided a cornerstone to construct a reliable model for this study.

- Entrepreneurial orientation was a function of behaviour within an organisation.
- The internal entrepreneur expectation should be in terms of intrinsic and extrinsic rewards.
- Motivation led to successful organisational and employees' outcome.
- Involvement of employees in entrepreneurial action was required and dependent on the effort and reward system of an organisation. The rewards could be intrinsic and extrinsic.
- Employees' satisfaction could be observed through their willingness to remain committed and to be active in the entrepreneurial process.

- ❖ Personal characteristics and goals, personal and business environment of the entrepreneur could enlighten why an employee acted entrepreneurially or not.

In summary, Rigtering and Weitzel (2013:337) stated that although entrepreneurial activities and entrepreneurial employees were considered to be important drivers for innovations and strategic renewal in organisations, the question remained, however, how to stimulate behaviours towards entrepreneurial commitment for organisational members to support entrepreneurial orientation and firm innovation performance. Rigtering and Weitzel (2013:338) pointed out that EO was the entrepreneurial activity initiated top-down. In this context, EO in SMEs seems to be the domain of owner-managers. In support, Slevin and Terjesen (2011:974) stated that employees, especially non-managerial employees might make or break an organisation. While employees were major contributors to EO of a firm, EO remained an organisational construct.

Furthermore, Goktan and Gupta (2013:99) emphasised that systematic research on EO appeared recently, and there was a lack of an in-depth analysis of role by EO in the context of addressing productive behaviours at workplace. In the same context, Kuratko, et al., (2015:246) identified that ongoing work brought new and critical research questions and further theoretical paths necessitating exploration such as cognitive processes and motivation of internal entrepreneurs (Corbett and Hmieleski 2007:103); the influence of resource constrained environments; and the application of corporate entrepreneurship principles to small and medium firms (Fini, et al., 2012:389).

In conclusion, this section emphasised the importance of individuals in CE of an organisation. Different models discussed and critically evaluated were driven by an individual to whom motivation is critical. However, the study assumes that the reward is likely to have impact on the innovation performance of SMEs. The next section will critically analyse the literature about innovation performance in SMEs.

2.7. INNOVATION PERFORMANCE IN SMEs

2.7.1 Introduction

The section will review and evaluate the literature on performances of SMEs with regard to their EO and OO. According to Tuan, Nhan, Giang and Ngoc (2016:416) innovative performance was the combination of an overall organisational commitment to succeed as a result of renewal and improvement efforts taking into account various aspects of a firm's

innovativeness such as processes, products, marketing, organisational structure. However, the Organisation for Economic Cooperation and Development properly defined innovation more broadly as "the implementation of a new or significantly improved product (that is, a physical good or service), process, a new marketing method, or a new organisational method in business practices, workplace organisation, or external relations" (Atkinson 2013:3). The next section will discuss the performance of SMEs as a result of the organisation orientation and entrepreneurial orientation. The firm performance appeared to be the management decisions to be an entrepreneurial organisation and to make an innovative impact on product, processes, market and the functioning of the organisation. It will be important to understand the source of a firm's innovation performance.

2.7.2 Source of Innovation Performance in SMEs

According to Aarakit and Kimbugwe (2015:286), entrepreneurial orientation had an influence on firm performance in terms of survival, market share, competitiveness and growth. Considering the dynamism of competition, firms required a new dimension of response in terms of technology, product, market, and employee perceptions in order to perform. Lumpkin and Dess (1996:139) and Okhomina (2010:5) asserted that EO referred to the firm's strategic orientation, capturing specific entrepreneurial aspects of decision-making styles, methods, and practices. In the same context, EO was likely to reflect an operational aspect of an organisation rather than what an organisation was able to do. In support, Nelwell et al., (2009:4) reiterated that it was crucial to understand an entrepreneurial vision and process through entrepreneurial motivation, the support of entrepreneurial activities, and perceived critical factors leading to SME survival and growth. Also, Rauch, Wiklund, Frese, and Lumpkin (2004:8) and Kraus, Pohjola, and Koponen (2012:161) confirmed that the conceptual arguments suggested that EO led to higher firm performance, although the magnitude of the relationship seemed to vary in the literature and the size and age of organisation were likely to moderate that relationship. Chell (2008:262) described the entrepreneurial performance of a firm as related to enterprise performance; and uninspired entrepreneurial performance was likely to influence a poor performance or even a failure of an enterprise. Researchers found in general that all the EO constructs that included five dimensions could be considered collectively or separately lead to higher performance of the firm (Lumpkin and Dess 1996:138; and Bolton and Lane 2012:221). In addition, Chell (2008:263) pointed out that the resource-based theory linked entrepreneurial "persona" of the individual entrepreneur to the enterprise performance outcome.

In Figure 2.12, Lumpkin and Dess (1996:151) depicted the importance of environmental and organisational factors to the performance of the firm. Although the organisation was entrepreneurially orientated, environmental factors: dynamism, munificence, complexity and industry characteristics were likely to influence the performance. Organisational factors such as size, structure, strategy, top management, and resources of the organisation were to be taken into consideration in order to determine firm performance (Lumpkin and Dess 1996:152). In line with the literature, Lechner and Gudmundsson (2014:41) confirmed that the resource constraints of SMEs required strong priority-setting for investments as great innovativeness might be detrimental to an organisation strategy. Although the model addressed the firm performance, it did not put emphasis on the innovation performance leading to a firm's performance.

In contrast, Nason, McKelvie and Lumpkin (2015:279) found that SMEs were more likely to utilise an entrepreneurial strategy for growth to overcome the liabilities of smallness whereas big organisations used it to overcome the liabilities of inertia. In the same context, Tibbles et al., (2008:393) argued that organisation orientation was likely to influence individual performance, and remained consistent across organisations and time. Figure 2.12 below depicted the relationship between entrepreneurial orientation and firm's performance.

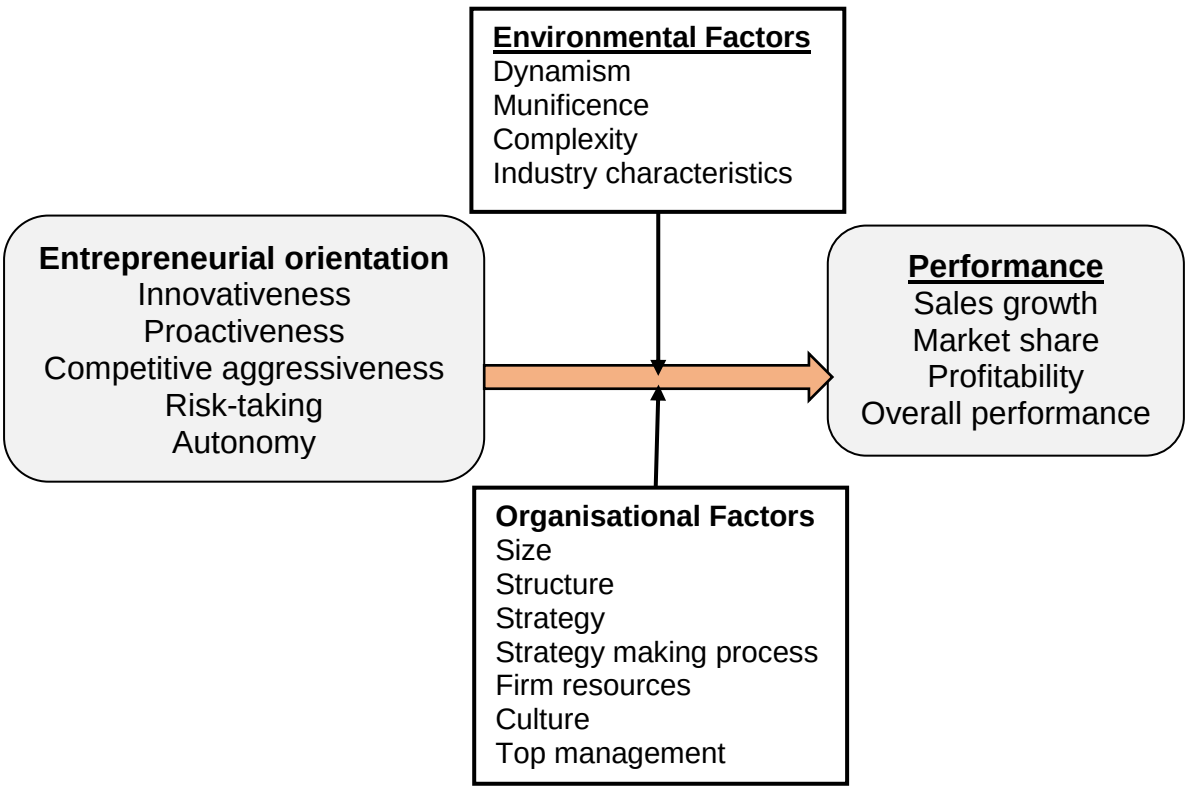


Figure 2.12: Relationship between entrepreneurial orientation and performance
Source: Lumpkin and Dess (1996:152)

In summary, Lumpkin and Dess model found that EO related to firm's organisational dimensions and to overall performance of firms. In this context, the study expects a positive and significant correlation between EO and OO.

2.7.3 Measuring Innovation Performance: 4 Ps of Innovation

Lowe and Marriott (2007:70) confirmed that innovation could be grouped into four categories. These four categories of innovation described the space where innovation might take place in any organisation. According to Utterback (1994:82-84), 4 Ps of innovation categorised the presence or no presence of innovation in an organisation. The innovation performance impacts on innovativeness and different areas of a firm's performance. According to Hisrich and Kearney (2014:50), innovation might take many forms such as developing new products and services, developing new methods of production, identifying new supplies and markets, and developing new organisational strategies. Closely related to that, Dawson and Andriopoulos (2014:73) concluded that the forms of innovation might be reduced to the acronym "4 Ps of innovation" (product, process, position and paradigm). According to Atkinson (2013:3), competitiveness was almost always incorrectly equated with productivity, but accurately defined, innovation was usually considered by some researchers as technological in nature, still others believed that innovation was only linked to the research and development (R&D) activity occurring at universities, national laboratories, and corporations. Innovation should be observed in product, process, position and paradigm (business model) of an organisation. The 4 Ps confirmed the improving in products/services and processes of an organisation leading to competitiveness. Tuan et al., (2016:417) found that there was an input-output relationship between innovativeness and innovation performance. Aptly, an EO innovativeness was likely to enhance innovation performance of firms. The next sections will discuss the 4 Ps of innovation.

2.7.3.1 Product Innovation

This is recognised as changes in products and services an organisation would be able to offer for sustainable business. Product innovation is considered to be changes in the products or services an organisation offer. According to Radas and Bozic (2009:438), the market scope is vital for SMEs because of its effect on innovation, especially the product and process innovation. Kraus, et al., (2012:268) stated that the main core of innovation study literature has focused on product innovations and the relationship between product innovativeness and corporate success.

2.7.4.2 Process Innovation

The process innovation focused on changes in the way the products and services were created and delivered. According to Kirchmer (2017:6), a business process innovation had to be considered important and refers to an innovation and business processes synergy. In this context, Kirchmer (2017:7) confirmed that there was a close relationship between the process innovation and the innovativeness of an organisation. Process innovation was seen as changes in the way products or services are created or distributed.

2.7.4.3 Position Innovation

This was defined as the context in which products and services are introduced and the acknowledgement with regard to market variation and changes in consumer behaviour. Position innovation was also considered to be changes in the context in which products or services were introduced. According to Kraus, et al., (2012:266), an entrepreneurial firm was likely to engage in product-market innovation in order to respond to competitors' threats.

2.7.4.4 Paradigm Innovation

Lowe and Marriott (2007:70) referred to paradigm innovation as changes in the underlying mental models which frame what an organisation does. This led to a reformulation of an organisation strategy and structure. In the same context, Ehlers and Lazenby (2016:365) confirmed that paradigm was what the organisation was about in terms of strategy, goals, activities, mission, and values. In addition, Lowe and Marriott (2007:71) confirmed that paradigm innovation entailed tenacity and the resilience of entrepreneurial managers especially in the context of SMEs. Paradigm innovation, lastly, could be seen as changes in the underlying mental models which framed what an organisation used to do. However, Kraus, et al., (2012:269) confirmed that organisational innovations were equally important as compared to other innovations. Studies have demonstrated that management innovations, both managerial and organisational, lead to a better firm-level performance. Factors that assess the innovation performance are depicted in Table 2.2.

Table 2.2: Measures for assessing innovation performance

1. Survival rate (3 years)	Number of commercialised new products still on the market
2. Success/hit rate (3 years)	Number of new products exceeding three-year original revenue forecasts
3. R&D innovation effectiveness ratio	Cumulative three-year R&D expenditures allocated solely to new products
4. Innovation portfolio mix	Percentage of new products commercialised by type: ➢ New-to-the-world ➢ Line extension ➢ Repositioning ➢ New-to-the-company ➢ Product line ➢ Improvements
5. Process pipeline flow	Number of new product concepts in each stage of the development process at year end
6. Innovation revenues per employee	Total number of full-time equivalent employees devoted solely to innovation initiatives
7. Return on innovation	Three-year new product total expenditures for all commercialised, failed, or killed products

Source: Kuratko (2011:394) adapted

In summary, to improve the innovation and a firm's performance, firms should concentrate highly, on process, marketing, and organisational innovation activities, rather than product innovation activities only (Tuan, et al., 2016:426-427).

The next section will review the literature regarding rewards. As discussed, different entrepreneurial orientation models agreed that rewards played crucial role as motivation tool to instil entrepreneurial behaviour in an organisation. In this context, the focus is to investigate whether rewards impact on innovation performance of SMEs.

2.7.5 Reward and Innovation Performance in SMEs

2.7.5.1 Introduction

The rewards had to be appropriate performance-based extrinsic and intrinsic rewards offered by the firms to motivate employee entrepreneurial activities (Weerakoon 2014:1242). For example, rewards ranged from a regular pay, bonuses, profit share, equity or share in the organisation, job security, promotion, and free time to work on pet projects, money for research, public or private recognition; trips to conferences or exhibitions (Kuratko, et al., 2011:255). If the employees could perceive that the reward system was trustworthy and created benefits to all, the higher would be the tendency to commit for innovative activities and to assume risk related with entrepreneurial work performance (Ireland, Covin and Kuratko 2009:19). Monsen, Urbig, Ranko, Tarabishy and Schjoedt (2010:2) referred to reward as a

trigger to entrepreneurial behaviour motivating employees to become innovative, proactive and moderate risk-taker. Hence, opportunities for employees to act entrepreneurially (Ireland, Kuratko and Morris 2006:10). The recognition of success was also very rare. No company provided payment in advance for what an intrapreneur might accomplish, but a lot of them like to talk about the concept of intrapreneurship and expected their employees to get involved and assume their risk (Azami 2014:24). Finally, when motivated employees get involved and have success their only reward is a small bonus. Bjerndell and Severin (2013:29) confirmed that reward systems were strategically designed when rewards were linked to activities and were likely to have a direct effect on the direction of employees' individual attention and effort. The next section will analyse reward as a determinant of innovation performance.

2.7.5.2 Reward as a Determinant of Innovation Performance

Antoncic and Hisrich (2003:7) stated that intrapreneurship was more precisely defined by referring to behavioural intentions and behaviours that were related to ways of doing things in an existing organisation. In the same context, Karimi, Malekmohamadi, Daryani, and Rezvanfar (2011:636) stated that entrepreneurial orientation within an organisation referred to owner-manager intrapreneurial commitment to undertake innovative opportunities outside their prescribed or traditional role in an organisation. Closely related to that, Rigtering and Weitzel (2013:338) acknowledged that intrapreneurial employees are those involved in bottom-up entrepreneurial activities in an organisation. In this context, Antoncic and Hisrich (2003:7) reiterated that intrapreneurship was contrasted with similar management concepts such as a diversification strategy, capabilities, organisational innovation and learning. Instead, Gapp and Fisher (2007:331) pointed out that intrapreneurial orientation focused primarily on an individual activity and was defined as the involvement of individuals in driving the process of innovation "within a joyful environment". Seen from this perspective, Antoncic and Hisrich (2003:7) identified three main areas of focus:

1. The individual, with an emphasis on individual characteristics and the way in which the intrapreneurial effort was supported
2. The internal environment in which a venture operated in
3. The characteristics of an organisation deemed intrapreneurial. The focus was on intrapreneur as individualistic orientation. According to Lower and Marriott (2007:13), intrapreneurial people behave in enterprising ways within organisations that employed them.

In this context, reward was proven to motivate entrepreneurial behaviour. For example, giving appropriate rewards might enhance the employees' willingness to assume risk associated with entrepreneurial activity (Urban and Nikolov 2013:2). According to Antoncic and Antoncic (2011:590), intrapreneurship occurs on two levels: the level of the organisation and on the level of the individual. Importance of management involvement, as well as (top) management encouragement, and rewards in terms of training and trusting individuals within the firm to detect opportunities was innovation objectives of firms (Sijde, Shafi and Dad 2013:25). Referring to Figure 2.13, proper motivation of employees led to adoption of creative approaches and might increase innovation and responsiveness to customers and markets, and consequently enhance the innovation performance and competitiveness of an organisation (Hisrich and Kearney 2014:90). The same figure depicts the critical role of individual and team commitment in the innovations and success of firms.

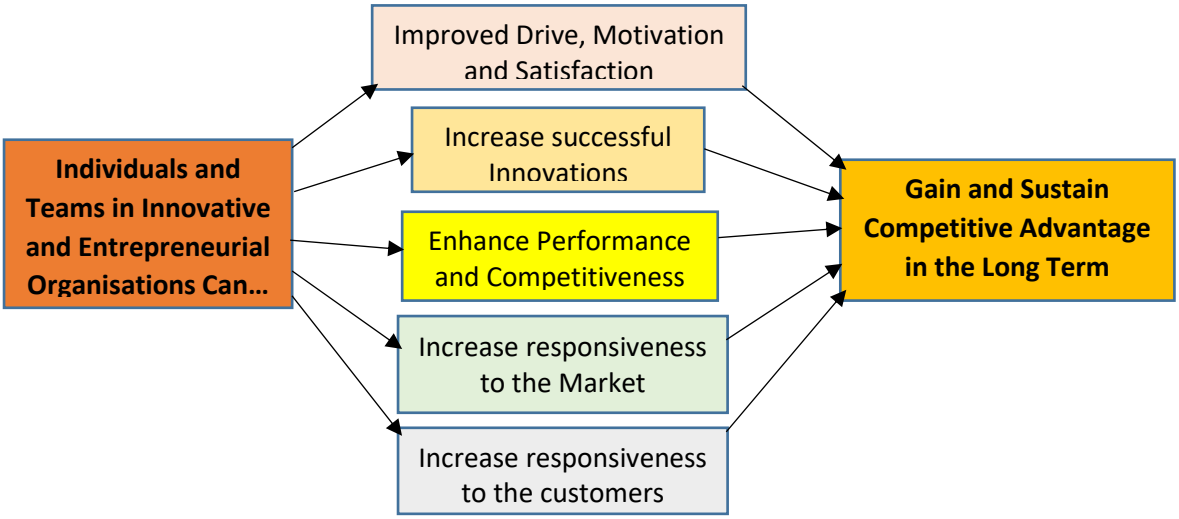


Figure 2.13 individual and team effectiveness in innovation and entrepreneurship
Source: Hisrich and Kearney (2014:90)

Kuratko, et al., (2011:256) identified the following reasons why employees might not be supported and motivated to be entrepreneurial on the job;

- Employees did not understand what management meant by "being entrepreneurial on the job".
- Employees did not believe and perceive they were entrepreneurial.
- Criteria of evaluation did not explicitly include: innovativeness, risk-taking, and proactiveness, instead non-entrepreneurial criteria received more attention by managers
- Employees did not attach importance to the type of reward being offered. Alternatively, too small or an unfair reward was offered.

More innovative organisations are managed by well-educated individuals or teams whose functional areas of expertise are diverse (Urbano and Turro 2013:382). According to GEM (2015:36) an educated workforce, appropriately skilled and with the capacity for innovation, is vital to an economy's competitiveness, productivity and growth. A sound educational system is therefore one of the key imperatives for a competitive country, as it is reasonable to believe that a good quality education system will have a positive influence on individuals' self-efficacy and self-confidence. This will then increase the chances of such individuals not only starting a business, but also being able to successfully navigate competitive and changing business environments. Previous GEM South African reports have suggested that there was an association between educational levels and a rate of success in entrepreneurial ventures, and South Africa's poor skills level was certainly an important contributing factor to the country's below-average entrepreneurial capacity.

While bearing in mind that Lumpkin and Dess (1996:136) conducted their analysis of performance at organisational level, Bolton and Lane (2012:221) stated that the EO at individual level addressed the question of personal characteristics or attitudes in terms of what a person possessed that might increase the propensity to engage in and be successful in entrepreneurial activities. Referring to individual performance, Delmar (1996:3) found that a high job interest contributed significantly to performance and that the entrepreneurs' predictions of future performance were highly dependent on the perceived causes of their present situation in an organisation (stay or leave an organisation). For example, the individual reaction to different decisions or the choice to act or not regarding the market, survival or growth was a determinant of performance (Delmar 1996:8). According to Hisrich and Kearney (2014:88), talented people were the most important source of competitive advantage for every organisation. As depicted in Figure 2.13, the literature confirmed that individuals with knowledge, skills, abilities, drive, experience and passion were likely to seek and exploit opportunities through commitment and a supportive environment. In summary, the study assumes that different types of rewards are likely to impact on innovation performance of SMEs. The next section will focus on and analyse the demographic factors in relation to innovation performance. Organisation's age, size, market scope and business ownership impact on innovation performance are explored and critically assessed next.

2.8 OTHER ORGANISATION DEMOGRAPHICS

2.8.1 Introduction

This section will critically analyse the literature with regard to the role that selected demographical factors plays in the innovation performance in firms. SMEs' age, size, market scope and ownership are analysed next. However, in the study, these demographical variables will be tested to find out how they relate to innovation performance.

2.8.2 Organisation Age and Innovation Performance

According to Rosenbusch, et al., (2011:442) innovation has a stronger impact on younger SMEs than more established SMEs. In this context, the liability of newness of younger firms becomes the asset of the new firms. New firms possess the unique capabilities to create and appropriate value through innovation. Younger SMEs also showed strong relationship between innovativeness and innovation performance (Ahmad, et al., 2013:2). Karimi et al. (2011:635) further confirmed that in an established organisation, entrepreneurial process might become a subject to a number of constraints not found in independent start-ups. According to Talebi and Ghavamipour (2012:10775), the most influential factor in SMEs' innovation is the stage of industries following by demand, industry-university linkage; attitude to work change and size and age. In this context, the age of the organisation is assumed to influence the innovation capability of SMEs. SME size is reviewed next.

2.8.3 SME Size and Innovation Performance

According to Sijde, Veenker and During (2013:29), the type of organisation had no effect on the level of intrapreneurial spirit, but employees in smaller companies have a better overview of the activities going on in the organisation than in larger organisations. The Resource-based theory of entrepreneurship argued that access to resources by founders was an important predictor of opportunity based on entrepreneurship and a new venture growth (Alvarez and Busenitz, 2001:766; Foss 2011:2).This theory stressed the necessity of financial, social and human resources. Thus, access to resources enhanced the individual's ability to detect and act upon discovered opportunities (Egwu 2014:2). This theory also argued that entrepreneurs had individual-specific resources that could facilitate the recognition of new opportunities and the assembling of new resources for the emerging firm. Resources were likely to encourage the perception of feasible entrepreneurial behaviour in a firm (Covin and Slevin 1991). Resources were also likely to be linked to an organisation's size (Weerakoon 2012:1242; Nason, et al., 2015:280). The availability and allocation of resources, and the authority given to employees

to use them were highly required to take entrepreneurial actions (Ahmad, et al., 2013:3). Similarly, employees should perceive the availability of resources and time for experimentation and innovative activities. Unfortunately, SMEs face persistent resource shortages that could hamper innovation.

According to Price, et al., (2013:3-4), entrepreneurial orientation factors were linked to performance of an organisation regardless of sector or sizes. Previous studies showed different conclusions with regards to the influence of organisation size on innovation performance. This study assumes that because organisation size is linked to resources and investment, it is likely to affect innovation performance. The next section will discuss the market scope of SMEs with regard to innovation performance.

2.8.4 Market Scope of SMEs and Innovation Performance

Dai, Maksimov, Gilbert and Fernhaber (2014:511) proved that although innovation was needed to compete at international scope, a certain level of innovation was not likely to warrant commercialisation, especially as substantial costs were associated with innovating for strong international presence. Miller summarised as an entrepreneurial firm that got engaged in product-market innovation and able to beat competitors (Miller 1983:771). This is supported by Radas and Bozic (2009:438) who confirmed that a market scope had impact on innovation, especially product and process innovation. In this context, a marketplace that looked more competitive was also likely to see an increased interest in understanding the factors associated with innovation (Kraus, et al., 2012:266). According to GEM (2015), South African entrepreneurs display relatively high levels of strong international orientation, with almost a quarter of entrepreneurs reporting that 25% or more of their revenue comes from international sales though SMEs in the manufacturing sector needed to do more in order to compete internationally. The study anticipates the influence of market scope on innovation performance as SMEs are pressed to grow and to compete. The next section will assess the ownership in relation to an innovation performance of SMEs.

2.8.5 Ownership: Family vs Non family SMEs and Innovation Performance

It appears necessary to distinguish family firms from public corporations, sole proprietorships, or from business partnerships in general, as well as from small and medium-sized enterprises (SMEs) which typically share many but not necessarily all characteristics of family firms. Many definitions thus could not succeed in delineating family firms from sole proprietorships

or SMEs. Family firms are supposed to be about control, equity capital and management (Laforet 2016:384). In the same context, Kraus et al., (2012:265) confirmed that family firms remained more conservative, less risk-raking, or reluctant to grow, i.e., thus being less entrepreneurial than their non-family counterparts. However, the existing literature often acknowledged the lack of innovation in family firms despite the fact that innovation has long been discovered as one of the key drivers to company success. Casillas and Moreno (2010:266) affirmed the degree in which the members of the family controlling the firm were involved in the strategic and operational management of the family firm had impact on its innovation output. In the same context, Chirico and Bau (2014:220) pointed out that an increase in family members in the business was likely to reduce the dynamism of firms and their capacity to innovate. It is expected that family and non-family firms are likely to innovate differently. Research hypotheses are developed next.

2.9 STUDY HYPOTHESES DEVELOPMENT AND STUDY MODEL

2.9.1 Introduction

According to De Jong and Wennekers (2008:26), the availability of reward and resources was one of the important factors that could encourage individuals to act entrepreneurially within a firm. In this context, Ahmad, et al., (2013:5) emphasised that an organisation that could promote a freedom for idea generation and at the same time allocate necessary resources and rewards for experimenting with novel ideas could facilitate creative and innovative processes. Time, physical and financial resources were required to facilitate individuals within the organisation to get involved in innovative activities (Robbins et al., 2004:120). As stipulated by Azami (2013:196), entrepreneurial orientation was likely to be influenced by organisational resources that were mostly linked to organisations' size. For example, large organisations with abundant resources were likely to create the propensity to utilise intrapreneurial skills in product innovation. In addition, De Jong and Hartog (2007:58) noted that to stimulate innovative behaviours, allocating necessary time and money was essential to encourage and implement the ideas generated by innovative employees. Besides, financial or material rewards were proved to have the influence on new ideas generation and application. In addition, Bhardwarj, et al., (2007:187) found that one of the drivers of intrapreneurial orientation was the actual rewards given to the well-performing employees. Rewards could be classified as recognition, appraisal or monetary gratification. Thus to succeed in promoting EO, a reward system needed to be properly designed and structured so as to entice and motivate the workforce to behave entrepreneurially. In contrast, Gupta and Srivastava (2013:1-2) found that

rewards were not the most significant factors in motivating employees for taking risk and innovation. Despite organisational efforts, Meyer, Stanley and Parfyonova (2012:1) indicated that a commitment of employees might take multiple forms, each characterised by different mindsets such as, firstly, an affective commitment, reflecting an emotional attachment and a desire to remain with the organisation; secondly, a normative commitment, stemming from a sense of an obligation to remain, and, lastly, a continuance commitment that was observed through an awareness of the costs associated with leaving such a loss of income or remuneration. All these three forms of commitment tied an individual to the organisation and might increase or decrease the likelihood of leaving. However, the implications for on-the-job behaviour such as intrapreneurial posture was likely to differ as affectively committed employees could be expected to have positive effects on in-role and discretionary performance (Meyer, et al., 2012:2).

Entrepreneurial orientation was regarded as a process which includes: innovativeness, proactiveness, organisational-renewal and risk-taking, aimed at the creation of new products, services, processes and businesses to improve and sustain an organisation of any size (Karimi, et al., 2011:636). In an established organisation, an entrepreneurial process might become a subject to a number of constraints not found in independent start-ups (Karimi, et al., 2011:635). This is supported by Moriano, Malero, Topa, and Mangin (2014:105) who stated that an intrapreneur, in contrast to an entrepreneur, was a revolutionary inside the organisation who could initiate change and renewal from within the system, giving rise to conflicts that an entrepreneur and a manager might not solve. In addition, intrapreneurs could benefit from using the resources of the organisation for the implementation of the emerging opportunities. Yet, there were several reasons why innovation was more difficult to implement in an existing organisation, such as: resources linked to organisation size (1), hierarchy (2), tolerance of failure/mistake (3), reward for success (4), perception of change (5), and internal competition (6), (Maier and Zenovia 2011:972). However, De Clercq and Rius (2007:467) confirmed that a firm's entrepreneurial orientation factors were positively related to the organisational commitment of managers in small and medium enterprises.

Table 2.3 below depicts the managers, entrepreneurs and intrapreneurs approaches to entrepreneurial management.

	Conventional Administrators	**Entrepreneurs**	**Intrapreneurs**
Main motivation factors (Reward)	Promotion and other conventional company rewards (staff, power, etc.)	Freedom and opportunity to be created and money	Freedom and the ability to develop in terms of company reward
Activity	Assigning rather than the direct participation	Direct participation	Direct participation rather assigning
Risk situation	Careful	Taking over reasonable risk	Taking over reasonable risk
Status	Focused on status symbols	Have no relation with status symbols	Not focused on the conventional company symbols, willing freedom
Tolerance for mistake or failure	The exertion to run away from mistake and failure	Tackling mistakes and failures	The tendency not to consider risky projects until being ready.
Decisions / change	Generally in accord with his/her superior	Follows his/her dreams with his/her dreams	May persuade other to reach their dreams
Relations with others	Mostly hierarchical	Mostly based reciprocal relation and respect	Based reciprocal relations in a hierarchy
Style to solve a problem	Solving problem within a system	Running away from the solutions of huge problem by leaving them or restating the solution	Solving problem within a system

Table 2.3: The managers, entrepreneurs and intrapreneurs approaches to entrepreneurial management.
Source: Moriano, et al., (2014:105)

As shown in Table 2.3, the internal dynamics of firms might require entrepreneurs to transform into intrapreneurs for the survival and growth of their firms. The next section will analyse the link between entrepreneurial orientation, organisational orientation and innovation performance of manufacturing SMEs.

2.9.2 Entrepreneurial Orientation, Organisational Orientation and Innovation Performance in Manufacturing SMEs

Contextual factors might pull an organisation to adopt an entrepreneurial approach for innovation that was likely to be applied to both small and large organisations (Lower and Marriott 2007:50). In this context, the size of an organisation played an important role in entrepreneurial orientation, the bigger the organisation the more difficult it could be to have an

overview of the actions of every employee (Maier and Zanovia 2011:973). SMEs were encouraged to implement an entrepreneurial mindset to recognise the threats and opportunities in the environment of the firm for competitiveness (Kraus, et al., 2012:162). According to Moriano, et al., (2014:105), the organisational context in which intrapreneurship might take place, ranged from a small business to a multinational one. The similarities between entrepreneurship and intrapreneurship with regard to process, required inputs, and potential outputs were greater than the differences, (Karimi, et al., 2011:635; and Moriano et al., 2014:105). In SMEs, employees seemed to have easier access to information from top management due the flat organisational structure, but insufficient resources remain a challenge. Generally, SMEs were likely to provide a friendly environment where a potential intrapreneur could be easily identified (Basso and Bouchard 2009:2; Aygun, Suleyman and Kiziloglu 2010:223). In the same context, Hoque (2017:1) indicated that small and midsized firms were the cornerstones of innovation and impressive financial and human resources were not necessarily a driver behind innovation success. Despite all this, van de Vrande, De Jong, Vanhaverbeke and De Rechemont (2009:1) found that medium-sized enterprises seemed more involved in innovation than smaller counterparts. Furthermore, SMEs pursue innovation for market reasons such as customer demands and competitors.

Radas and Bozic (2009:438) established that an organisational structure, management support, a strategy and systems to report innovation issues had a positive impact on innovation performance of SMEs. According to Rosenbusch, et al., (2011:442), a collectivist culture shows a significant positive impact on innovation whereas individualism portrays a weak relationship with innovation. A firm's operating environment, and strategic posture affect innovation (Bayarçelik, Tasel and Apak 2014:203). Bayarçelik, et al., (2014:209) further examined the factors influencing the innovation performance of SMEs, and the results of their study showed that the most important criteria for the decision makers were management skills, a firm size with a total weight of nearly half of the total weight. Management skills is often considered as the most influential factor related to the performance of an SME. Management skills plays critical role in innovation process by promoting the entrepreneurial activity in the firm, providing resources and being open minded and by supporting collaboration. In the same context, Rosenbusch, et al., (2011:441) found that for an organisation to benefit or not from innovation, especially in the circumstances of smaller and resource scarce organisation, was a contextual issue. The innovation-performance relationship was dependent on factors such as the age of an organisation, a type of innovation and, to a large extent, a culture. Lastly, younger

SMEs also showed a strong relationship between innovation and performance (Rosenbusch, et al., 2011:442; Ahmad, et al., 2013:2). This model aligns with Zhang and Yingjiao's study that SMEs should combine their own characteristics and a corporate organisation management system to learn advanced management experiences and to enhance the management efficiency. SMEs should also, emphasize research and the planning of an organisational development strategy to establish a scientific and regulated decision system and a decision process, and abide by management principles in order to sustain innovation. The framework of the correlationship between the main dimensions is discussed next.

2.9.3 Entrepreneurial Orientation – Organisational orientation – Innovation Performance Framework

Previous literature agreed that the internal organisation (for example, capabilities, structure, culture and process) of SMEs was critical for entrepreneurial orientation. Although entrepreneurial behaviour was dominant in previous literature, organisational orientation as a translated vision of the business owners remained critical. In addition, previous studies overlooked small sized organisations and centred their researches on mid-sized and big organisations (Desouza and Awazu 2006; Fini et al., 2010:387). GEM (2015:39) stated that entrepreneurs disrupt the market equilibrium by introducing new product-market combinations into a market, teaching customers to want new things and driving out less productive firms as their innovations advance the production frontier. Innovation goes beyond just creating novel products and services. To commercialise their innovations, entrepreneurs need to identify new market niches and develop creative ways to offer, deliver and promote their products (United Nations 2012:1). All of this requires an awareness of competitive offerings, and the ability to incorporate this knowledge into distinct products and services (Marques 2014:197). Innovation capabilities are thus important to economies' ability to become competitive, particularly in higher-productivity sectors.

According to Kuratko, et al., (2011:51), change was likely to come through an entrepreneurial activity driven by individuals in the organisation. Shoham, et al., (2012:226) also found that innovativeness enhanced innovation performance, which, in turn, improved the overall organisational efficiency. Previous entrepreneurial models were based on individual employees' decision to behave entrepreneurially (Kuratko et al., 2011:342). Hence, there was a need to investigate the perception of business owners and managers with regard to organisational orientation and entrepreneurial orientation and how this perception could impact

on the innovation performance of SMEs. This study adopts a study framework that takes into consideration the size of the enterprise which dictates its structure and culture, and further considers the personal factors to understand why employees get involved or not in the entrepreneurial activities of small and medium-sized firms. Figure 2.14 depicts a framework that adapts the motivation model to behave entrepreneurially, but focuses on the owner-managers commitment to instil an entrepreneurial culture and motivate employees to engage in entrepreneurial activities in small and medium-sized firms. It further integrates organisational factors conducive to intrapreneurial behaviours in SMEs. Wiklund (1999:105) argued that when applied to newly established firms the entrepreneurial orientation concept might be seen as a result of individual-level determinants rather than firm-level outcomes. In support of this view, Fini et al., (2010:389) further confirmed that the entrepreneurial activities of SMEs were often nurtured by their founders' skills, knowledge, creativity, imagination, and alertness to opportunities, and were further based on *ad hoc* intuitive, heuristic, and informal managerial practices. Organisations might be slow and reluctant to change leaving intrapreneurs with little or no space for creativity **(**Azami 2014:23). Kuratko, et al., (2011:252) emphasised that it was paramount to identify how EO dimensions applied on employees' job. For example, how were innovativeness on the job rewarded individually and in groups, their propensity to risk, involvement, and socialisation? Furthermore, as a set of selected psychological factors such as affinity, responsibility, rewards-driven orientation and adaptability were proven to determine individual engagement into organisational activities (McCroskey et al., 2004:5; McCroskey et al., 2005:24; Goodboy and McCrockey 2008:292; Delvis 2014:1-2). In the same context, Alam (2011:56) confirmed that an organisation renewal was likely to adopt the constructs of self-efficacy and alertness as an ongoing process of building innovation and adaptation into the organisation where the balance between change and stability is addressed.

Figure 2.14: The research model adopted by this study as basis for research hypotheses.

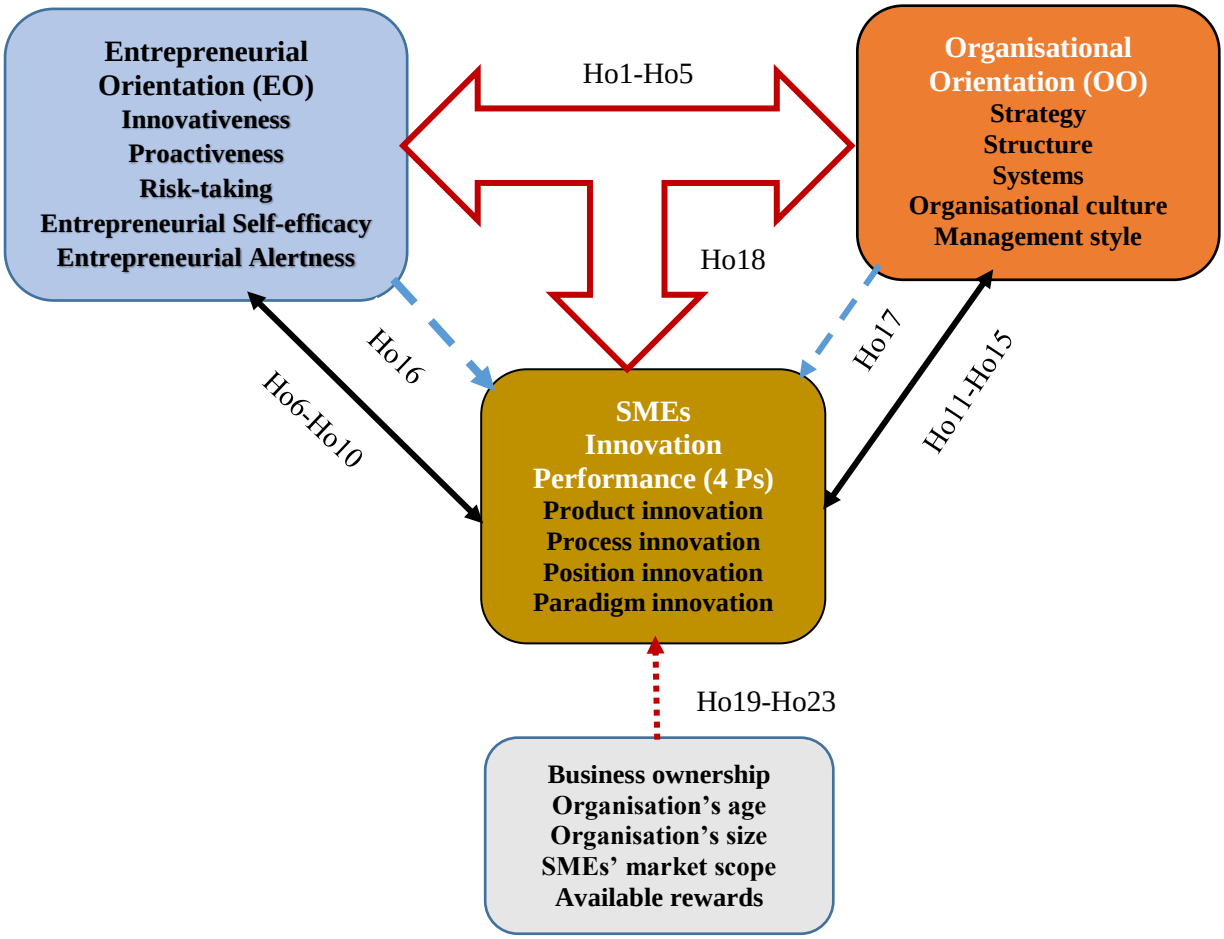


Figure 2.14: Relationship between EO, OO and IP: Study framework

The inclusion of entrepreneurial self-efficacy and alertness in the model EO was empirically justified by Jain and Ali (2012:295) and Gaglio and Katz (2001:97) who reiterated that self-efficacy and alertness were intrapreneurial orientation dimensions that could be measured as different to risk taking, innovation and proactiveness. In addition, Slevin and Terjesen (2011:975) stated that multiple levels of analysis of entrepreneurial orientation of enterprises were needed. The model further corroborate Cooper, et al., (2006:57), Douglas and Fitzsimmons (2008:937), and Herath and Mahmood's (2014:24) findings that entrepreneurial self-efficacy and alertness should be considered as separate dimensions to Miller's traditional three EO dimensions: innovativeness, proactiveness and risk-taking, as coping with unexpected challenges in the entrepreneurial environment was identified in the sphere of self-efficacy and alertness which was different from innovativeness, risk taking and proactiveness. The next section provides a framework that leads to the formulation of hypotheses of the study.

2.9.4 Research Hypotheses

Wiklund (1999:105) stated that the entrepreneurial orientation was considered to be individual-level determinants in newly established firms. In the same context, Wiklund and Shepherd (2005:75) confirmed that each individual dimension of EO had a positive influence on performance. Closely related to that, Hisrich and Kearney (2014:74) further opined that entrepreneurial orientation within the established organisation was a critical path for improved performance and could be measured by psychological and cognitive variables such as (1) innovativeness, (2) proactiveness, and (3) risk-taking propensity in the organisation. Vij and Bedi (2012:20) added that autonomy was characterised by self-directed behaviour whereas competitive aggressiveness was reflected through willingness and responsiveness to competitors' actions (Lumpkin and Dess 1996:149). The researcher argued that in the context of SMEs, (4) self-efficacy and (5) alertness attitude were critical for a turbulent and complex SME's business environment and the need for resilience to survive and grow. The two additional factors could also be the result of internal dynamism to instil entrepreneurial culture in the organisation. In addition, the organisational factors included the organisational structures (1) that reaffirmed the management support (2) and could provide support and avail resources, make strategic decisions (3), demonstrate willingness to take risks and tolerance for failure according to the culture (4) and systems of the organisation (5) in order to achieve outcomes in terms of new products (1), processes (2), and new technologies that create values (Hisrich and Kearney 2014:37). Although EO and OO were likely to affect innovation performance they were also bound to identify areas where innovation took place. According to UNESCO (2009), product innovation was considered significantly improved with respect to its characteristics or intended uses in terms of specifications, user friendliness or other functional characteristics. Also, a process innovation is a significantly improved production or delivery method such as significant changes in techniques or equipment. Furthermore, marketing (position) innovation is affected by significant changes in product design or packaging, product placement, product promotion. In conclusion, organisational (paradigm) innovation could involve a new organisational method in the firm's business practices, the workplace organisation or external relations. Based on the discussions of the literature on entrepreneurial orientation, organisational orientation and innovation performance, this study postulates the following main hypotheses:

Ho1-5: There is a positive statistically significant correlation between entrepreneurial orientation dimensions and organisational orientation dimensions of SMEs.

Ho6-10: There is a positive statistically significant correlation between entrepreneurial orientation dimensions and innovation performance dimensions of SMEs.

Ho11-15: There is a positive statistically significant correlation between organisational orientation dimensions and innovation performance dimensions of SMEs.

Ho16: Entrepreneurial orientation significantly predicts innovation performance of manufacturing SMEs.

Ho17: Organisational orientation significantly predicts innovation performance of manufacturing SMEs.

Ho18: The combined entrepreneurial orientation and organisation orientation significantly predict innovation performance of manufacturing SMEs.

Ho19: There is a statistically significant difference between the mean values of organisation market scope and innovation performance of SMEs.

Ho20: There is a statistically significant difference between the mean values of organisation size and innovation performance of SMEs.

Ho21: There is a statistically significant difference between the mean values of organisation's age and innovation performance of SMEs.

Ho22: There is a statistically significant difference between the mean values of business ownership and innovation performance of SMEs.

Ho23: There is a statistically significant difference between the mean values of organisational rewards and innovation performance of SMEs.

2.10 SUMMARY

Chapter Two emphasised and critically evaluated the literature and the findings of previous studies through which the researcher arrived at the above-mentioned hypotheses. Although psychological constructs were found to measure entrepreneurial orientation at individual level (Bolton and Lane 2012:221), the researcher of this study supported the use of organisational constructs at individual level through variables that define individual participation, engagement and commitment through intrapreneurial behaviours as suggested by De Jong et al., (2015:986). Different models and approaches of entrepreneurial orientation were revisited, entrepreneurial orientation dimensions were also discussed, followed by organisational orientation and organisational antecedents as a moderator construct for any entrepreneurial behaviour to take place. Lastly, the research model was adopted and the main hypotheses were formulated. The next chapter will critically analyse the research design and methodology.

CHAPTER THREE RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

This study investigated the relationship between organisational orientation, entrepreneurial orientation, and performance of small and medium manufacturing enterprises. Chapter Two, the literature review, explored entrepreneurial orientation and organisational orientation as organisational constructs and their effect on innovation performance of SMEs. Although there were different findings on whether or not entrepreneurial orientation influenced the performance of small and medium-sized firms, the large amount of literature agreed that entrepreneurial orientation impacts positively on a firm's performance. Organisational orientation characterised the attitudes of owner-managers of SMEs to enhance the entrepreneurial behaviour of employees in terms of interest, commitments and involvement in entrepreneurial activities leading to innovation. To achieve the aim and objectives of this study, primary and secondary data was collected. Questionnaires were used for primary data collection and secondary data was collected through different accessing pre-existent researches such as books, journal articles and conference papers. Figure 3.1 below summarised the research methodology framework used for this study and paved a way to achieving valid and verifiable findings. It outlines the research method used to address the research problem under investigation and how data has been collected, analysed and interpreted. According to Kumar (2011:7), for a process to be qualified as a research process, it should comprise certain characteristics such as, be controlled, rigorous, systematic, valid and verifiable, empirical and critical.

- Controlled – involved exploring causality in relation to two variables, a researcher set up his/her study in a way that minimised the effects of the other factors affecting the relationship. This was achievable in physical sciences such as laboratory research, but it is extremely difficult to apply in social sciences as human beings living in society are the subject of the research, making the controls of external factors impossible (Kumar 2011:8).
- Rigorous – meant to be thorough in making sure that the research procedures followed to answer the research questions were accepted to be relevant and justifiable.
- Systematic – referred to the procedures adopted to conduct an investigation so that it followed a logical sequence.
- Valid and verifiable – considered whether the conclusion on the basis of the findings was correct and can be verified by the author and other researchers.

- Empirical – implies also that any conclusion drawn is based upon evidence gathered from information collected through a real life experience or an observation.
- Critical – refers to scrutinising the method used and the procedures used in the investigation (Kumar 2011:9).

According to Lapan and Quartaroli (2009:23), the methodological literature reviews should focus on the past and current methodologies in order to assess their effectiveness in terms of processes, procedures, or approaches of conducting the studies in a research project used by the researchers or writers.

This chapter will cover the research design and methodology and will discuss the following sections: a survey design, a sampling method, a research instrument, variables and a research hypotheses development, a pilot study, validity and reliability of this study, data presentation and analysis as well as ethical aspects, and a delimitation of this study.

Figure 3.1 depicts the research design mapping that outlines the research approach and strategy used to ensure that research questions were answered.

Figure 3.1 research methodology outline of the study.

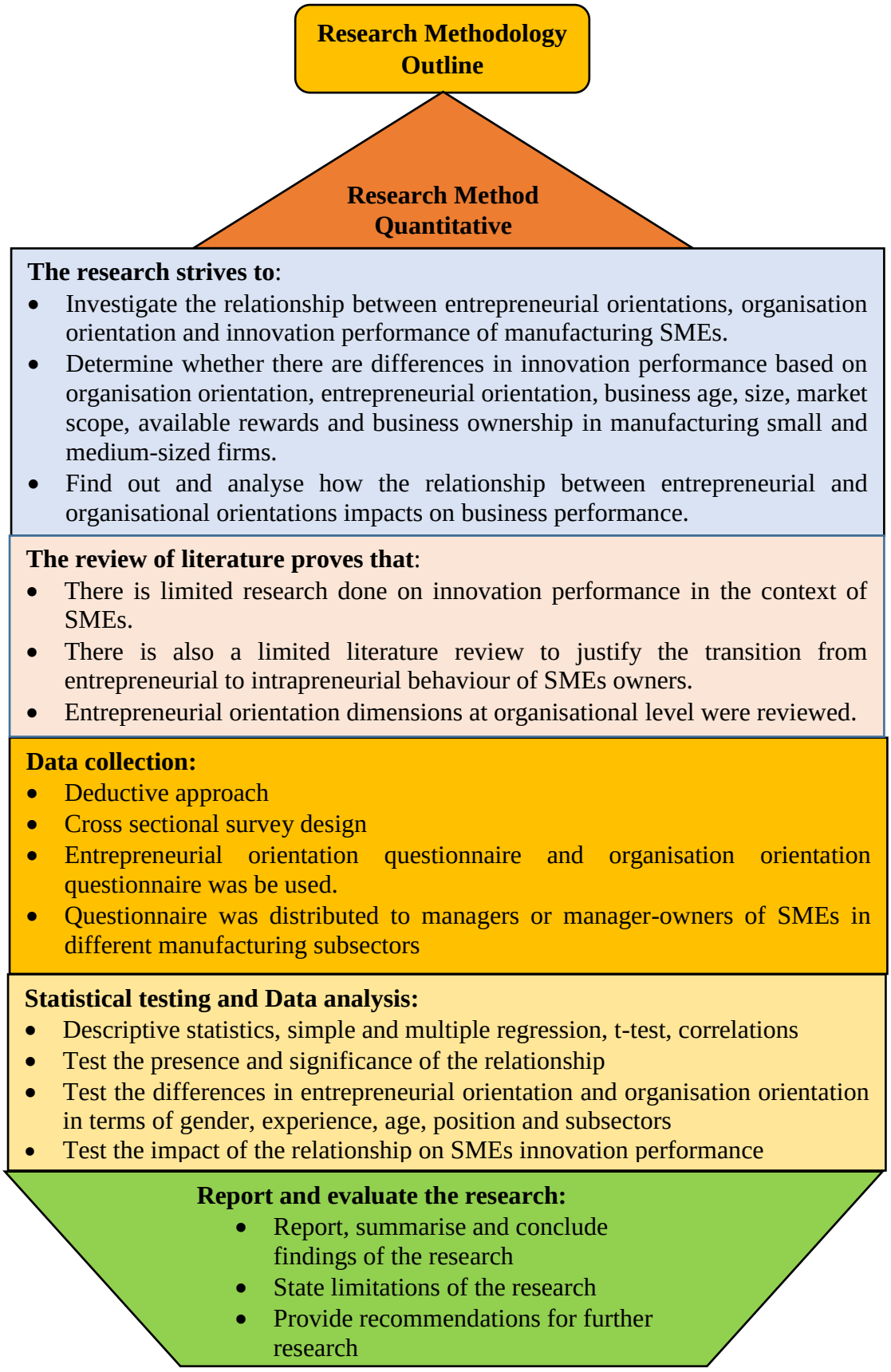


Figure 3.1 Research Methodology plan
Source: Researcher

3.2. RESEARCH DESIGN

This study used a quantitative method with a cross-sectional survey analytical design. In this study context, it appeared that a quantitative research seemed the best to consider if the researcher sought to investigate the correlationship between the constructs of independent and dependent variables (Lapan and Quartaroli 2009:52; Creswell and Clark 2011:7). Furthermore, Struwig and Stead (2013:6) confirmed that in quantitative research, individuals were the focus of an empirical inquiry. As a non-experimental research, the survey design was appropriate to provide answers to the research questions of this investigation. Welman, Kruger and Mitchell (2007:93) pointed out that the survey design allows the examination of the relationship between two or more variables without any planned intervention or manipulation. In the same context, Coldwell and Herbst (2004:37) indicated that an appropriate research design was considered the glue that holds the research study together, as it formed a structure which comprised all the sections of the research project such as sample, measures, and methods in addressing research questions. According to Wellington, Bathmaker, Hunt, McCulloch and Sikes (2005:96), the distinction between a research methodology and research methods merited attention. Firstly, a research methodology involved the approach used from a theoretical context to the collection and analysis of research data. In contrast, the research method underlined the means by which data was collected and analysed. In addition, Welman, et al., (2007:2) stated that research methodology consisted of explaining the logic behind research methods and techniques. Hussey and Hussey (1997:47) further reiterated that the research paradigm introduced the progress of scientific practice based on assumptions and philosophies about the world and the nature of knowledge. It justified how research should be conducted in providing a universally accepted framework. However, the research paradigm had to address three different levels: philosophical, social, and technical level. The philosophical level reflects basic beliefs about the world, but at social and technical level, the paradigm was used respectively to provide a framework about the way in which the researcher should carry out his or her study and the methods and techniques that are likely to be used (Hussey and Hussey 1997:48).

According to Welman, et al., (2007:9), the aim of a quantitative research summarised the following: firstly, it assessed the objective data including numbers, utilising complex and structured methods to accept or reject the research hypotheses. Furthermore, the investigation was conducted from an outsider's perspective to solve a bias problem in an attempt to maintain the objective view of the facts during the research process. Lastly, the research process was kept as stable as possible in the process of collecting the data which was likely to remain

unchanged. A quantitative method focused on control of the investigation and structure of research situation, the reliability of the results and a statistical significance of the results (Welman et al., 2007:8-9). According to Cooper and Schindler (2011:164), in contrast to quantitative methods, qualitative methods were sometimes labelled as an interpretative research due to the fact that they strove to develop understanding through a detailed description such as a building theory without testing it, used subjective data in trying to achieve an insider's view through observation. The researcher involvement was high in a qualitative research as a research participant or a catalyst in the study and a sample design was non-probability and relatively small (Cooper and Schindler 2011:163). With regard to mixed methods, Creswell and Clark (2011:2) defined the mixed-method designs as those that included at least one quantitative method and one qualitative method, where neither type of method was inherently linked to any particular inquiry paradigm. However, not all situations justified the use of mixed-methods as one method might sufficiently address a research problem (Heyvaert, Hannes and Onghena 2017:4-5). According to Pellissier (2007:15) the impact of any management research was always influenced by the selection of the research methodology which was unlikely to relate to a researcher's training or preference. Table 3.1 below summarises the three types of research methods that include quantitative, qualitative and mixed methods. It also elaborates on possible designs to be used under different research methods.

Table 3.1: Types of Research Methods

Quantitative Method	Qualitative Method	Mixed Methods
Experimental designs or quasi-experimental Non-experimental designs, such as surveys	Narratives Phenomenologies Ethnographies Grounded theory Case studies	Sequential Concurrent Transformative

Table 3.1. Types of research methods
Source: Kumar (2011:7)

In this context, Mouton (2001:144) confirmed that empirical studies used primary data, in contrast to non-empirical studies that focus on pre-existing data or secondary data such as a philosophical analysis, a conceptual analysis, theory building, and literature reviews. The next section will clarify and justify the choice of a survey design for this study.

3.3. SURVEY RESEARCH DESIGN

Mouton (2001:55) pointed out that the choice of a specific research design was a result of the nature of problem to be investigated and evidence to be collected. In the same context, Polonsky and Waller (2011:94) maintained that the research design is the "framework or blueprint" for a better way of collecting the information needed for the project. The appropriate design enabled the researcher to save resources and ensure the validity and reliability of the research project (Polonsky and Waller 2011:94). This study adopted a survey design and a structured questionnaire was distributed to owner-managers of small and medium firms in manufacturing sector. Polonsky and Waller (2011:94) affirmed that the descriptive research survey described certain characteristics or functions that could attract the interest of management and business studies, such as market conditions or purchase behaviour. According to Coldwell and Herbst (2004:47), organisational behaviour studies used descriptive research in order to provide a diagnostic analysis, such as the reason the employees feel a certain way without referring to causal relationship evidence. It was, therefore, important to point out that the decision to consider the survey strategy for data collection was dependent on the nature of the research project as well as the expected outcome of the study (Polonsky and Waller, 2011:95). According to Saunders, Lewis and Thornhill (2009:144), the survey strategy was commonly used in business and management research and was appropriate to answer who, what, where, how much and how many questions. In this perspective, a survey design allowed one to produce relevant models of relationship between variables. Therefore, it was appropriate for this study as it is built on the understanding of possible correlationship. Furthermore, Coldwell and Herbst (2004:47) pointed out that a survey was about asking people questions and then examining the relationships among the variables in trying to understand attitudes or patterns of past behaviour. In contrast, Saunders et al., (2009:461) stated that the investigation of cause-and-effect relationships and manipulations of variables were more relevant for experimental research. A survey design presented some advantages as well as disadvantages which needed to be addressed before being used effectively.

3.3.1 Advantages of Survey Design

Coldwell and Herbst (2004:48) reiterated the fact that a survey design was cost-effective as compared to other research designs. According to Mouton (2001:152), on one hand, the strengths of a survey design were the potential to generalise to large populations if a well-defined sampling has been implemented. Furthermore, the reliability of measurement was high if the questionnaire is properly constructed, and finally, high construct validity was observed

if proper controls have been implemented. These advantages might be interpreted in this project in terms of criticality of selected cluster sampling method and appropriateness of questions within the structured questionnaire in order to allow and ensure generalisation and reliability within a limited budget and time.

3.3.2 Disadvantages of Survey design

Mouton (2001:153) stated that the limitations of a survey design were observed in the lack of depth and insider perspective which sometimes led to the criticism of "surface level" analyses. In addition, the survey data tended to be sometimes very simple and context specific.
In conclusion, a survey design remains the suitable means for this study especially when the focus is on relationships and the use a structured questionnaire as the research instrument.

3.4 POPULATION OF THE STUDY

According to Welman, et al., (2007:52-53), population referred to all the units of analysis or cases from which a sample was taken and conclusions were made. According to Hair, Celsi, Money, Samouel and Page (2011:164) and Best (2012:236) a population or universe was the total of all the elements that shared common characteristics such as people, supermarkets, churches or schools. Likewise, the target population referred to the complete group of objects or elements relevant to the research project (Hair et al., 2011:165).

The population of this study included SMEs in manufacturing sector (family and non-family businesses) in KwaZulu Natal region. The province of KwaZulu Natal constitutes one of the biggest manufacturing clusters of South Africa, second after Gauteng (EDGE 2013:3). The population of manufacturing SMEs were identified from multiple databases that included the following:

- Durban Chamber of Commerce and Industry
- KwaZulu Natal department of economic development and tourism
- Durban chemical clusters.
- National Credit Regulator

The provincial SMEs database of the financial year 2017-2018 from the KwaZulu Natal Department of Economic Development and Tourism was identified as critical since it contained recent records and included all the small and medium enterprises across the region and manufacturing sub-sectors (http://www.kznedtea.gov.za).

3.4.1 Sampling Method

Hair, et al., (2011:11) reiterated the necessity of data for business research regardless of whether quantitative or qualitative investigation was conducted. They defined a sample as a relatively small subset of the population. According to Polonsky and Waller (2011:139), the issue of sampling was crucial when planning to collect primary data. In order to obtain data through a survey, it seemed not feasible to contact every unit of analysis in the target population, instead, it was required to focus on a representative sample of the target population. Creswell (2014:158) distinguished two types of sampling that included probability samples and non-probability samples. For a probability sampling method, there was a possibility that any element or member of the population will be included in the sample whereas by contrast a non-probability sampling method did not guarantee that any element of the population had the equal chance to be selected in the sample (Graziano and Raulin 2013:323). The two types of sampling methods are summarised in Figure 3.2 below:

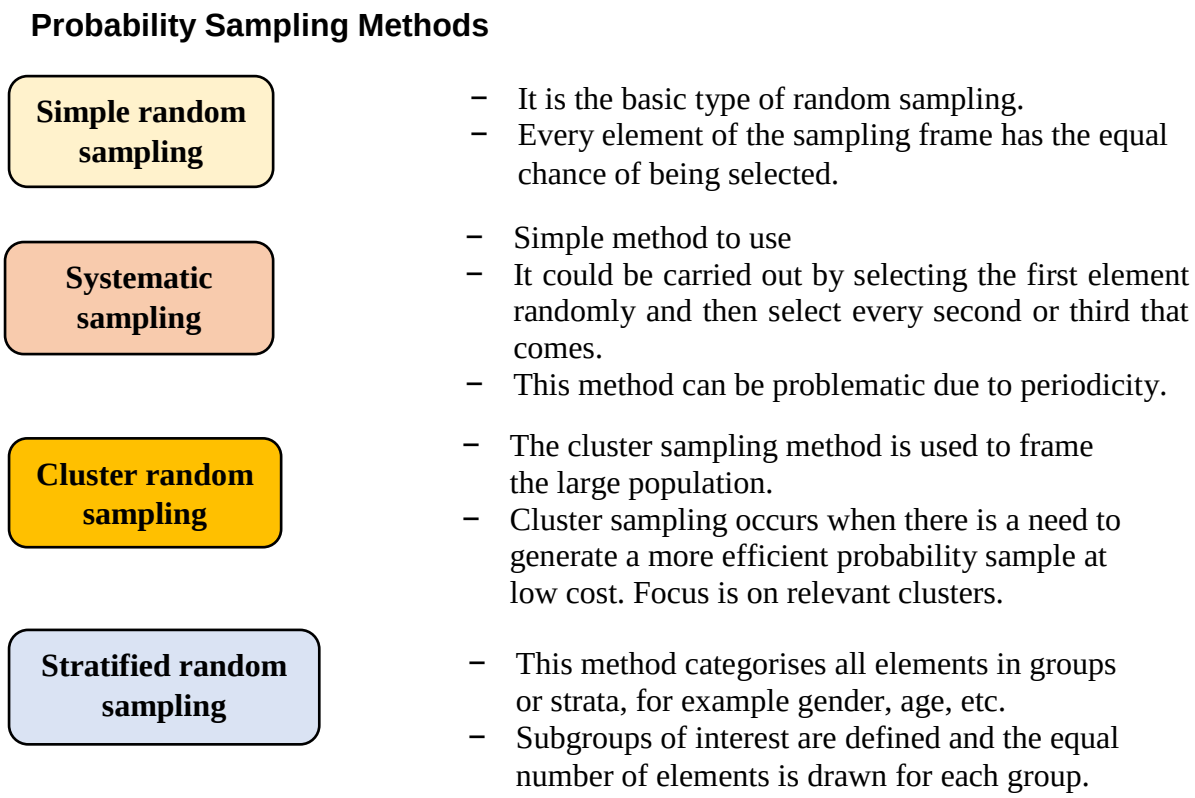


Figure 3.2: Probability sampling methods
Source: Welman, Kruger and Mitchell (2007)

Non-Probability Sampling Methods

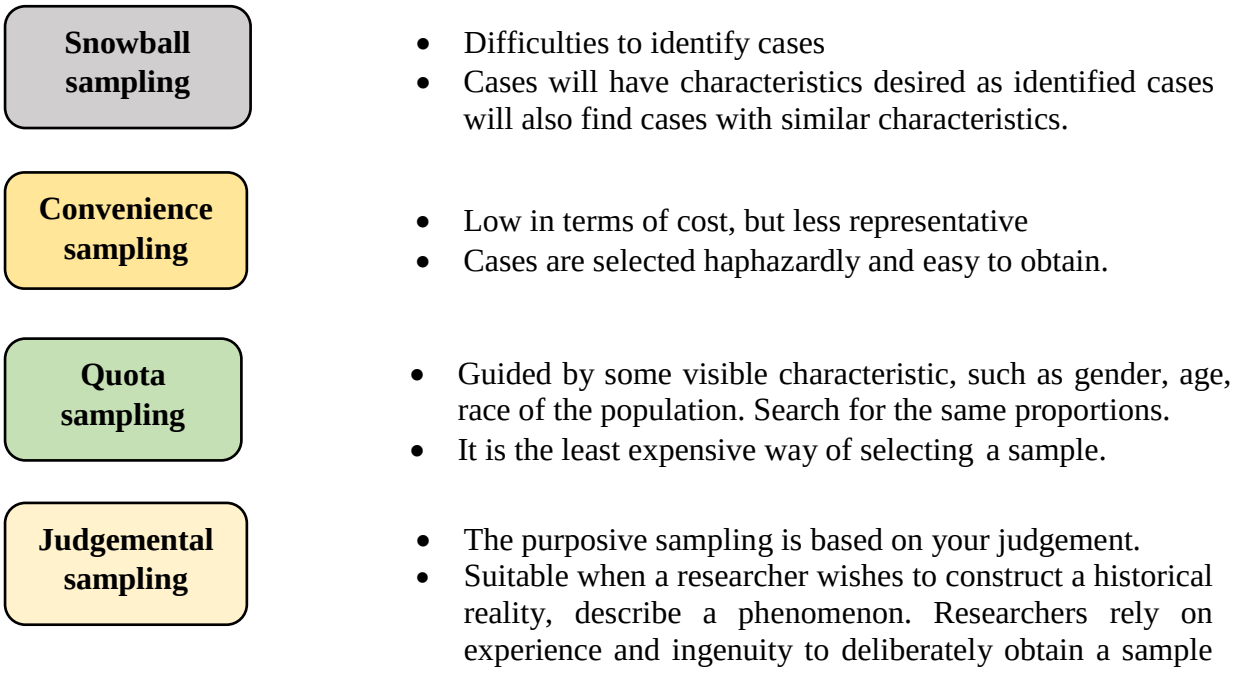


Figure 3.3: Non-probability sampling methods
Source: Welman, Kruger and Mitchell (2007:56)

The probability cluster sampling has been used to select the units of analysis and to ensure that different manufacturing sectors are included in the sample. Ghauri and Gronhaug (2002:117) and Walliman (2011:169) confirmed that cluster sampling had two important advantages:

- The researcher did not need a complete frame of sampling units.
- It could solve the problem of geographical concentration of the units to be interviewed.

According to Best (2012:238), the cluster sampling divided a population into groups or subgroups from which the sample was selected. The inclusion of all the subgroups was likely to increase the sample representability and likely to portray different perspectives in a survey study.

3.4.2 Sample Selection

Cooper and Schindler (2008:409) stated that 5% of the total population was an acceptable sample size for quantitative study, but maintained that a bigger sample was recommended for a survey design. The sample size remained a topic of debate as Lapan and Quartaroli (2009:89) argued that the sample size was only relevant for random samples that are scientific by nature. Nevertheless, the same authors confirmed that it was important to pinpoint subgroups of the population of interest. Welman et al. (2007:71) acknowledged that the desired sample size did

not depend on the size of the population only, but also on the variance (heterogeneity) of the variables. In this context, the units of analysis comprised managers and owner-managers of manufacturing SMEs to whom the questionnaire was administered. The researcher expected a low variance as there are similarities in different manufacturing clusters. Organisations must have similar activities or products and processes in order to form a cluster.

The simple cluster sampling method was used to frame the SMEs population into groups (clusters) as per the manufacturing subsector based on the product a business organisation produced. Furthermore, the units of analysis are selected from different clusters to ensure that all the manufacturing subsectors are represented in the sample. According to Teddlies and Tashakkori (2009:173), cluster sampling occurred when there was a need to generate a more efficient probability sample in considering monetary or time resources, or both. The following subsectors were considered:

Manufacturing SMEs Subsectors

Food and beverages
Clothing and textiles
Paper, Printing and allied products
Chemical, petroleum, rubber, plastics
Metal fabrication
Motor vehicle and components
Other, in case you are not in any of the above

Table 3.2: Manufacturing subsectors
Source: Department of Trade and Industry (DTI)

The population of manufacturing SMEs is estimated to be 1255 subjects according to the provincial SMEs database, financial year 2017-2018 (http://www.kznedtea.gov.za).

The formula of Israel (1992:3) remained relevant to determine and select the appropriate sample size. For a 95% confidence level and p = 0.05, the sample size may be calculated as follows:

$$n = \frac{N}{1+N(e)^2} \qquad n = \frac{1255}{1+1255\ (0.05)^2}$$

= 303 manufacturing SMEs

Where n=sample
Size N=Population sample
e = level of precision or sampling error which is 0.05

From the total of seven subsectors as grouped and depicted in the table 3.2, the average of 44 manufacturing SMEs was drawn from a single subsector. This related to the sample of (44 SMEs X 7 = 308).

Lapan and Quartaroli (2009:89) reiterated that the small size group may yield meaningful results that could help to determine an appropriate sample size. In the same context, Bryman and Cramer (2009:125) pointed out that the size of the sample relative to the size of the population was not necessarily relevant to the issue of a sample's accuracy. In this view, the process and procedure used above might guarantee the representativeness of the sample selected for this study. Research instrument is discussed next.

3.4.3 Research Instrument

Covin and Wales (2012:670) emphasised that entrepreneurial orientation consisted of managers' strategic decisions and an operational philosophy that involved employees. The measures of entrepreneurial orientation were initially developed by Miller/Covin-Slevin (1989). These instruments were clarified, reduced and valided over time to a version the study deemed adequate for hypotheses testing (Covin and Wales 2012:692). The questionnaire (attached as Appendix B) comprised of two parts: the first part collected bibliographical nominal data of respondents through open-ended and multiple choice questions. The second part constituted, close-ended, scaled-response questions asking owner-managers of SMEs levels of entrepreneurial orientation in terms of innovativeness (1); proactiveness (2); perception of risk (3), entrepreneurial alertness (4); entrepreneurial self-efficacy (5).

In addition, organisational orientation was measured by corporate entrepreneurship assessment instrument (CEAI) (Hornsby, Kuratko and Zahra 2002:264). The questions on organisational orientation collected data relevant to management systems (1); organisation culture (2); organisation structure (3); organisation strategy (4); and management style (5). Lastly, specific questions were addressed to measure the innovation performance of SMEs in terms new market (1), new product (2), production methods (3) and new forms of organisation (4). In this context, innovation performance items stemmed from the literature of 4Ps of innovation (Utterback 1994:82-84; Lowe and Marriott 200:70; Hisrich and Kearney 2014:50; and Dawson and Andriopoulos 2014:73) as reviewed in chapter two. Questions were asked about how SMEs frame what they do (paradigm); what they offer (product); how they create that offering (process); and lastly where they target the offering (position).

All the responses were measured at the 5 point Likert scale ranging from *strongly disagree, disagree, neutral, agree to strongly agree.* In this quest, Struwig and Stead (2013:98) stated that scaled-response questions were appropriate to gathering data on attitude, behaviour and perceptions. It seems preferable to use the Likert-type scale in order to avoid dichotomous of open-ended and multiple choice questions. According to van der Velde, Jansen and Anderson (2004:106), a written questionnaire was an appropriate instrument design to use in consideration of the following advantages: research time frame, number of units to be analysed, cost, and anonymity of respondents as well as the simplicity in collecting and processing data. The questionnaire also raised disadvantages in relation to the time invested in constructing the questionnaires and the general low response rate due to the lack of researcher intervention as compared to oral interview (van der Velde, et al., 2004:107). In this context, Welman et al., (2007:153) confirmed that the survey questionnaires might be used to obtain different types of data from participants such as:

- Biographical details in terms of age, educational qualifications and income
- Typical behaviour such as preferences
- Opinions, convictions, and beliefs about a topic or issue
- Attitudes: for instance a pay system.

This research has used biographical data, opinions, attitudes, beliefs, convictions and the behaviour information of participants in order to answer the research questions. The utilisation of closed questions to collect primary data for this study is essentially justified by the easiness for both the researcher and the participant to self- administer the questionnaire in terms of time and efforts. In addition, the secondary data as relating to the literature review was equally used and stemmed from a variety of credible sources relevant and pertinent to this project.

3.4.3.1 Research Variables

According to Lapan and Quartaroli (2009:61), a variable was any characteristic or attitude that can differ across people or things. Variables could be either categorical and how they differed was based on distinct categories or quantitative which were likely to be measured across a scale, represented by numerical values. The independent and dependent variables of demographics, organisational orientation, entrepreneurial orientation and a firm's performance are summarised and depicted in Table 3.3 below. These variables allow the construction of hypotheses of this study.

Table 3.3: Dependent, Independent Variables and Level of Measurement

Level of measurement	**Respondent demographics.**	
Nominal/Ordinal	Gender Age Education Owner-managers Experience	
Level of measurement	**Organisation demographics.**	
Nominal/Ordinal	Business age Available Reward Business size (number of employees) Market Scope Ownership (family or non-family business)	
	Organisational orientation, Entrepreneurial orientation and Innovation Performance.	
Interval	**EO** Innovativeness Proactiveness Risk-taking Entrepreneurial self-efficacy Entrepreneurial Alertness **OO** Management Systems Organisational Culture Organisational Structure Organisational Strategy Management Style	**IP** Product Innovation Position Innovation Position Innovation Paradigm Innovation

Table 3.3: research dependent and independent variables
Source: researcher

The next section will critically justify the administration of the questionnaire and different items that measure the study variables.

3.4.3.2 Self-administrated Questionnaire

The survey instruments were administered to owner-managers of manufacturing small and medium enterprises in KwaZulu Natal region. The questionnaire was designed with structured questions that have been formulated with simple language and have taken into account ethical requirements. The questionnaire was designed to test the correlation between the research variables, the impact of independent variables on innovation performance (dependent variable).

The questionnaires were delivered and collected personally by the researcher and electronically via e-mails. As noted by Welman et al., (2007:154), a satisfactory response rate could be obtained from the target population if the questionnaire was delivered and collected personally. On one hand, the researcher had to verify with the managers that the business met the requirements of this study and then delivered the questionnaire face-to-face to ensure the responses were collected immediately. On the other hand, the questionnaires were sent electronically in order to reach remote areas. This procedure allowed the researcher to obtain an improved response rate. From the 308 questionnaires sent, only 221 or 72% of questionnaires were returned well completed. Others were either not returned or wrongly completed. Please note that 308 should have been the target sample size to work with, (ie respondents) and only received 221. According to Israel (1992:2) the sample size is not the number of questionnaires send out (target sample) rather the number of returned responses. In this context, it can be argued that 221 is not very far from 308. So the sample is still representative.

3.4.4 Pilot Study

Bryman and Bell (2011:273) confirmed that it was desirable to conduct a pilot study before administering a self-completion questionnaire as the procedure presents advantages: Fixed-choice answers were provided by participants.

- It gave respondents a sense of confidence.
- It created the openness and focus of participants as well as ensured that the questions were understood by them.

Six manufacturing SMEs' owners and managers who were not part of the final sample were asked to answer the questions in order to ensure the clarity of the questionnaire. This pre-testing allowed for the rectification of ambiguous questions and contributed to the overall refinement of the research instrument.

3.5. DATA ANALYSIS AND INTERPRETATION

According to Zikmund, Babin, Carr, and Griffin (2010:70), data analysis was the process to understand the data that has been collected. This implied that the utilisation of an appropriate analytical technique for data analysis should be based on the information requirements, the characteristics of research design and the nature of data collected. It was important to highlight that data was described first before being analysed and the distinction between the two stages had to be maintained in the framework for data analysis (Biggam 2008:113). Zikmund et al.,

(2010:75) pointed out at the preparation level, raw data is edited to ensure consistency, completeness and legibility before being codified and stored in order to become ready for analysis.

Data analysis and interpretation could not be interchangeable as the first was about gathering, cleaning and examining of the data whereas the latter was making sense or putting into perspective the data generated (Polonsky and Waller, 2011:159). According to Walliman (2011:75), different levels of measurement could be used depending on the nature of data to be measured. Data was analysed using a statistical package for the social sciences (SPSS) to provide useful information for business and management purposes, and descriptive and correlation analyses were used for this study.

3.5.1 Descriptive Statistics

According to Welman et al., (2007:231), descriptive statistics described and summarised the data obtained from the units of analysis. This study used the mean, median, mode and standard deviations as descriptive statistical techniques to describe and summarise data. Hair et al., (2011:354) also asserted that pie charts, histogram, bar charts and bar diagram were useful as statistical tools to represent and visualise the results of a study. In the same context, Devlin (2018:420) agreed that descriptive statistical techniques provide information as follows:

- Mean – was defined as the average score for a group and is equal to the total individual scores divided by the number of scores.
- Median – was the mid-value in a frequency distribution arranged in size order.
- Mode – was frequently occurring value in a frequency distribution.
- Standard deviation – was the addition of the differences (deviations) between each observation and the mean ending by adjustments. It was dispersion within a data set. In the same context, Hair Jr et al., (2011:314) confirmed that a standard deviation of (<1) proved consistency in the opinions of respondents and (>3) could indicate that there was variability in their opinions of respondents.

3.5.2 Inferential Statistics

The testing of hypotheses were conducted using inferential statistics such as correlation, regression, variance or ANOVA and T-Test.

3.5.2.1 Correlation

Hair Jr et al., (2011:352) and Devlin (2018:424) indicated that the correlational analysis could be performed to test for the degree of relationship between two variables. However, the coefficient indicated the direction of relationship in terms of positive, negative or no association. It further demonstrated the levels of the relationship in terms of very strong, high or moderate. Bryman and Bell (2011) further emphasised that the correlation and statistical significance were mostly affected by the extent and structure of the sample. The Pearson correlation establishes the existence and strength of the relationship between research variables.

Fink (2008:189) affirmed that Pearson's correlation (r) or Pearson's product moment correlation as correlation technique was applied to measure parametric data on an interval scale, and to visually depict the correlation relationship. Any data analysis and interpretation should emphasise the presence, nature, strength of the association of between variables. The correlation interpretation was based on the following:

The correlation coefficient (r) range from +1.00 to -1.00, this was from perfect positive relationship to perfect negative relationship. The sign + and – indicated respectively that the increase of one variable was likely to increase the other and decrease of one variable could result in the increase of another (Hair Jr et al., 2011:352).

1) **Statistically significance of the correlation**:

   This referred to the value (p). The $p \leq 0.01$ confirmed that correlation was statistically significant at 99% and $p \leq 0.05$ indicated a statistical significance at 0.95 level of confidence (Welman et al., 2007:252).

2) **Strength of the relationship:**

   The strength was always interpreted in terms of being positively or negatively strong, moderate, weak and very weak (Hair Jr et al., 2011:354).

3.5.2.2 Regression

Wagner (2017:104) confirmed that regression analysis allowed to predict one variable from information at one's disposal about other variables. The analysis was performed on interval and ratio variables though there was a possibility to incorporate data from variables with lower levels of measurement such as nominal and ordinal variables. Graziano and Raulin (2013:113) also stated that with regression, the correlation coefficients quantify the degree and direction

of relationship between variables as it was to predict the value of one variable from the value of another.

3.5.2.3 Variance (ANOVA)

According to Gaur and Gaur (2009:67), ANOVA or analysis of variance was used to compare the means of more than two populations. It revealed the effects of independent variables on one or more dependant variables. As stated by Hair et al., (2011:336), the ANOVA might be used to examine a study with a single independent variable to determine the statistical differences between the groups' means. Graziano and Raulin (2013:237) confirmed that ANOVA could be used both within-groups variance and the between-groups variance.

3.5.2.4 Comparing Means t-Test

According to Wagner (2017:80), the t test could be used for a given set of data in order to compare the means of all the values for each of the two variables. In the same vein, Flick (2015:177) pointed out that in the t-test, two datasets were compared for their differences. With the t-test, a statistical significance test had to be applied, in which the means and the standard deviations of both datasets were taken into calculations. This might be applied to a small or big sample size.

3.6 VALIDITY AND RELIABILITY

According to Gaiser and Schreiner (2009:69-70), the validity of a research project was concerned with the integrity of the conclusions that were generated from the study whereas reliability focused on the question of whether the results of a study are replicable. To ensure that research instruments measured what they intended to measure, Cronbach's Alpha reliability test was done. The results are reported in chapter four. The Validity and reliability of this study are addressed as follows:

- All questions are relevant to the constructs of this study
- Closed questions format were used in the questionnaire to maintain same standard of answers from participants
- Pre-test was used to ensure precision, clarity and good understanding of questions in questionnaire, and possible refinement of research instruments
- Construction and development of the questionnaire took into consideration the entrepreneurial orientation questionnaire (EOQ) and organisational orientation questionnaire (OOQ) of previous studies

- Anonymity of respondents was maintained to guarantee them, as stipulated in the letter of consent, that there was to be no risk of being victimised or disadvantaged because of providing certain answers.
- The manufacturing SMEs used were registered in the database of the Department of Economic Development and Tourism (DEDT). Being a registered SME warranted a certain level of formality and standard acceptable to conduct this study.
- Businesses were located in KwaZulu Natal region.
- Multiple databases were consulted to improve the response rate and to ensure the representativeness of all the sub sectors, but using the DEDT data as the sampling base.

3.6.1 External Validity

Fink (2008:188) stated that external validity focuses on the question of research results' generalisation beyond the specific research context. This raised the importance of how the units of analysis were selected in order to ensure the sample representativeness within quantitative study (Bryman and Bell 2011:42). According to Fink (2008:130), external validity focuses on the manner participants are selected. It addresses the way in which a researcher may generalise the results. Coldwell and Herbst (2004:41) referred to three major threats of external validity in the way of making these generalisation regarding people, place and time. This implied the question of whether the result of the study would have been the same with different people, at a different place and time. Heyvaert, et al., (2017:194) underlined the necessity of using the random sample instead of non-random one and the use of the "theory of proximal similarity" more effectively. The latter was based on the fact of incorporating into the investigation more typical cases on the premise that it was typical of the situation as a whole and thus has a high degree of similarity with the aspects. The cluster sample was likely to be inclusive, to maintain uniformity and similarities of the cases selected.

3.6.2. Internal Validity

Coldwell and Herbst (2004:40) and Blair, Czaja and Blain (2014:30) indicated that internal validity was the validity of the inferences as relating to cause-effects relationships. According to Saunders, et al., (2009:128), internal validity in relation to a questionnaire referred to the ability of the instrument to measure what exactly it was intended to measure. However, as relevant to the questionnaire, the following validity types might be depicted:

- ❖ Content validity: was the extent to which the measurement (questions) covered adequately the research questions.

- Criteria-related validity (predictive validity): this was the ability of the measure (questions) to make precise and accurate predictions.
- Construct validity: It was the extent to which the measurement questions measure the constructs that were intended to be measured (Saunders, et al., 2009:373).

To respond positively to internal validity, at first, the questionnaire had been subjected to the scrutiny of academics, and practitioners in the field of business management in order to ensure its effectiveness. Secondly, the corrective measures had been taken in order to refine the research instrument after the pre-testing. Finally, the construction and development of the questionnaire took into consideration the previous questionnaires on organisational orientation, entrepreneurial orientation and innovation performance. Relevant literature on entrepreneurship in general and on the study constructs in particular was consulted in support of the constructs.

3.6.3. Reliability

According to Fink (2008:186), reliability was an extent to which the data collection techniques or analysis procedures within a research design produced consistent results. Polonsky and Waller (2011:128) emphasised the necessity of the replication of the research findings in asking the questions of measures, observations and transparency. It firstly ensures that measures used must produce the same results on other occasions. It implied secondly that similar observations had to be reached by other observers, and lastly, there was a need for transparency of the results from the raw data. In this perspective, Creswell (2014:226) assert that the reliability of the responses received is very crucial in a quantitative study. Saunders, et al., (2009:156-157) further confirmed, however, that the following threats may hamper the reliability of the study:

- Subject or participant error – this threat was due to the wrong timing of the participant to complete the questionnaire.
- Subject or participant bias – this was the instance where the participant may respond only in a way to get rid of questionnaire or to satisfy his/her boss in order to respond according to what researcher wants to hear.
- Observer error – the unclear way of asking questions in the observations resulted in irrelevant answers or the approach used in eliciting the answers.
- Observer bias – this threat had to do with the observer's way of interpreting the replies.

To remedy the above threats and ensure reliability of this study the following mechanisms mentioned below were used:

- The questionnaire used closed questions format in order to keep the same standard of answers provided by participants
- Pre-testing of the questionnaire was done to ensure precision, clarity, good understanding of questions
- The anonymity of participants was maintained in order to guarantee them that there was no risk of being victimised because of providing certain answers
- The face-to-face questionnaire allowed for a high level of responses in order to build an acceptable sample size.

3.7 ETHICAL ISSUES

Research ethics had to be observed at different stages of the research such as gaining access and collecting data, processing and data storage; analysing data and writing up the report had to be conducted in a responsible manner under the umbrella of moral principles. This necessitated both the design and method to be methodologically sound and morally defensible to humans, animals and organisations involved (Holness 2015:80). The consent of respondents was obtained and anonymity was maintained as indicated in the covering letter in Appendix A. In addition, this study ensured that the employees and their respective organisations would not be harmed by the outcome of this research in maintaining confidentiality as recommended by Flick (2015:35). Wellington, et al., (2005:104) and Devlin (2018:76) further confirmed that research scrutiny implied that it was paramount to comply with the stringent ethical considerations and any deviations from ethical standards therefore needed to be thought through and justified very carefully, thus making ethical considerations a fundamental element to the credibility, validity and reliability of this research. To this end, the Ethical Requirements of the University were met and an ethical clearance obtained before embarking on the study. In this context, ethical parameters were considered and study limitations were addressed in order to keep the interpretation of the results within boundaries of this study. The next section will delineate the scope of the study.

3.8 DELIMITATION OF THE STUDY

The organisations will be small and medium enterprises (SMEs), with fewer than 200 paid and full time employees as prescribed by the National Small Business Act, No 102 of 1996. In addition, the focus of the study was on small and medium enterprises in the manufacturing sector in KwaZulu Natal region. All manufacturing subsectors are included. Furthermore, the organisational orientation (OO) was defined as the business choices in terms strategy, structure, management style, systems, and allocation of resources and motivation of employees to engage in entrepreneurial activities. The entrepreneurial orientation (EO) referred to Miller (1983)'s three dimensions that included innovativeness, risk-taking, and proactiveness. However, the researcher suggested entrepreneurial self-efficacy and alertness as the two additional dimensions as justified in chapter two.

3.9 CONCLUSION

This chapter has covered the methodological approach used in order to answer research questions. It justified the study's research paradigm, design, and selection of a sample from the population, the research instrument and data collection, an analysis and an interpretation of research data. It also justified the ethical context of the study as well as the validity and reliability of the research project. To answer research questions, the constructs have been developed and a questionnaire was used to gather empirical data in order to analyse and establish the existence and the strength of the correlation between variables. In Chapter Four, the results of the investigation will be presented and discussed.

CHAPTER FOUR: ANALYSIS AND RESULTS

4.1 INTRODUCTION

Chapter Three discussed the survey design and the data collection procedures. All data collection activities were monitored to ensure adherence to the data collection protocol and to prompt actions to minimize and resolve missing data. Chapter Four focuses on research results analysis, interpretation and discussion. The statistical results of the survey are presented as generated by a statistical package for social sciences (SPSS). This chapter covers the following topics:

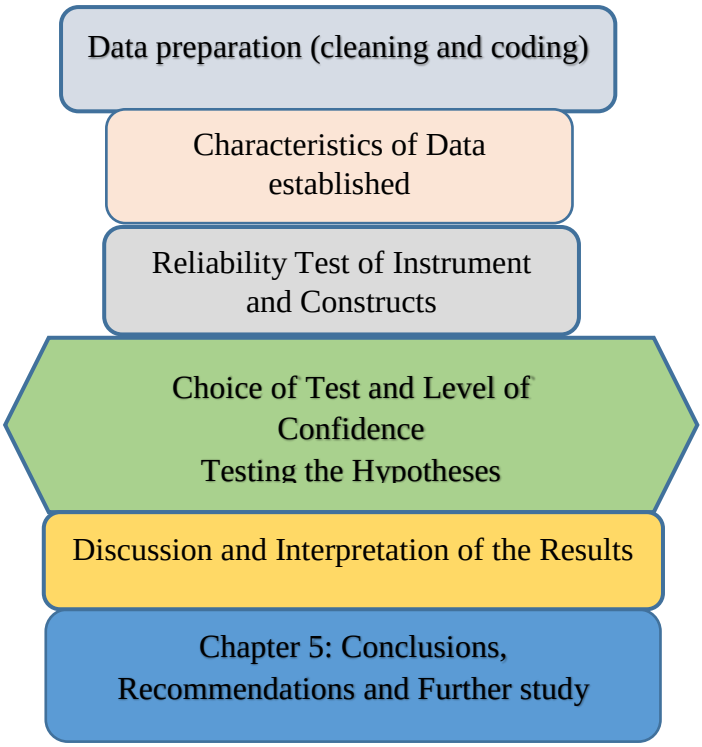
- Descriptive statistics to establish the characteristics of data.
- Validity and reliability tests.
- Relationship between entrepreneurial orientation, organisational orientation and innovation performance dimensions of manufacturing SMEs
- Regression analysis to test the impact of the independent dimensions on the dependent dimension.

The data preparation process is discussed next.

4.2 DATA PREPARATION

A preliminary process was conducted which includes data cleaning and coding. Data preparation provided the opportunity to detect data problems such as inconsistencies in the responses and these were dealt with accordingly. To logically analyse the quantitative data, the Statistical Package for the Social Sciences (SPSS) was used. As with any other stages of a study, the data analysis and interpretation of the study should relate to the study objectives and research questions. The usual analysis approach is firstly to explore the data through the descriptive analyses, before addressing key questions from the study aim, objectives and hypotheses. As outlined in the Figure 4.1, the data analysis was conducted followed by the results interpretation, discussion and conclusion.

Figure 4.1 Data analysis process



Source: Author

This next section presents the statistical summaries of the demographic profile of the respondents in terms of gender, age group, and education of owner-managers. The business size, age and ownership, the type of products produced and the market scope of SMEs are also presented.

4.3 DESCRIPTIVE STATISTICAL ANALYSIS

According to Welman, Kruger and Mitchell (2007:22-23), the descriptive statistics are used to understand what is being researched through the description and summaries of the data obtained from units of analysis. In this context, this section will present, the descriptive characteristics of the sample. The statistical summaries will assess whether the sample was representative of the population of SMEs. Frequencies and percentages of gender, age group and the education levels of owner-managers are presented next in Table 4.1.

Table 4.1: Frequency and Percentage of the Gender group, age group and education

Gender		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	121	54.8	54.8	54.8
	Female	100	45.2	45.2	100.0
	Total	221	100.0	100.0	
Age group		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<26	38	17.2	17.2	17.2
	26-45	121	54.8	54.8	71.9
	46-65	61	27.6	27.6	99.5
	66+	1	0.5	0.5	100.0
	Total	221	100.0	100.0	
Education		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Lower than Matric	22	10.0	10.0	10.0
	Matric	87	39.4	39.4	49.3
	Certificate/Diploma	67	30.3	30.3	79.6
	University degree	28	12.7	12.7	92.3
	Post graduate degree	17	7.7	7.7	100.0
	Total	221	100.0	100.0	

Results in Table 4.1 show the frequencies and percentages of gender, age and education. These results will further be described and analysed in the next sub-sections.

4.3.1 Gender composition of Owner-Manager

Table 4.1 shows that of all the owner-managers who responded, 121 (54.8%) were male and 100 (45.2%) were female. Males seem to slightly dominate the SME manufacturing sector. The sample is representative of the population of SMEs as it is consistent with the study of Cilliers and Strydom (2016:241) that found that the gap between men and women business owners is narrowing in recent years. This is supported by SEDA (2012:11) which confirms that 46% of SMEs are owned by women. Owner-managers' age is discussed next.

4.3.2 Age Groups of Owner-Managers

The age frequencies and percentages are summarised in Table 4.1. It depicts that 121 (54.8 %) of the respondents are between the age of 26 and 45 (young adults), followed by 38 (27.6%) that represents the respondents aged between 46 and 65 (middle age). Respondents younger than 26 represent only (17.2%) of the sample whereas those at the age of 66 and older constitute

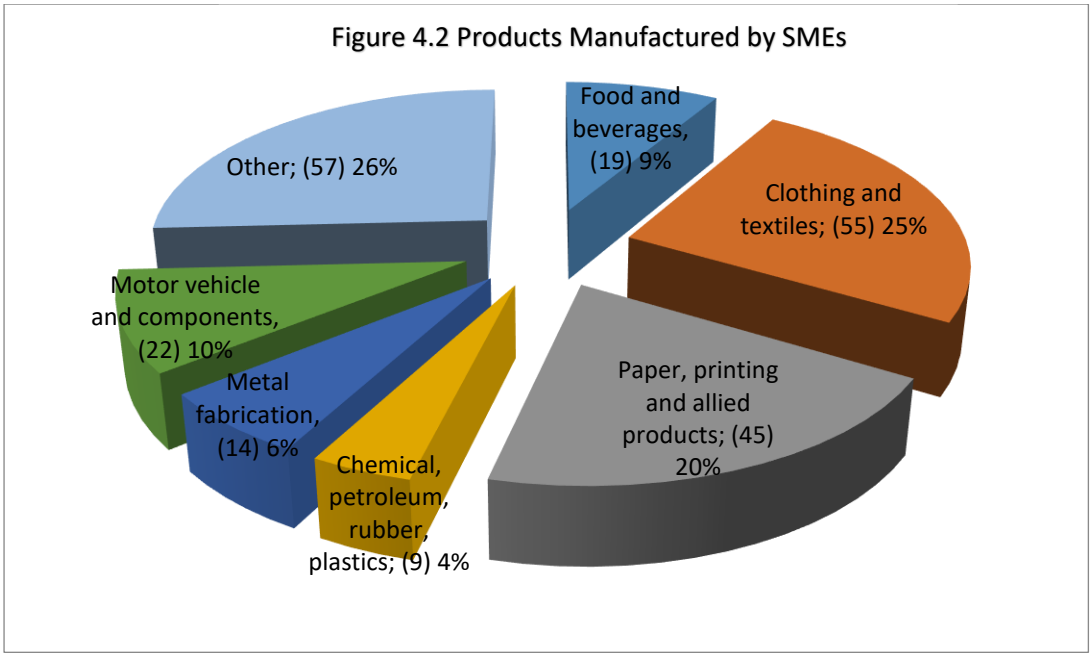
1 (0.5%) of the sample. The results reveal that young adults and middle age adults dominate the manufacturing SME sector. This is consistent with the GEM South Africa report (2015) which notes that South Africans aged between 26 and 44 years are the most entrepreneurially active. The sample is therefore representative as previous studies acknowledge that entrepreneurial involvement tends to reduce with age (GEM 2017:10). The next section describes the education levels of respondents.

4.3.3 Education level of Owner-Manager

As shown in Table 4.1, over 45 (20.4%) of the sample possess a Degree or Post-Graduate degree compared to only about 22 (10%) who had not completed matric. In fact, 87 (39.4%) of the respondents possess matric. In addition, the results show that 112 (50%) of the respondents hold a post-matric qualification, this is high compared to 20% as reported by GEM South Africa (2015). From no matric respondents to post graduate degree holders, owner-managers face a dynamic and complex current business environment that requires information and knowledge assimilation, accumulation and sharing. Nystrom (2012:4) argues that a certain level of human capital is needed in order to get involved in innovative and entrepreneurial initiatives. Results indicate that 199 (90%) of the respondents were educated at matric level and above. This is consistent with the Bureau for Economic Research (2016:23) that indicates that the majority of SME owners have some secondary education (60%), and a substantial number have a tertiary education (19%). The next sub-section will analyse the composition of the sample in terms of manufacturing sub-sectors as per product manufactured.

4.3.5 Types of Products Manufactured

With regard to the composition of the SME manufacturing sector, Figure 4.2 shows the ratios of different types of manufacturing sub-sectors. The manufacturing sub-sectors labelled “other” represented all sub-sectors that were not listed and constituted 57 (26%) of the sample followed by the clothing and textiles 55 (25%), paper, printing and allied products 45 (20%), motor vehicle and components 22 (10%), food and beverages 19 (9%), metal fabrication 14 (6%) and lastly chemical, petroleum, rubber and plastics 9 (4%).

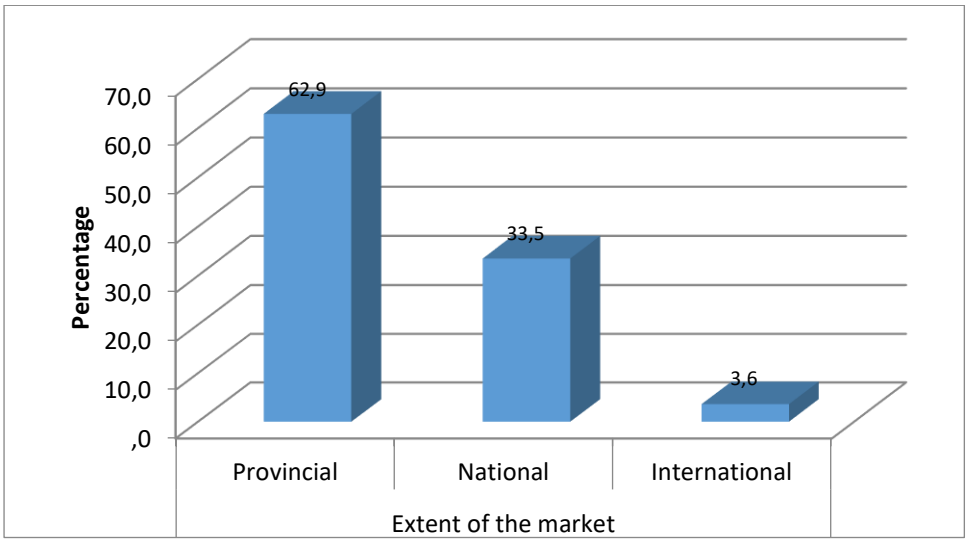


StatsSA classifies manufacturing sub-sectors into ten groups. However, the study grouped manufacturing sub-sectors into seven groups and referred to "other" in order to combine different small manufacturing sub-sectors considered too small to be on their own. Clothing and textiles dominates the sample as a single sub-sector and remains the bigger player in the composition of all manufacturing SME sub-sectors. The results reaffirm the role of clothing and textile manufacturing in the Kwa-Zulu Natal region. The province is considered the second biggest manufacturing region in South Africa after Gauteng. All the sub-sectors were represented as expected. Clothing and textiles, paper, printing and allied products and motor vehicle and components remain the biggest sub-sectors in the province and consistent with StatsSA findings (StatsSA 2015).

4.3.6 Business Market Scope

The section sort to describe the market scope of manufacturing SMEs in the province in terms of provincial, national and international Figure 4.3 shows that 139 (62.9%) of manufacturing SMEs operate at provincial level, followed by 74 (33.5%) that extend operations nationally. Only 8 (3.6%) of the SMEs in the sample operate at international level. Based on the results, it is observed that the province remains the manufacturing SME's primary market.

Figure 4.3 Market Scope



This is in line with the National Credit Regulator's (2011:51) findings that the majority of SMEs operate locally because of many barriers they face to enter the international market. This may be justified either as their inability to compete in a global market or preference to focus and exploit a niche market. With globalisation, SMEs are exposed to intense competition. Slack, Jones, Johnston, Singh and Phihlela (2017:60) also posit that the survival in long term of any business depends on the ability to continually serve its market adequately. According to SEDA (2012:17), the South African SME sector accounts for 18% of the gross value added from the international market. This 3.6 % contributes to this international value add. The next section will describe the age, size and ownership of businesses in the sample.

4.3.7 Business Age

Results in Table 4.2 show the descriptive statistics in terms of frequencies and percentages of business age. In this context, 27 (12.2%) of SMEs have been operating for up to three years, 67 (30.3%) have been in business from four to ten years, and those that have been operating from 11 to 17 years accounted for 48 (21.7%) of the sample. In addition, SMEs that have been in business for over 18 years accounted for 79 (35.7%). These results indicate that a high number of SMEs have operated for more than four years, thus, in the context of this study, the sample was representative as more that 85% of SMEs have operated more than three years since there is always a need for time to develop innovation in firms (Price, Stoica and Boncella 2013:4). It is critical to consider the age of business in order to allow innovation to take place.

The duration of time a SME survives in the business environment is critical to further investigate its capacity to innovate.

Table 4.2: Business Age, Size and Ownership

	Business Age	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Up to 3 years	27	12.2	12.2	12.2
	4 – 10 years	67	30.3	30.3	42.5
	11 – 17 years	48	21.7	21.7	64.3
	18+ years	79	35.7	35.7	100.0
	Total	221	100.0	100.0	
	Business Size as per number of employees	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 – 10	94	42.5	42.5	42.5
	11 – 50	81	36.7	36.7	79.2
	51 – 100	15	6.8	6.8	86.0
	101 – 200	31	14.0	14.0	100.0
	Total	221	100.0	100.0	
	Business Ownership	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Family business	90	40.7	40.7	40.7
	Non - family business	131	59.3	59.3	100.0
	Total	221	100.0	100.0	

Results of SMEs size and ownership in Table 4.2 are analysed in the next sections.

4.3.8 Size of SME

SMEs with one to ten employees constitute 94 (42.5%) of the sample, followed 81 (36.7%) for those with 11 to 50 staff. Furthermore, SMEs with 51 to 100 employees make up 15 (6.8%) of the total sample whereas 31 (14%) are those with 101 to 200 employed people. The results prove that the manufacturing SMEs that employ one to ten people dominate the sample with 94 (42.5%) followed by those with 11 to 50 which accounted for 81 (36.7%). The Small Enterprise Act of 1994 amended in 2004 classifies manufacturing SMEs as businesses that have one to 200 people employed in the business (DTI 2004:17). The sample is therefore representative as the distribution includes all size groups of SMEs. The number of SMEs reduced as they grow from Small to Medium. The business ownership is discussed next.

4.3.9 Ownership of SMEs: Family vs Non-Family Business

Results in Table 4.2 provide the statistics in terms of representation of family and non-family controlled businesses. Results depict that 90 (40.7%) of SMEs in the manufacturing sector are controlled by families and 131 (59.3%) of them are non-family businesses. The non-family owned enterprises dominate the sample. There is no published statistical information of SMEs found in Kwa-Zulu Natal in terms of the number of family owned SMEs. This finding can be generalised as the composition of family and non-family manufacturing SMEs in Kwa Zulu – Natal. Nevertheless, the sample is deemed representative as the two categories of ownership are more or less equally represented to serve the purpose of the study. The next section will provide the statistical mean value scores of all the research constructs.

4.3.10 Distribution values of constructs

To measure the entrepreneurial orientation (EO), organisational orientation (OO) and innovation performance (IP) of SMEs, a five point Likert scale*: (1) strongly disagree, (2) disagree, (3) neutral, (4) agree and (5) strongly agree* was applied. Owner-managers were asked to provide their opinions about EO dimensions: the innovativeness, risk-taking; proactiveness; self-efficacy and entrepreneurial alertness. Furthermore, owner-managers provided opinions about OO dimensions: organisational culture, strategy, structure, systems and management style of SMEs. Lastly, owner-managers expressed their opinions about IP dimensions: product, process; position and paradigm innovations of SMEs. The full detailed results can be found in Appendix C. However, the summary in Table 4.3 shows the mean and standard deviation values scores for all the items in the sub-dimensions measuring of the aggregated EO, OO and IP.

Table 4.3: Group Mean and Standard deviation value scores of the Sub-dimensions

	N	Mean	Std. Deviation	Std. Error Mean
EO: Innovativeness	221	4.0694	.63123	.04246
EO: Risk Taking	221	3.3846	.98698	.06639
EO: Proactiveness	221	3.6471	.76631	.05155
EO: Self Efficacy	221	4.0362	.66035	.04442
EO: Entrepreneurial Alertness	221	3.7602	.70361	.04733
OO: Organisational Culture	221	3.8248	.55552	.03737
OO: Strategy	221	3.7123	.67770	.04559
OO: Structure	221	3.8016	.55266	.03718
OO: Systems	221	3.5594	.70997	.04776
OO: Management support	221	3.6367	.63281	.04257
IP: Product innovation	221	3.6674	.60617	.04078
IP: Process innovation	221	3.7430	.65074	.04377
IP: Position	221	3.9706	.54641	.03676
IP: Paradigm	221	3.6425	.65587	.04412

Results prove that the mean value scores of all the items of sub-dimensions were >3 at an average of about 4. However, the dimensions items that show the highest mean values include: innovativeness and self-efficacy with mean value scores slightly above 4. This confirms agreement with the items that measured entrepreneurial orientation, organisational orientation and innovation performance dimensions. In contrast, risk taking shows the lowest mean score slightly >3 to signify the neutral position of respondents with regard to the items under this sub-dimension. In the same context, the standard deviation value scores below (1) show that the variability in the distribution deviation is negligible. It can be deduced that there is no variability in the responses with regard to all the items measuring the EO, OO and IP dimensions. The next section will discuss the reliability and validity of the study.

4.4 RELIABILITY AND VALIDITY

4.4.1 Introduction

This section measures the reliability and validity of the study in relation to the items of the variables of entrepreneurial orientation, organisational orientation and innovation performance and their sub-dimensions. Reliability was tested using Cronbach's alpha test to validate the dimensions of the study. Furthermore, the construct factor analysis was done as summarised in Table 4.5. In this context, the test and re-test were conducted to validate the individual items and improve the reliability and validity of the study.

4.4.2 Validity Analysis: Factor analysis as applied to each construct

Entrepreneurial orientation dimension was measured by five sub- dimensions that included: innovativeness, risk-taking, proactiveness, entrepreneurial self-efficacy and entrepreneurial alertness. A total of 25 items distributed to different sub-dimensions measured entrepreneurial orientation of SMEs as shown in Table 4.4. Furthermore, organisational orientation dimension was measured by 42 items distributed to five sub-dimensions that included: organisational culture, strategy, structure, systems and management style. Lastly, innovation performance dimension was measured by 21 items divided into four sub-dimensions that were referred to as "4 Ps" of innovation categorising the presence or no presence of innovation in an organisation's key performance areas. These areas include the business products, processes, position (market) and paradigm (models). Research items are shown in Table 4.4 next.

Table 4.4: Research Items

		ENTREPRENEURIAL ORIENTATION ITEMS
		INNOVATIVENESS
7	**12**	At this firm, research and development (R&D) are important
	13	At this firm, new lines of products have been marketed in the past five years (or since its establishment)
	14	At this firm, there are regular changes in product lines
	15	At this firm, innovation is encouraged
	16	At this firm, innovation is important for competitiveness
	17	At this firm, experimenting with new processes of production is encouraged
	18	At this firm, encourages employees to share information and knowledge within the company
		RISK TAKING
3	**19**	The firm adopts a risk-taking position in order to maximise the probability of exploiting potential opportunity
	20	A risk-taking attitude is considered a positive attribute for employees in this firm
	21	The firm gets involved in high risk projects in order to be a step ahead of the competitors
		PROACTIVENESS

6	**22**	The firm gets involved in high-risk projects when there is a good chance of high returns
	23	This firm initiates actions to which competitors then respond
	24	This firm strives to be the first business to introduce a new product
	25	This firm competes aggressively with its competitors
	26	This firm continuously monitors market trends to identify future needs of customers.
	27	In case of intense competition, the firm finds a way to retain its customers
		ENTREPRENEURIAL SELF-EFFICACY
5	**28**	This firm is able to deal with unexpected events
	29	In this firm failure makes people try harder
	30	The firm works on projects until they are completed
	31	There is belief in this firm that employees have the ability to attain project goals
	32	There is confidence in this firm that employees are able to bring changes in the products
		ENTREPRENEURIAL ALERTNESS
4	**33**	This firm continuously searches for new business opportunities
	34	The firm encourages members' suggestions in order to identify opportunities for new products
	35	The organisational members attend business fairs or exhibitions every year to seek new opportunities
	36	Employees are sent for training to improve their skills so that they are ready to implement new ideas
		ORGANISATIONAL ORIENTATION ITEMS
		ORGANISATIONAL CULTURE
11	**37**	The firm celebrates innovative achievements
	38	This firm has a culture whereby it learns from its failures
	39	Innovation is a core value of this firm
	40	New ideas are prioritised and given immediate attention
	41	The firm provides employees the freedom to use their own judgement
	42	The firm encourages employees to take individual responsibility for success or failure of their actions.
	43	Employees need permission from management to get involved in creative tasks (activities)
	44	Group success is considered more important than individual success
	45	Group welfare is considered more important than individual rewards
	46	Employees support one another in order to achieve innovation
	47	Ideas suggested by male and female employees are equally accepted
		ORGANISATIONAL STRATEGY
8	**48**	The firm has a planned approach for sourcing new product ideas
	49	The firm collaborates with other firms to achieve its innovation goals
	50	The firm is determined to differentiate its products from competitors
	51	The firm has long term investment in research and development (R&D)
	52	Strategies are in place to improve employees' skills in order to facilitate the introduction of new products
	53	Strategies are in place to improve production processes
	54	The firm regularly assesses its internal and external environment
	55	This firm has a strategy to exploit newly found opportunities
		ORGANISATIONAL STRUCTURE

7	**56**	The firm encourages both individuals' initiatives and collaborative team work
	57	The firm easily adapts its operations to changes in business sector
	58	There is an open communication channel between managers and employees in this firm
	59	In this firm, employees need to specialise in order to carry out their job
	60	The firm is flexible when it comes to rules and regulations if it results in the promotion of innovation
	61	When relevant, employees have input into business or product
	62	This firm promotes employees because of their creativity on the job
		MANAGEMENT SYSTEMS
9	**63**	This firm uses suggestion box to collect ideas from all employees
	64	The firm has an innovation budget that facilitates the allocation and control of resources
	65	The firm has a system in place to share information and knowledge
	66	The firm maintains the records of new ideas and the employees who generated them
	67	In recruiting new employees, creativity of candidates is considered to be an important criterion for selection
	68	Only the owner/manager has the power to authorise the use of money on innovative projects
	69	The firm investigates the balances of stock and funds on a regular basis
	70	This firm holds meetings to discuss the progress and the performance of both the new ideas and the implementation projects
	71	The firm provides internet connection to employees for searching new ideas and opportunities
		MANAGEMENT STYLE
7	**72**	The firm delegates decision-making authority to accommodate innovation
	73	The firm encourages new ideas or suggestions from its members
	74	In this firm, employees are empowered to take initiatives
	75	Employees with an idea are given free time to develop that idea into a product
	76	An employee who provides an idea that turns into a product is rewarded accordingly by the firm
	77	Employees are encouraged to go beyond their ordinary tasks in order to facilitate innovation
	78	The firm considers contributions from employees when making decisions
		INNOVATION PERFORMANCE ITEMS
		PRODUCT INNOVATION
8	**79**	New products have resulted in increased sales
	80	New products from this firm are produced by other firms on patent (license)
	81	With the introduction of new products the sales of existing products have improved
	82	Interest in the new products has been sustained
	83	In this firm, money spent on research & development (R&D) is rewarded by successful new products
	84	The new products have increased the profits realised by this firm
	85	New products have increased the daily cash flow of the firm
	86	At least ten per cent of ideas generated by the firm have been used in new products

		PROCESS INNOVATION
5	**87**	The firm has developed new and improved processes
	88	The firm uses new processes that produce products faster than competitors
	89	The firm's production processes are adaptable and can accommodate changes when necessary
	90	Our firm's product development cycle is shorter than that of our competitors
	91	The firm's new production process has reduced the cost of production
		POSITION INNOVATION
4	**92**	The sale of new products has improved the loyalty of the customers
	93	The firm has succeeded in exploiting other markets with its new products
	94	The new products have attracted new customers to the firm
	95	The new products have improved the reputation of the firm
		PARADIGM INNOVATION
4	**96**	Many employees have acquired new skills in order to improve innovation
	97	The firm alters its strategies, if necessary, to meet its innovation goals
	98	The firm and its employees do not give up on innovations and work on them until the product goal is achieved.
	99	The firm has increased its funds in research and development (R&D)

Source: Researcher

Covin and Wales (2012:692) stated that scholars validated the use of entrepreneurial orientation measures developed by Miller/Covin and Slevin (1989); and corporate entrepreneurship assessment instrument (CEAI) formulated by Hornsby, Kuratko and Zahra (2002). Although the adapted version of the questionnaire was used for this study, the validation of instrument and reliability of the study was observed to maintain the credibility of the study findings. Factor analysis (FA) with varimax rotation was applied to each set of items that were set to measure a construct. According to Statistics Solutions, factor analysis can be used to construct indices through the sum up all the items in an index. This could be used to justify dropping questions to shorten questionnaires (https://www.statisticssolutions.com). The results of reliability test and construct factor analysis are shown in Table 4.5.

Table 4.5 Reliability Cronbach's alpha test: Entrepreneurial Orientation, Organisational Orientation and Innovation Performance

Construct	Number of factors	KMO statistic	Variance explained (%)	Items dropped from the factor	Number of items per construct	Reliability (Cronbach's alpha)
Entrepreneurial orientation						
EO-Innovativeness	1	.810	51.703	12	7	.846
EO-Risk taking	1	.667	76.622		3	.845
EO-Proactiveness	1	.785	52.916	22	6	.832
EO-Entrepreneurial self-efficacy	1	.702	52.087	28, 32	5	.799
EO-Entrepreneurial alertness	1	.682	57.936		4	.748
Overall						**.909**
Organisational orientation						
OO-Organisational culture	2 (only the first was retained)	.683	50.678	37, 42, 43, 44, 45	11	.802
OO-Strategy	1	.833	49.165	49	8	.852
OO-Structure	1	.767	41.206		7	.756
OO-Systems	1	.807	44.642	71	9	.842
OO-Management style	1	.762	47.75		7	.812
Overall						**.935**
Innovation performance						
IP-Product innovation	1	.846	50.003		8	.846
IP-Process innovation	1	.820	65.059		5	.864
IP-Position innovation	1	.732	54.993		4	.717
IP-Paradigm innovation	1	.754	59.570		4	.763
Overall						**.921**

Source: SPSS

As shown in Table 4.5, for some constructs, it was necessary to exclude items in the measure. FA performed proved that the items were excluded if item-total correlation was low (<.4). To test a measure of how suited the data was for factor analysis, Kaiser-Meyer-Olkin (KMO) test was conducted. The test measured sampling adequacy for each variable in the model and for the complete model. The KMO statistic is a measure of the proportion of variance among variables that might be common variance (Lorenzo-Seva 2013:2). The lower the proportion, the more suited the data is to factor analysis. As shown in Table 4.5, KMO values was high than 0.6 for all the constructs and explained varience average of 50% to indicate the sampling

was adequate. The higher the percentage of variance a proposed model managed to explain, the more valid the model would be. Based on the results of the factor analysis that was performed on the constructs to measure entrepreneurial orientation, organisational orientation and innovation performance, the study is deemed valid. The reliability test is analysed next.

4.4.3 Reliability Analysis

As depicted in Table 4.5, to address the reliability of the data, the reliability Cronbach's alpha was used to test the three main dimensions and fourteen sub-dimensions. The reliability test grouped the items together for a single measure of each construct. As shown in Table 4.5, the reliability coefficient result is >.70 for all the sub-dimensions and an overall coefficient of **.909** for entrepreneurial orientation, **.935** for organisational orientation and **.921** for innovation performance dimensions. In summary, based on the test of reliability coefficient of (> 0.90), the measurement is deemed very high and acceptable. In this context, the reliable Cronbach coefficient alpha values validate that most individual items measured the same dimension consistently. According to Welman, Kruger and Mitchell (2007:147), Cronbach's Alpha establishes the degree to which the items of a research instrument measure the same attributes in order to confirm the study reliability. A reliability coefficient of 0.70 or higher is considered to be "acceptable". In contrast, any coefficient of reliability (<.4) is regarded as inacceptable. In this context, the reliability is computed by taking several measurements on the same subjects into consideration, to ascertain whether the results of the study are credible and reliable. The overall reliability measures for the three dimensions that include entrepreneurial orientation, organisational orientation and innovation performance show the coefficient of reliability is >.9 for each of the three dimensions. Therefore, it may be argued that this study is highly reliable.

In conclusion, the descriptive statistics analysis results demonstrate that the shape and spread of the data was normal and therefore acceptable. The study has been proven reliable as the Cronbach alpha reliability coefficient was above the recommended measure of 0.7.

The next section will focus on the stated aim to be achieved through different test used to approve or disapprove the study hypotheses and to address the study objectives. It will analyse the results of correlation between dimensions, linear regression and variances of the study dimensions.

4.5 HYPOTHESES TESTING RESULTS

4.5.1 Introduction

This study's aim was to investigate the relationship between entrepreneurial orientation (EO), organisational orientation (OO), and innovation performance (IP) of manufacturing small and medium enterprises. It further wanted to find whether entrepreneurial orientation and organisational orientation predict innovation performance of SMEs. Lastly, the study intended to analyse the role of demographic factors in innovation performance of manufacturing SMEs.

To achieve the objectives and to test the postulated hypotheses, the study was subdivided into three sections as follows:

Section A will focus on the relationship between and among EO, OO and IP in manufacturing SMEs.

Section B will also test the effects of entrepreneurial orientation and organisational orientation on innovation performance in manufacturing SMEs.

Section C will analyse the role played by demographic factors in innovation performance of manufacturing SMEs.

The next section will test the relationship between the sub-dimensions of entrepreneurial orientation, organisational orientation and innovation performance.

4.5.2 SECTION A: Testing the Relationship between Entrepreneurial Orientation, Organisational Orientation and Innovation Performance Dimensions in Manufacturing SMEs

This section intended to establish whether there are ± correlations between sub-dimensions. That is, the purpose was to find whether the increase in the levels of entrepreneurial orientation was likely to improve the levels of organisational orientation in SMEs. Any positive and significant relationship would reaffirm that the entrepreneurial strategy was aligned with an organisation's overall strategy and this would likely improve innovation performance. In this context, the following hypotheses were tested:

Ho1-5: There is a positive, statistically significant correlation between entrepreneurial orientation dimensions and organisational orientation dimensions of SMEs.

Ho6-10: There is a positive, statistically significant correlation between entrepreneurial orientation dimensions and innovation performance dimensions of SMEs.

Ho11-15: There is a positive, statistically significant correlation between organisational orientation dimensions and innovation performance dimensions of SMEs.

The next sections will present and critically analyse the correlationship between the dimensions: entrepreneurial orientation, organisational orientation and innovation performance. Hair, Babin, Carr, and Griffin (2011:352) indicated that the correlation analysis could be performed in order to find out a correlation coefficient. The correlation coefficient was to inform about the direction of relationship in terms of positive, negative or no association.

Table 4.6 Pearson Correlation of Entrepreneurial orientation, Organisational orientation and Innovation Performance in SMEs

		EO_I	EO_RT	EO_P	EO_SE	EO_EA	OO_OC	OO_STRA	OO_STRU	OO_SYS	OO_MS	IP_PROD	IP_PROC	IP_POS	IP_PAR
EO_I	Pearson Correlation	1	.308**	.469**	.636**	.487**	.433**	.517**	.240**	.393**	.341**	.450**	.428**	.530**	.470**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221
EO_RT	Pearson Correlation	.308**	1	.367**	.378**	.388**	.196**	.230**	.429**	.353**	.321**	.429**	.112	.308**	.399**
	Sig. (2-tailed)	.000		.000	.000	.000	.003	.001	.000	.000	.000	.000	.096	.000	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221
EO_P	Pearson Correlation	.469**	.367**	1	.452**	.436**	.535**	.547**	.358**	.298**	.442**	.451**	.388**	.386**	.276**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221
EO_SE	Pearson Correlation	.636**	.378**	.452**	1	.519**	.613**	.383**	.219**	.379**	.351**	.375**	.453**	.354**	.489**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.001	.000	.000	.000	.000	.000	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221

EO_EA	Pearson Correlation	.487**	.388**	.436**	.519**	1	.525**	.553**	.356**	.487**	.535**	.587**	.628**	.587**	.569**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221
OO_OC	Pearson Correlation	.433**	.196**	.535**	.613**	.525**	1	.603**	.548**	.391**	.630**	.499**	.617**	.410**	.358**
	Sig. (2-tailed)	.000	.003	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221
OO_STRAT	Pearson Correlation	.517**	.230**	.547**	.383**	.553**	.603**	1	.673**	.547**	.575**	.643**	.625**	.616**	.517**
	Sig. (2-tailed)	.000	.001	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221
OO_STRUC	Pearson Correlation	.240**	.429**	.358**	.219**	.356**	.548**	.673**	1	.486**	.657**	.643**	.444**	.460**	.485**
	Sig. (2-tailed)	.000	.000	.000	.001	.000	.000	.000		.000	.000	.000	.000	.000	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221
OO_SYS	Pearson Correlation	.393**	.353**	.298**	.379**	.487**	.391**	.547**	.486**	1	.611**	.649**	.511**	.406**	.593**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000

	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221
OO_MS	Pearson Correlation	.341**	.321**	.442**	.351**	.535**	.630**	.575**	.657**	.611**	1	.686**	.644**	.431**	.556**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221
IP_PROD	Pearson Correlation	.450**	.429**	.451**	.375**	.587**	.499**	.643**	.643**	.649**	.686**	1	.575**	.623**	.621**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221
IP_PROC	Pearson Correlation	.428**	.112	.388**	.453**	.628**	.617**	.625**	.444**	.511**	.644**	.575**	1	.657**	.558**
	Sig. (2-tailed)	.000	.096	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221
IP_POS	Pearson Correlation	.530**	.308**	.386**	.354**	.587**	.410**	.616**	.460**	.406**	.431**	.623**	.657**	1	.594**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221
IP_PAR	Pearson Correlation	.470**	.399**	.276**	.489**	.569**	.358**	.517**	.485**	.593**	.556**	.621**	.558**	.594**	1

	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	221	221	221	221	221	221	221	221	221	221	221	221	221	221

****Correlation is significant at α = 0.01 level**

It is critical to reiterate that the analysis was be based on the 0.01 significance (a statistically higher level test). The correlation analysis assessed the existence and significance of the relationship between entrepreneurial orientation, organisational orientation and innovation performance dimensions. The next sections present test results on the correlation between EO, OO and IP dimensions and provide appropriate interpretations of the findings.

The Pearson correlation test was applied to assess the correlation between each of the EO sub-dimensions: innovativeness, proactiveness, risk taking proclivity, self-efficacy and alertness and each of the OO sub-dimensions: organisational culture, strategy, structure, systems and management style resulting in hypotheses Ho1-5. Furthermore, each of the EO sub-dimensions was tested for correlations with each of the IP sub-dimensions: product, process, position and paradigm innovation resulting in hypotheses Ho6-10. Lastly, each of the OO sub-dimensions and each of the IP sub-dimensions were tested for correlation, hypotheses tests, Ho11-15. The next section is the correlation test, between EO innovativeness and all the OO sub-dimensions.

4.5.2.1 HYPOTHESIS 1: Correlation between innovativeness and organisational orientation dimensions in SMEs.

Hypothesis 1 (Ho1.1 - Ho1.5) states that there is a positive, statistically significant correlation between EO innovativeness and organisational orientation dimensions: organisational culture (Ho1.1), strategy (Ho1.2), structure (Ho1.3), systems (Ho1.4) and management style (Ho1.5). As shown in Table 4.6, it is found that there is a positive and statistically significant correlation between **innovativeness** and organisational culture (0.433), strategy (0.517), structure (0.240), systems (0.393), and management style (0.341) at p values $0.000 < \alpha = 0.01$ level. In this case, the hypotheses Ho1.1, Ho1.2, Ho1.3, Ho1.4 and Ho1.5 are all accepted. Further discussions were conducted next.

The results obtained proved that innovativeness was improved by organisational culture, strategy, structure, systems and management style in SMEs. Innovativeness orientation was also likely to change the configuration of SMEs culture, strategy, structure, processes and managerial style in a positive and significant way. With regards to organisational culture, SMEs reflected collectivism and the findings proved that innovative values were shared, prioritised and supported in SMEs. The more collective a culture, the more ideas will be shared resulting in more innovations in SMEs. In terms of systems and management style, it is found that work procedure, activities flow and a tolerant leadership style improve innovativeness of SMEs. In

addition, a high level of innovativeness in SMEs could lead to better processes and an improved collaboration between managers and employees. Employees are required to go beyond their routine and usual tasks and are encouraged to take initiatives. Furthermore, the study results reiterated that the organisational strategy was likely to enhance business innovativeness of SMEs. In this context, the findings imply that SMEs should be compelled to invest in research and development (R&D) despite resource constraints and to continuously scan the business environment and formulate and implement relevant strategies in order to enhance their innovativeness. SMEs' awareness of the external environment is increased when innovations take place in firms. According to Enkel, Gassmann and Chesbrough (2009:312), cooperation with externals is core to increase innovativeness of firms. Also, Li, Zhang and Xu (2016:17) maintain that R&D investment and other tangible resources can be used as indicators of the internal innovation capability of SMEs. In the same context, a correlation between innovativeness and structure proves that an SME flexible structure enforces efforts in innovativeness of firms. In this perspective, findings indicate that SMEs reflect a flat and flexible structure, for example, open communication and collaboration are encouraged. It also reflects that creativity, speciality skills and the promotion of employees on the basis of their contribution to innovative activities is likely to create a positive impact on innovativeness status of SMEs.

Previous findings confirmed that although informal, incidental or experiential learning takes place in SMEs, structured learning was most likely to enhance innovation (Fu, et al., 2011:386 and Jeon and Kim 2012:214). Closely related to that, Ortega-Egea, Moreno and Dominguez (2014:606) found that a knowledge transfer had an influence on workers' innovation. In terms of specialised skills, 90% of owner-managers with qualifications above matric prove that diverse and required skills are present in SMEs (Table 4.1). However, the question is how the knowledge and skills are used and sustained in SMEs. Unfortunately, only 37% of SMEs reward employees with promotion on the basis of their contribution to innovation (Figure 4.6). Bloodgood, et al., (2015:385) indicated that corporate entrepreneurship was centred on re-energising and enhancing an organisation's capability to develop the knowledge and skills through which the innovations might be generated.

Furthermore, while freedom is given to employees, it may not be extended to the utilisation of resources that are required to carry out innovation activities. Breaking rules in the context of SMEs is likely to be challenging as owner-managers exercise excessive control in the utilisation of resources and put emphasis on resource constraints (Fini, et al., 2010:389).

Hornsby, Kuratko, Shepherd and Bott (2009:279) emphasise the role of the quality of managerial support, which refers to the willingness of managers, especially senior managers, to facilitate and promote entrepreneurial activities; available resources; a supportive organisational culture, which is a culture that is flat or organic rather than mechanistic in nature to enhance firms' innovativeness. With regard to a correlation between systems and innovativeness, although SMEs always exhibit poor systems to achieve innovativeness, Hisrich and Kearney (2014:33) assert that the support system in place is necessary to enhance creativity and creative thinking through the development of new ideas or concepts that lead to firms' innovation.

The results revealed that the more collective a culture, the more ideas will be shared and the more innovations will result. Similarly, EO was likely to reinforce a collective culture of SMEs. This is contrary to Kuratko, et al., (2011:280) assertion that individualist culture encourages greater number of novel concepts and ideas as well as breakthrough innovations of a firm.
Lastly, at firm-level, EO is often seen as a strategic dimension comprising management tendencies, philosophies, and decision-making practices that were entrepreneurial oriented (Goktan and Gupta 2015:98). In this context, greater business environmental awareness, formal systems and entrepreneurial leadership raises the probability of the innovation to take place. This is in line with Okhomina (2010:5) assertion that EO referred to the firm's strategic orientation, capturing specific entrepreneurial aspects of decision-making styles, methods, and practices. The next section critically assesses the correlation between EO risk-taking and an organisation's orientation sub-dimensions.

4.5.2.2 HYPOTHESIS 2: Correlation between risk taking and organisational orientation dimensions in SMEs.

Hypothesis 2 (Ho2.1 – Ho2.5) states that there is a positive statistically significant correlation between risk taking and organisational orientation dimensions: organisational culture (Ho2.1) strategy (Ho2.2) organisational structure (Ho2.3) systems (Ho2.4) management style (Ho2.5). Based on the results in Table 4.6, it is found that risk-taking attitude is positively and statistically correlated with organisational culture (0.196), strategy (0.230), structure (0.429), systems (0.353) and management style (0.321) at p values $0.000 < \alpha = 0.01$ level. Hypotheses Ho2.1, Ho2.2, Ho2.3, Ho2.4 and Ho2.5 are therefore accepted.

Based on the results, a risk-taking propensity in SMEs is related to the organisational culture established in an organisation and the strategy adopted. This is demonstrated by the tolerance for failure and the necessity for change manifested in SMEs. It seems that a flatter structure of SMEs characterised by a lower level of authority encourages a risk-taking attitude. This further demonstrated that a more lenient protocol and more flexible procedures justify why a risk-taking attitude is encouraged and are considered to be a positive attribute for employees in SMEs. Furthermore, the ability to adopt a risk-taking position and maximise exploiting opportunities is likely to be improved by the systems and managerial support in SMEs. This is why Covin and Slevin (1998:217) reiterated that non-entrepreneurial or conservative firms were likely to have a senior management style characterised as risk-averse, non-innovative, and passive as well as reactive in nature. In this context, entrepreneurial firms are described as firms with a strategic direction that emphasise innovation and growth and prove the capacity to assume relevant risks. The study also supports De Clercq and Rius (2007:467) who found that the tendency of entrepreneurial orientation was not to consider risky projects until being ready. However, the mean value score of (M=3.3846 in Table 4.3) for entrepreneurial orientation dimension risk-taking proves that owner-mangers remain cautious about risk in SMEs. Many SMEs are reluctant to get involved in high-risk projects despite a likelihood of high returns. Kuratko (2017:58) opined that system set up had to be conducive to risk taking proclivity and tolerance of mistakes to boost innovation performance.

Kuratko et al., (2011:62) long-established that because innovation is about breaking rules with probability of failure, the balance between freedom and discipline is needed for innovation success. High commitment to entrepreneurial orientation necessitates small and medium firms to be creative, proactive, to maintain openness and to take risk. With risk, it was important to bear in mind that something unpleasant was likely to happen and affect the restrained resources of SMEs (De Jong, Parker, Wennekers and Wu 2015:983). The next section will evaluate the relationship between proactiveness and organisation orientation sub-dimensions.

4.5.2.3 HYPOTHESIS 3: Correlation between proactiveness and organisational orientation dimensions in SMEs.

Hypothesis 3 (Ho3.1 – Ho3.5) states that there is a positive, statistically significant correlation between EO proactiveness and organisational orientation dimensions: organisational culture (Ho3.1), strategy (Ho3.2), structure (Ho3.3), systems (Ho3.4) and management style (Ho3.5). Based on the results in Table 4.6, EO proactiveness is positively and significantly correlated

with organisational culture (0.535), strategy (0.547), structure (0.358), systems (0.298) and management style (0.442) at p values $0.000 < \alpha = 0.01$ level. Hypotheses Ho3.1, Ho3.2, Ho3.3, Ho3.4 and Ho3.5 are all accepted.

In this context, the positive statistically significant correlation between proactiveness and the organisational culture and strategy indicates that the ability of SMEs to share values, tolerate failure and to work toward a common purpose enhance their capacity to anticipate competitors' actions and provide appropriate responses. The results further demonstrate that there is a positive statistically significant correlation between proactiveness and organisational structure and management style. This proves that proper communication and support in place remain critical for SMEs in order to anticipate future innovative opportunity that may impact on the survival and growth of the firm. Lastly, the positive statistically significant correlation between proactiveness and systems indicates that the SMEs' future prospects are likely to improve good business practices and procedures to anticipate and continuously monitor their market trends in a changing business environment. In addition, the OO dimensions: culture, strategy, structure, systems and management style are found to be the determinants of SMEs ability to anticipate innovative opportunity and outperform competitors.

The results further informed that the strategic orientation, collective culture, systems and support mechanisms are reinforced by the proactive posture of SMEs. In alignment with Ahmad's (2012:3) study, management support for change could encourage the employees to embrace entrepreneurial culture within an organisation. This is because management support was a source of significant variations in fostering intrapreneurial behaviour that results in innovation (Cope, et al., 2011:276).

In line with Covin and Slevin's (1998:218) assertion, entrepreneurial firms are those in which the senior managers possess an entrepreneurial management style, which is recognised through the firms' strategic decisions and operating management philosophies. In the same context, Green, et al., (2008:372) corroborated that firms with a structure and a management style alignment were likely to improve their proactiveness dimension. Although, SMEs still experience strategic challenges to initiate actions and to compete aggressively, Nason, et al., (2015:279) noticed that they (SMEs) were more likely to utilise entrepreneurial strategy for growth to overcome the liabilities of smallness. A self-efficacy relationship with organisational orientation sub-dimensions is discussed next.

4.5.2.4 HYPOTHESIS 4: Correlation between entrepreneurial self-efficacy and organisational orientation dimensions in SMEs.

Hypothesis 4 (Ho4.1 – Ho4.5) states that there is a positive, statistically significant correlation between self-efficacy and organisational orientation dimensions: organisational culture (Ho4.1) strategy (Ho4.2) organisational structure (Ho4.3) systems (Ho4.4) management style (Ho4.5). Results in Table 4.6 indicate that EO self-efficacy are positively and significantly correlated with organisational orientation dimensions since organisational culture (0.613), strategy (0.383), structure (0.219), systems (0.379) and management style (0.351) at p values $0.000 < \alpha = 0.01$ level. Hypotheses Ho4.1, Ho4.2, Ho4.3, Ho4.4 and Ho4.5 are all accepted.

The positive and statistically significant correlation between self-efficacy and organisational culture indicates that resilience of SMEs is enhanced by the strong culture such as shared values that promote creativity learning. For instance, learning about business strategies, structure and systems is likely to equip employees to deal with unexpected events and to focus their efforts to accomplish organisational innovation objectives in SMEs. This further reiterates that self-confidence is likely to be enhanced in SMEs by the freedom of judgement given to employees. In addition, the results show that there is a positive significant correlation between self-efficacy and strategy, systems and management style. This demonstrates that resiliency in turbulent business conditions improves the effectiveness of SMEs strategies, systems and support in SMEs. For instance, being part of a collaborative network, long-term investment in R&D, improving business processes, evaluating internal strengths and weaknesses: all this, is enhanced by a positive attitude to succeed in SMEs. Lastly, the correlation between self-efficacy and organisational structure indicates that the SMEs structure does have influence on the resilience of SMEs. In this context, members in SMEs regardless of their position are determined to support and sustain the business. These findings are in line with Triandis's (2001:913) study that confirmed that people who are self-reliant and less conformity-driven are likely to show a positive attitude towards entrepreneurial activities. This is also in line with Douglas and Fitzsimmons (2008:937) who asserted that self-efficacy was measured to investigate how it could contribute to entrepreneurial orientation alongside the three dimensions. In the same context, Herath and Mahmood (2014:24) reiterated that coping with unexpected challenges was a dimension of self-efficacy different from innovativeness, risk taking and proactiveness. Slevin and Terjesen (2011:975) also state that the multiple level analysis of entrepreneurial orientation of SMEs takes place when organisational members are included. It is proven that SMEs have confidence in their employees' ability to attain

organisational goals. However, with regard to availability of diverse rewards, the fact that most SMEs are unable to diversify their rewards as shown in Figure 4.5, constitutes a challenge to sustain skilled members in SMEs. These members are responsible to diffuse knowledge and information in a collective environment of SMEs.

In conclusion, self-efficacy was likely to create business continuity as an orientation that an organisation should instil to ensure sustainability in case of disruption and resource constraint (Bandura 2009:182). People tended to have control over their negative thinking as they showed higher degree of self-efficacy and consequently portrayed higher individual performance (Herath and Mahmood 2014:24). Also Akinbobola (2011:93) concurred that productivity of employees in industrial settings was mainly affected by their self-efficacy as a predictor of future behaviour better than past performance. This also proves that self-efficacy strengthens the strategic understanding and implementation, and collective culture of SMEs.

The next section will explore the entrepreneurial alertness correlation with an organisation's orientation sub-dimensions.

4.5.2.5 HYPOTHESIS 5: Correlation between entrepreneurial alertness and organisational orientation dimensions in SMEs.

Hypothesis 5 (Ho5.1 - Ho5.5) states that there is a statistically significant positive correlation between alertness and organisational orientation factors: organisational culture (Ho5.1), strategy (Ho5.2), organisational structure (Ho5.3), systems (Ho5.4) and management style (Ho5.5). As depicted in Table 4.6, it is found that there is a positive and statistically significant correlation between entrepreneurial alertness and organisational culture (0.525), strategy (0.553), structure (0.356), systems (0.487) and management style (0.535) at p values $0.000 < \alpha = 0.01$. Hypotheses Ho5.1, Ho5.2, Ho5.3, Ho5.4 and Ho5.5 are therefore accepted.

Results as depicted in Table 4.6 show that there is a positive and significant correlation between alertness and organisational culture, strategy and management style**.** This demonstrates that searching and identifying new business opportunities are likely to be improved by a management support mechanism, shared values and a clear defined strategic orientation in SMEs. The results further indicated that investing in employees in terms of training and exposure to events such as business fair or exhibition improve the ability to implement new ideas and reinforce an innovative culture in SMEs. In addition, the significant and positive

relationship between entrepreneurial alertness and organisational structure and systems reiterates that alertness to opportunities and innovative ideas are likely to be enhanced by systems, processes and collaboration in SMEs. For example, a structure that promotes effective communication channels and encourages creativity and knowledge sharing is likely to switch on the alertness system in SMEs. In summary, it can be interpreted that there is an alignment between organisational culture, strategy, structure, leadership and systems with entrepreneurial alertness in SMEs. Ehlers and Lazenby (2016:281) pointed out that organisational structure, organisational culture and leadership were considered to be strategic drivers in any organisation. In contrast, Bos-Brouwers (2009:421) confirms that SMEs tend to be more development-oriented than research-minded. This is likely to impede the development of ideas generated and the long- term investment in research and development (R&D). Although this is the basic way of generating ideas especially for a resource constraint firm, SMEs do not take advantage of the opportunity. In this context, collective culture and strategic readiness create awareness in the business environment. Fatoki and Oni (2015:212), and Lim and Xavier (2015:105) opined that adversities and pressure of external environment were likely to make people in SMEs more alert than in the large organisations as failure to recognise and exploit opportunities negatively impact on the performance of enterprises. Aptly Cooper, et al., (2006:57) pointed out that organisations could establish and enhance entrepreneurial alertness by promoting flexibility and renewal through entrepreneurial mindset. In context, OO factors are improved through advancing EO alertness in the firm. The next section assesses the correlation between each of EO dimension and innovation performance dimensions.

4.5.2.6 HYPOTHESIS 6: Correlation between innovativeness and innovation performance factors of SMEs.

Hypothesis 6 (Ho6.1 – Ho6.4) states that there is a statistically significant positive correlation between innovativeness and innovation performance dimensions: product innovation (Ho6.1) process innovation (Ho6.2) position innovation (Ho6.3) and paradigm innovation (Ho6.4). Innovation performance is often observed as the performance in terms of an innovative product that a firm produces using a well-designed process in order to position itself into the market through the application of adaptable business models (Francis and Bessant 2005:171) whereas innovativeness is a tendency to engage in and support new ideas, novelty, experimentation, and creative processes leading to new products or processes (Lumpkin and Dess 1996:142). Results in Table 4.6 show that there is positive and statistically significant correlation between innovativeness and product innovation (0.450), process innovation (0.428), position innovation

(0.530), paradigm innovation (0.470) at p values $0.000 < \alpha = 0.01$ level. Hypotheses Ho6.1, Ho6.2, Ho6.3 and Ho6.4 are therefore accepted.

The results obtained indicate that competitiveness, creativity, information and knowledge sharing have positive impact on the new product, processes, and a business model of SMEs. These findings further prove the importance of R&D in SMEs as likely to enhance innovation in product, processes, and a business model of SMEs. The correlation between innovativeness and position (market) proves that any improved change in a product is likely to attract new customers and improve SMEs' market position. This informs that innovative ideas generated by SMEs are likely to be used for new products. Furthermore, results reaffirm that innovativeness orientation is likely to improve the business model and the strategic design of SMEs. In line with these findings, this study supports Alam (2011:54) who concluded that an organisation's renewal was an ongoing process of building innovation and adaptation into the organisation where the balance between change and stability becomes necessary. The findings also agree with Shoham, et al., (2012:226) who concluded that innovativeness enhanced innovation performance, which, in turn, improved overall organisational performance. Dooley, Kenny and O'Sullivan (2017:237) also indicate that the non-reliance of SMEs on traditional R&D constitutes a disadvantage for them to achieve innovation. The next section evaluates the relationship between risk-taking and innovation performance.

4.5.2.7 HYPOTHESIS 7: Correlation between risk taking and innovation performance of SMEs.

Hypothesis 7 (Ho7.1 - Ho7.4) states that there is a statistically significant positive correlation between risk taking and innovation performance factors: product innovation (Ho7.1), process innovation (Ho7.2), position innovation (Ho7.3) and paradigm innovation (Ho7.4). Results in Table 4.6 depict that risk taking is significantly and positively correlated with product innovation (0.429), position innovation (0.308), and paradigm innovation (0.399) at p values $0.000 < \alpha = 0.01$ level. In contrast, there is positive but statistically insignificant correlation between risk-taking and process innovation of SMEs (0.112) at p value = $.096 > \alpha = 0.01$ level. Hypotheses Ho7.1, Ho7.3 and Ho7.4 are therefore accepted, but Ho7.2 is rejected. Results are further discussed next.

Although risk-taking shows an insignificant correlation with process innovation, all other dimensions of innovation performance are positively and significantly correlated with risk-

taking. However, it can be argued that risk-taking proclivity enhances the SMEs' new product, market position and a business model used. This indicates that taking a risk is likely to improve SMEs' operations in terms of the employees' skills and the innovation capacity of SMEs. The fact that the relationship between, risk taking and process innovation is not significant, though positive, reiterates the routine and unsophisticated processes that characterise the operations of SMEs. This further confirms that SMEs are cautious with regard to the risk aspect in choosing processes to be used. This insignificant relationship between risk-taking and a process innovation may also be justified by the lack of investment in expensive and adaptable processes. In light of these findings, Garcia-Granero et al., (2015:1100) found that there was a positive relationship between risk-taking and innovation performance of a firm. This is supported by Rolfe (2010:9) who also indicated that risk-taking played an essential role in innovation. In addition, Bleeker (2011:24) pointed out that the amount of risk that an organisation could take was dependant on the organisational context, and was important when it came to innovation success. Paradoxically, although it is necessary for SMEs to take risks in investing in new and improved processes and maintain efficiency, resources limitation of SMEs has been taken in consideration. Francis and Bessant (2005:1) argue that the contribution of innovation to the profitability of a firm is not straightforward and certain. The relationship between proactiveness and organisational factors is assessed next.

4.5.2.8 HYPOTHESIS 8: Correlation between proactiveness and innovation performance of SMEs

Hypothesis 8 (Ho8.1 – Ho8.4) states that there is a statistically significant positive correlation between proactiveness and innovation performance factors: product innovation (Ho8.1), process innovation (Ho8.2), position innovation (Ho8.3) and paradigm innovation (Ho8.4). Results in Table 4.6 show that there is positive and statistically significant correlation between innovativeness and product innovation (0.451), process innovation (0.388), position innovation (0.386), paradigm innovation (0.276) at p values $0.000 < \alpha = 0.01$ level. Hypotheses Ho8.1, Ho8.2, Ho8.3 and Ho8.4 are therefore accepted. Further discussions are conducted next.

The results imply that the improvement of business processes was likely to raise and strengthen the ability of SMEs to anticipate the competitors' actions. Furthermore, the results indicate that a new approach to the market is influenced by the ability of SMEs to take a proactive stance in the market. In the same context, the correlation between proactiveness and a paradigm innovation demonstrates that an anticipation of competitors' actions has influence on SMEs's

business model. In this context, a change in market conditions dictates the manner in which SMEs conduct their businesses to compete, survive and develop. Lastly, the results obtained prove that the ability for SMEs to anticipate the conditions of the market improves the new processes that produce products faster than competitors. This is in line with Vrande's et al. (2009:423) study that found that SMEs pursue innovation for market reasons in order to save and satisfy customer demands and in the process deal with competitors' actions. The relationship between self-efficacy and innovation performance factors is discussed next.

4.5.2.9 HYPOTHESIS 9: Correlation between entrepreneurial self-efficacy and innovation performance of SMEs.

Hypothesis 9 (Ho9.1 – Ho9.4) states that there is a positive, statistically significant correlation between self-efficacy and innovation performance factors: product innovation (Ho9.1), process innovation (Ho9.2), position innovation (Ho9.3) and paradigm innovation (Ho9.4). Results in Table 4.6 show that there is positive and statistically significant correlation between self-efficacy and product innovation (0.375), process innovation (0.453), position innovation (0.354), paradigm innovation (0.489) at p values $0.000 < \alpha = 0.01$ level. Hypotheses Ho9.1, Ho9.2, Ho9.3 and Ho9.4 are therefore accepted.

These results indicate that, to some extent, SME resilience enhances its ability to produce a new and improved product, to improve the efficiency and effectiveness of business processes. It can further be interpreted that hard work and commitment for survival and growth enhance the ability of SMEs to achieve new products, new processes, and attract new customers and redress their strategic position. It is found that resilience in difficult business conditions is likely to create flexible business models and improve a market position. The findings also reiterate that the confidence in SMEs to achieve goals and objectives enhances their product and market position at least for a short term. Although SMEs may be seen as limited in innovation capability, the commitment and focus on selected opportunities is likely to enhance their innovation position. The findings are therefore in line with the views of Lowe and Marriott (2007:71) who confirmed that paradigm innovation entailed tenacity and resilience of entrepreneurial managers especially in the context of SMEs. Ali, Sun and Ali (2017:12) also confirmed that resilience is related to organisational innovation of SMEs. The findings further corroborate Newman, Obschonka, Schwarz, Cohena, Nielsen's (2019:406) study that entrepreneurial self-efficacy correlated to innovation as well as other firm characteristics such

as strategic orientation, culture and processes. The next section assesses the relationship between alertness and innovation performance factors.

4.5.2.10 HYPOTHESIS 10: Correlation between entrepreneurial alertness and innovation performance of SMEs.

Hypothesis 10 (Ho10.1 – Ho10.4) states that there is a statistically significant positive correlation between entrepreneurial alertness and innovation performance factors: product innovation (Ho10.1) process innovation (Ho10.2) position innovation (Ho10.3) paradigm innovation (Ho10.4). As shown in Table 4.6, it found that there is positive and statistically significant correlation between alertness and product innovation (0.587), process innovation (0.628), position innovation (0.587), paradigm innovation (0.569) at p values $0.000 < \alpha = 0.01$ level. The hypotheses Ho10.1, Ho10.2, Ho10.3 and Ho10.4 are therefore accepted. Discussions of the results are conducted next.

The results indicate that the focus on searching and identifying new ideas and opportunities is likely to bring changes and improvement in the product of SMEs. For instance, a high level of entrepreneurial alertness is likely to leverage sales of new products. It can also be interpreted that creating repertories of innovative ideas is likely to enhance SMEs' ability to produce a competitive product. Furthermore, the significant correlation between entrepreneurial alertness and all factors of innovation performance indicates that the awareness in SMEs is likely to improve process. Alertness also improves flexibility in business models and a market position. In addition, the results indicate that new and improved business processes raise the awareness to meet the requirements of new products resulting from new ideas and opportunity. It is found that employees' exposure to information improves how SMEs approach their production process and market their products. In conclusion, this study supports that entrepreneurial alertness was necessary as it arose from the situation linked to socio-economic values (Chell 2008:250). Chell (2008:41) further confirmed that alertness to profit opportunities was based on individual differences in perception in the organisation. Closely related to that, Yu (2001:51) stated that even the most obvious opportunity could be ignored by a person who was not motivated to see it, in other words, individuals would not discover any profit opportunity for the organisation if they 'switch off' their alertness systems. Blundel and Lockett (2011:72) accentuated that innovation is the result of recognised and exploited new business ideas. Furthermore, the findings are aligned with Montiel-Campos (2018:11) study that there was a positive relationship between creativity as a source of firm innovation and entrepreneurial

alertness. This was also corroborated by Tang, Kacmar and Busenitz (2010:30) study that alertness was linked to firm innovation as an alert intrapreneur was likely to discover something that might lead to an organisation's innovation. Organisational orientation and innovation performance relationship are assessed next.

4.5.2.11 HYPOTHESIS 11: Correlation between organisational culture and innovation performance of SMEs.

Hypothesis 11 (Ho11.1 – Ho11.4) states that there is a positive, statistically significant correlation between organisational culture and innovation performance sub-dimensions: product innovation (Ho11.1) process innovation (Ho11.2) position innovation (Ho11.3) paradigm innovation (Ho11.4). Results in Table 4.6 show that there is positive and statistically significant correlation between organisational culture and product innovation (0.375), process innovation (0.453), position innovation (0.354), paradigm innovation (0.489) at p values 0.000 $< \alpha = 0.01$ level. Based on the results, the hypotheses Ho11.1, Ho11.2, Ho11.3 and Ho11.4 are all accepted.

Based on the results, the correlation between culture and process innovation reveals that a commitment to share innovation values is likely to improve the design of processes used in SMEs. Furthermore, the correlation between organisational culture and product, position and paradigm proves that combined efforts of people with different skills and a tolerance for failure may result in the new product, market position and business model in SMEs. In addition, prioritising new ideas and giving them immediate attention improves the position of SMEs in terms of business practices; product; process and market development. The findings are in line with Shoham, et al., (2012:228) who found that openness to change and willingness to support changes proved that the management of organisational culture was likely to recognise the need for new ideas and to act on them in order to achieve innovation. There is a need for an innovation-friendly culture that supports individual and team initiatives that are likely to achieve high organisational innovation (Ali, et al., 2017:11). The next section will discuss the relationship between strategy and innovation performance dimensions. The collectivist culture predominates in SMEs as employees support one another in order to achieve innovation. Bayarçelik, Taşel and Apak (2011:204) confirm that collaboration across various organisational boundaries creates a climate that encourages the employees' innovation capacity.

4.5.2.12 HYPOTHESIS 12: Correlation between organisational strategy and innovation performance of SMEs.

Hypothesis 12 (Ho12.1 – Ho12.4) states that there is a positive, statistically significant correlation between strategy and innovation performance sub-dimensions: product innovation (Ho12.1) process innovation (Ho12.2) position innovation (Ho12.3) paradigm innovation (Ho12.4). As depicted in Table 4.6, it is found that there is positive and statistically significant correlation between organisational strategy and product innovation (0.375), process innovation (0.453), position innovation (0.354), paradigm innovation (0.489) at p values $0.000 < \alpha = 0.01$ level.. Based on the results, the hypotheses Ho12.1, Ho12.2, Ho12.3 and Ho12.4 are accepted.

A positive, significant correlation is observed between organisational strategy dimension and all the innovation performance sub-dimensions. This proves that strategy plays a crucial role in the development of product, process, position and business models in SMEs. In this context, a continuous investigation of internal and external business environment to address the need and the capacity of SMEs enhances the ability to produce an improved product, to develop efficient business processes, to grow the market and to adapt business models. In addition, the capacity of investment in R&D and a planned approach to sourcing new product ideas, for example, university or research institutions are likely to raise the performance of SMEs with regard to the product, process, market and business practices. In conclusion, the strategic orientation is likely to determine SMEs commitment to innovation. This is in line with Shoham, et al., (2012:229) who confirmed that future oriented organisations were likely to have high innovation performance. Aligned with these findings, Marques (2014:197) found that innovation was often the outcome of changes occurring simultaneously in different areas, where interrelation and interdependence were prominent features. For example, product innovation is essentially associated with change in processes. Moreno and Casillas (2008:510) stated that the "prospector" strategy is considered to be totally and explicitly devoted to innovation as search for opportunity and growth disregards efficiency. The findings prove that SMEs are able to alter their strategies, if necessary, to meet their innovation goals**.** It indicates that SMEs may benefit from innovation as processes, market position and cash flows likely to improve when SMEs have a right business strategy in place. The is in line with Li, Zhang and Xu (2016:15) who confirmed that innovation capability is defined as comprehensive characteristics supporting enterprises to achieve their innovative strategies. Manimala, Jose and Thomas (2006:57) indicated that innovations were not likely to be achieved because of the lack of adequate change management strategies. Zhang and Chen (2014:717) found that

organisational innovation is significantly improved by a new or a revised corporate policy direction. Kuratko and Morris (2018:42) emphasise that many organisations strive to come up with the relevant strategies to initiate activities among employees that are likely to achieve innovations. Lechner and Gudmundsson (2014:41) affirmed that the resource constraints of SMEs required strong priority-setting for investments as great innovativeness might be detrimental to an organisational strategy. A sound organisational strategy that takes into context the resource reality of SMEs is proven as a driver of product, process, and position and paradigm innovations. The next section evaluates the relationship between structure and innovation performance factors.

4.5.2.13 HYPOTHESIS 13: Correlation between structure and innovation performance of SMEs.

Hypothesis 13 (Ho13.1 – Ho13.4) states that there is a statistically significant, positive correlation between organisational structure and innovation performance sub-dimensions: product innovation (Ho13.1), process innovation (Ho13.2), position innovation (Ho13.3) and paradigm innovation (Ho13.4). As shown in Table 4.6, it is found that that there is positive and statistically significant correlation between organisational structure and product innovation (0.375), process innovation (0.453), position innovation (0.354), paradigm innovation (0.489) at p values $0.000 < \alpha = 0.01$ level. Based on the results, the hypotheses Ho13.1, Ho13.2, Ho13.3 and Ho13.4 are accepted.

In this context, open communication among members and external stakeholders and the use of creativity of employees as a promoting tool enhances innovation performance of SMEs. Furthermore, to encourage both individuals' initiatives and collaborative team work is likely to improve product offered and production processes, market position and a business model of SMEs. In addition, findings prove that specialised skills and flexibility are likely to promote innovation required in SMEs. The functional context of SMEs is likely to be the basis for the improvement of product and process and for the adjustment of paradigm and market position. These findings support Mbizi, Hove, Thondhlana and Kakava (2013:376) who confirmed that the flexibility of SMEs and their simple organisational structure were the essential features facilitating innovation. In the same context, Bayarçelik, et al., (2014:205) asserted that weak structure and the lack of management skills could negatively affect innovation performance, but a collaborative structure of SMEs seemed to promote innovation. Lastly, Marques (2014:197) found that product innovation can be stimulated by changes in a firm's

organisational structure. Zhang and Chen (2014:717) also acknowledged that organisational innovation is significantly improved through the use of a more flexible organisational structure. The systems and innovation performance dimension relationship is assessed next.

4.5.2.14 HYPOTHESIS 14: Correlation between systems and innovation performance of SMEs.

Hypothesis 14 (Ho14.1 – Ho14.4) states that there is a statistically significant positive correlation between systems and innovation performance sub-dimensions: product innovation (Ho14.1) process innovation (Ho14.2) position innovation (Ho14.3) paradigm innovation (Ho14.4). Results in Table 4.6 show that there is positive and statistically significant correlation between organisational systems and product innovation (0.375), process innovation (0.453),position innovation (0.354), paradigm innovation (0.489) at p values $0.000 < \alpha = 0.01$ level. Based on these results Ho14.1, Ho14.2, Ho14.3 and Ho14.4 are accepted.

This proves that systems in place in SMEs facilitate information and knowledge sharing in order to create an environment conducive to innovation. This also demonstrates that having an innovation budget that facilitates the allocation and control of resources is likely to enhance the innovation performance of SMEs. Similarly, a system in place to record new innovative ideas is also likely to improve innovation performance of SMEs. In the same context, the achievement of innovations compels SMEs to become more structured and systematic in their business management approach. The study's findings support Zhang and Chen's (2014:717) assertion that organisational innovations were likely to significantly improve management and operation practices of a firm. Also in line with the findings, Marques (2014:197) confirmed that organisational innovation was likely to be improved by remuneration systems, communication systems and other aspects of formal interactions between the people in the organisation. The findings prove that systems that support innovation are likely to get return on money spent on research & development (R&D) in a form of successful product development. It further confirms that proper systems that underpin innovation endeavour in SMEs are likely to improve sales, customer loyalty and the efficiency of production processes. It appeared paramount to manage systems as innovations within organisations arose at many different points in the development process, including conception, R&D, transfer, production and deployment or marketplace usage (Atkinson 2013:4).

The next section will assess the correlation between management style and innovation performance dimensions.

4.5.2.15 HYPOTHESIS 15: Correlation between management style and innovation performance of SMEs.

Hypothesis 15 (Ho15.1 – Ho15.1) states that there is a statistically significant positive correlation between management style and innovation performance sub-dimensions: product innovation (Ho15.1) process innovation (Ho15.2) position innovation (Ho15.3) paradigm innovation (Ho15.4). Results in Table 4.6 show that management style registered a mutual and positive and significant correlation with each of the four sub-dimensions of innovation performance. It is found that there is positive and statistically significant correlation between management style and product innovation (0.375), process innovation (0.453), position innovation (0.354), paradigm innovation (0.489) at p values $0.000 < \alpha = 0.01$ level. Based on the results, Ho15.1, Ho15.2, Ho15.3 and Ho15.4 are accepted.

The results obtained show that management style is positively and significantly correlated with product, process, position and paradigm innovation. In this context, resources at one's disposal, turn a generated idea into a product and available rewards are proven to contribute to innovation performance of SMEs. In the same context, employees are given the opportunity to exercise their judgement and take initiatives that may achieve innovation results in SMEs. In contrast, it is found that most SMEs lack a reward system in place that supports innovation. This results from the lack of variety in rewards paid to employees. Consequently, employees are likely to refrain from generating innovative ideas due to the lack of motivation. Previous studies reached contradictory findings, Franco and Matos (2013:5) found that the leadership style in SMEs related to innovation and a leadership style was likely to stimulate entrepreneurial behaviour of employees and enhance creativity and innovation. However, Ali, et al., (2017:13) found that management style was not significantly correlated to organisational innovation in SMEs. In line with Radas and Bozic (2009:438) reaffirmed that organisational structure, management support, strategy and systems to report innovation issues had positive impact on innovation performance of SMEs.

In conclusion, the results of the correlation matrix indicate that all variables that govern the relationship between the use of measures: entrepreneurial orientation, organisational orientation and innovation performance in SMEs are positively correlated, with the exception of risk- taking and process innovation. The next section will assess the consolidated relationship between main dimensions.

4.5.2.16 Relationship between the Main Dimensions: EO, OO and IP

This section provides a summary of the relationships and hence no hypotheses were postulated. This is due to the fact that more detailed tests between the elements of the main constructs have already been done. The composite test of the three main dimensions is conducted to assess the overall relationship between them. To test whether there is a linear relationship between main scale dimensions, Pearson's correlation was used. As shown in Table 4.7, there is a positive and significant correlation between organisational orientation and entrepreneurial orientation **(r=.663; p 0.000 < α = 0.01).** Furthermore, entrepreneurial orientation and innovation performance are also positive and significantly correlated **(r=.702; p 0.000 < α = 0.01).** Lastly, organisational orientation and innovation performance are positive and significantly correlated **(r=.803; p 0.000 < α = 0.01).** The path diagram (model) proved that there was two-directional arrows between entrepreneurial orientation, organisational orientation and innovation performance. The consolidation of relationship between main dimensions is presented in Table 4.7 bellow.

Table 4.7 Relationship between Dimensions: EO, OO and IP

		EO	OO	IP
EO	Pearson Correlation	1	.663**	.702**
	Sig. (2-tailed)		.000	.000
	N	221	221	221
OO	Pearson Correlation	.663**	1	.803**
	Sig. (2-tailed)	.000		.000
	N	221	221	221
IP	Pearson Correlation	.702**	.803**	1
	Sig. (2-tailed)	.000	.000	
	N	221	221	221

. Correlation is significant at **α = 0.01 level (2-tailed).

Based on the results in Table 4.7, there is a positive and statistically significant correlation between the main dimensions at p values 0.000 < α = 0.01. The overall relationship provides another perspective on the depth of the link between the dimensions. This indicates that organisational strategy and entrepreneurial strategy are both critical to achieve innovation performance in SMEs. In this context, organisational dimensions facilitate effectiveness of entrepreneurial orientation. Although, innovation performance shows a positive and significant association with organisational orientation and entrepreneurial orientation. The results demonstrate that organisational strategy is likely to improve the innovation performance than

the entrepreneurial strategy will. It reiterates that the success of entrepreneurial strategy depends on an internal organisational capabilities and architecture. This study's findings support those of Green, et al., (2008:357) who confirmed that strategic readiness was significantly associated with entrepreneurial orientation when a certain organisational structure attributes and top management decision-making style are aligned. In summary, the positive and significant correlations should not be surprising because OO are behavioural aspects driven by a mindset. If the mindset is entrepreneurial then this leads to EO of the firm. Therefore, if a firm is entrepreneurially orientated then this should have been grounded in a related OO (Dhliwayo 2010:155). Arguably, EO practices OO, alternatively EO becomes the dimensions of OO practices

After assessing the relationship between the dimensions of EO, OO and IP, Section B will analyse the impact of independent dimensions EO and OO on dependent dimension IP. Regression analysis is used to predict innovation performance from entrepreneurial orientation and organisational orientation.

4.5.4 SECTION B: Testing the Impact of Entrepreneurial Orientation and Organisational Orientation on Innovation Performance of Manufacturing SMEs

This section aimed to investigate whether entrepreneurial orientation and organisational orientation dimensions separately or combined predict innovation performance dimension of manufacturing SMEs. It is crucial to assess the contribution and extent of the independent variables in the dependent variable. To achieve this objective, the following hypotheses were postulated and tested:

Ho16: Entrepreneurial orientation significantly predicts innovation performance of manufacturing SMEs.

Ho17: Organisational orientation significantly predicts innovation performance of manufacturing SMEs.

Ho18: The combined entrepreneurial orientation and organisational orientation significantly predict innovation performance of manufacturing SMEs.

To test the above hypotheses, a regression model was required. Graziano and Raulin (2013:113) stated that with regression, the correlation coefficients quantified the degree and direction of relationship between variables as it was to predict the value of one variable from the value of another. Wagner (2017:104) also confirmed that regression analysis allowed to predict one variable from information at one's disposal about other variables. The testing

process consists of a "Model Summary" table and an "ANOVA" table. The former included the multiple correlation coefficient, R, its square R^2, and an adjusted version of this coefficient as summary measured of model fit. R indicated that there was a strong correlation between the observed predictors and the predicted by the regression model. R^2 constituted the variability observed and adjusted R^2 is an attempt at improved estimation of R^2. "ANOVA" table provides an F-test and coefficients table provided standardized regression coefficients under the heading "Standardized Coefficients Beta". These coefficients were standardized so that they could measure the change in the dependent variable in units of its standard deviation when the explanatory variable increases by one standard deviation (Landau and Everitt 2004:108). The hypotheses were stated and results presented in the next section.

4.5.4.1 HYPOTHESIS 16: Entrepreneurial orientation significantly predicts the innovation performance of manufacturing SMEs

Hypothesis 16 (Ho16) states that entrepreneurial orientation significantly predicts the innovation performance of manufacturing SMEs. To predict the innovation performance from entrepreneurial orientation, regression analysis is applied. Results in Table 4.8 (a) show R=.702 as a strong relationship between entrepreneurial orientation and innovation performance, **R^2 = .492 or 49.2%** as variation of innovation performance from entrepreneurial orientation. The table 4.8 (b) depicts that **F (1, 219) = 212.459, α = p 0.000<.01** to demonstrate that entrepreneurial orientation significantly predicts innovation performance. Table 4.8 (c) show innovation performance (IP) increases at unstandardized coefficients **β = .689, α = p 0.000<.01.**

Table 4.8 (a): The prediction of IP from EO: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.702[a]	.492	.490	.37038

a. Predictors: (Constant), EO
b. Dependent Variable: IP

Table 4.8 (b): The prediction of IP from EO: ANOVA[b]

Source of Variance		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	29.145	1	29.145	212.459	.000[a]
	Residual	30.042	219	.137		
	Total	59.186	220			

a. Predictors: (Constant), EO
b. Dependent Variable: IP

Table 4.8 (c): The prediction of IP from EO: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.119	.181		6.170	.000		
	EO	.689	.047	.702	14.576	.000	1.000	1.000

a. Dependent Variable: IP
Significant at **α = 0.01**

Based on the results in Tables 4.8, **hypothesis 16** was therefore accepted. It is proven that entrepreneurial orientation significantly predicts innovation performance of SMEs. This indicates that (**R^2 = .492)** representing **49.2%** entrepreneurial orientation variability in innovation performance. There is a positive significant variation of innovation performance if the SMEs implement an entrepreneurial strategy. The results give an insight into different perspectives to SMEs in terms of the proportional impact of innovativeness, proactiveness, risk taking, self-efficacy and an entrepreneurial alertness to product, process, position, and paradigm innovations. These results prove that EO accounts for 49.2% in improvement of business products, process, market position and business models. The results informed the type of intervention that may be taken in order to address the shortage of innovation in organisations. In line with these findings, Kuratko, et al., (2011:85) indicated that strategic entrepreneurship tended to improve the product, the market and an internal organisation of the business. The next section assesses whether organisational orientation predicts innovation performance.

4.5.4.2 HYPOTHESIS 17: Organisational orientation significantly predicts the innovation performance of manufacturing SMEs

Hypothesis 17 stated that "organisational orientation significantly predicts the innovation performance of manufacturing SMEs". To test the prediction of innovation performance from organisational orientation, regression analysis was applied. The results in Table 4.9 (a) show that a regression model is R square, source of variance Table 4.9 (b) and beta in Table 4.9 (c) the prediction of innovation performance from organisational orientation. Results in Table 4.9 (a) show that organisational orientation accounts for **64.5% (R^2 = .645)** of the variance in innovation performance of SMEs, the Table 4.9 (b) shows **F (1, 219) =398.144, α = p 0.000<.01** to confirm that organisational orientation significantly predicts the innovation performance of manufacturing SMEs. Table 4.9(c) IP increases at an unstandardized coefficients **β = .819, α = p 0.000<.01**.

Table 4.9 (a) Prediction of IP from Organisational Orientation: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.803[a]	.645	.644	.30968

a. Predictors: (Constant), EO

b. Dependent Variable: IP

Table 4.9 (b) Prediction of IP from Organisational Orientation: ANOVA[b]

Source of Variance		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.184	1	38.184	398.144	.000[a]
	Residual	21.003	219	.096		
	Total	59.186	220			

a. Predictors: (Constant), EO

b. Dependent Variable: IP

Table 4.9 (c) Prediction of IP from organisational orientation: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.722	.153		4.729	.000		
	OO	.819	.041	.803	19.954	.000	1.000	1.000

a. Dependent Variable: IP

Significant at **α = 0.01**

The study hypothesis 17 (Ho17) is therefore accepted. In this context, the organisational orientation significantly predicts the innovation performance of SMEs. **R^2 = .645** proves that there is variability of **64.5%** in innovation performance from organisational orientation. This variation of 64.5% in innovation performance demonstrates that organisational culture, strategy, systems, structure and management style remain crucial in SME business

environment where innovation becomes a matter of survival and competitiveness. It further demonstrates that organisational orientation factors significantly enhance the innovation performance of SMEs.

In relation to this previous studies, Radas and Bozic (2009:438) found that organisational structure, management support, strategy and systems in place had positive impact on innovation performance of SMEs. Also, according to Rosenbusch, at al., (2011:442), a collectivist oriented culture shows a significant positive impact on innovation whereas individualist portrays a weak relationship with innovation. Based on the findings of this study, collectivism and individualism seem balanced in SMEs in the context of innovation. This is because entrepreneurial OO seems to promote collectivist culture as opposed to a traditional OO which promotes individualist culture. For instance, owner-managers agreed that employees support one another in order to achieve innovations as well as the commitment to equally accept ideas suggested by male and female employees in the firms. In contrast, owner-managers also promote individual freedom to apply own judgement in advancing firms' innovations. This is evidence that entrepreneurial OO promotes both collectivism and individualism as opposed to a traditional OO which promotes only individualist culture to enhance innovation performance. The culture of SMEs may be justified as an approach to fully maximise the utilisation of the limited human resources in order to fulfil the innovation objectives of firms.

In addition, Bayarçelik, et al., (2014:203-204) found that a firm's operating environment and strategic posture affect innovation. Management Skills is often considered to be the most influential factor related to the innovation performance of an SME. Furthermore, Rosenbusch, et al., (2011:441) found that for an organisation to benefit or not from innovation, especially in the circumstances of a smaller and resource-scarce organisation, was a contextual issue. The innovation-performance relationship was dependent on organisational factors and culture at large.

In line with this study, it can be confirmed that resource allocation remains in a greater sense the domain of owner-managers. In this context, the findings of this study are aligned to the statement that innovation was likely to be affected by resource, organisation size, hierarchy, a tolerance of failure/mistake, rewards for success, perception of change, and internal competition (Maier and Zenovia 2011:972). The study further supports the findings of Lowe and Marriott (2007:70) who confirmed that reformulation and a choice of organisational strategy and structure affect paradigm innovation as it requires changes in the underlying mental models which frame what an organisation does. The next section will investigate the

impact of the synergy of entrepreneurial orientation and organisational orientation on an innovation performance of SMEs.

4.5.4.3 HYPOTHESIS 18: The combined entrepreneurial orientation and organisational orientation significantly predicts innovation performance of manufacturing SMEs.

Hypothesis 18 states that the combined entrepreneurial orientation and organisational orientation significantly predicts the innovation performance of manufacturing SMEs. To test whether innovation performance is predicted by the synergy of EO and OO, regression analysis was applied. The prediction of innovation performance from a combined entrepreneurial orientation and organisational orientation presented in Table 4.10 (a) show that organisational orientation and entrepreneurial orientation account for 69.6% **(R^2 = .696)** of the variance in innovation performance of SMEs, Table 4.10 (b) also shows that **F (2, 219) =249.994, α = p 0.000<.01** to indicate that organisational orientation and entrepreneurial orientation significantly predict innovation performance with respective unstandardized coefficients **β = .615; α = p 0.000<.01 and β= .297; α = p 0.000<.01** as shown in Table 4.10 (c).

Table 4.10 (a): Prediction of IP from the combined EO and OO: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.834[a]	.696	.694	.28711

a. Predictors: (Constant), EO, OO

b. Dependent Variable: IP

Table 4.10 (b) Prediction of IP from the combined EO and OO: ANOVA[b]

Source of Variance		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	41.216	2	20.608	249.994	.000[a]
	Residual	17.971	218	.082		
	Total	59.186	220			

a. Predictors: (Constant), EO, OO

b. Dependent Variable: IP

Table 4.10 (c) Prediction of IP from the combined EO and OO: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.346	.154		2.239	.026		
	OO	.615	.051	.603	12.101	.000	.561	1.783
	EO	.297	.049	.302	6.065	.000	.561	1.783

a. Dependent Variable: IP

Significant at **α = 0.01**

The results obtained prove that the two independent variables altogether significantly predict the innovation performance. The combined predictors: organisational orientation and entrepreneurial orientation raise the variability of innovation performance to **(R^2 = .696) or 69.6%**. **The hypothesis 18 is therefore accepted.** Based on the regression results above, organisational orientation (OO) is a significantly better predictor of innovation performance (IP) than entrepreneurial orientation (EO) with regard to β = .615; $p<.01$ compared with β= .297; $p<.01$. In this context, although the independent variables (**IVs)** are both significantly predictors of the dependent variable (**DV)**, it is crucial to indicate their relative importance when they are both combined in an additive model. Based on the results, the individual role of entrepreneurial orientation and organisational orientation as predictors of innovation performance may look satisfactory, but an improved result is likely to be generated when the two independent variables are combined. It can be interpreted that OO is clearly more influential than EO with regard to innovation performance. It is clear that OO is practiced and EO is the result of that practice. This is due to the greater contribution of OO (61.5%) to innovation performance in comparison to just (29.7%) of EO contribution (Table 4.10c).
The findings support Kuratko et al. (2011:174) who assert that a well-devised entrepreneurial strategy may fail unless it is supported and reinforced by good management practices such as: Developing an entrepreneurial vision, increasing the perception of opportunity and investing in people's ideas. The lower influence of EO on innovation performance could be justified by a cautious attitude towards risk-taking. It indicates a weak proclivity to high-risk projects despite the potential return in SMEs. The findings further informed that limited resources characterising SMEs were likely to affect the attitude of owner-managers in terms of decision-making to invest in innovative projects.

The findings of the study are aligned with Lumpkin and Dess (1996:151) who found that despite firms' entrepreneurial orientation, organisational factors greatly impact on the performance of the firm. The findings are further in line with Zhang and Yingjiao's (2015:39) study that point out that SMEs should combine their own characteristics and corporate organisation management system to learn advanced management experiences to enhance management efficiency, reinforce enterprise target management. They also emphasise the research and the planning of corporate development strategy to establish a scientific and regulated decision system and decision process, to reinforce the human-oriented management, in order to sustain innovation. Lastly, Aarakit and Kimbugwe (2015:285) confirm that an

organic organisational environment positively affects the relationship between entrepreneurial orientation and firm performance in SMEs.

Section C will test the influence of demographic factors on innovation performance dimension of manufacturing SMEs. It will test the differences in innovation performance from age, size, ownership and market scope of SMEs. Furthermore, this section will assess the impact of different categories of reward on the innovation performance dimension of manufacturing SMEs.

4.5.5 SECTION C: Testing the Influence of Demographic Factors on Innovation Performance of Manufacturing SMEs

This section intends to investigate whether the following demographic variables: market scope, the size and age of the business have impact on innovation performance of SMEs. It will further determine and analyse the differences in innovation performance of family and non-family businesses. Lastly, this section will analyse the variances of innovation performance based on available rewards offered by an SME to its employees. To achieve the above objectives, the following hypotheses are tested:

Ho19: There is a statistically significant difference between the mean values of organisation market scope and innovation performance of SMEs.

Ho20: There is a statistically significant difference between the mean values of organisation size and innovation performance of SMEs.

Ho21: There is a statistically significant difference between the mean values of organisation's age and innovation performance of SMEs.

Ho22: There is a statistically significant difference between the mean values of business ownership and innovation performance of SMEs.

Ho23: There is a statistically significant difference between the mean values of organisation rewards and innovation performance of SMEs.

The analysis of variance (ANOVA) indicates whether or not there is a significant mean difference between more than two groups. The t-test also tests whether or not there is a significant mean difference in a dependent variable between two groups. To assess whether the demographics independent factors have an impact on innovation performance dimension, ANOVA and independent t-test were both used. The next sections will investigate whether an

innovation performance differs depending on the size and age of the business, the market scope and ownership and available rewards.

4.5.5.1 HYPOTHESIS 19: Market scope and innovation performance of SMEs

To test the hypothesis ANOVA statistics was applied because the mean difference in the dependent variable is observed between three groups of means. Results in Table 4.11 show that the mean values of provincial, national and international markets are not significantly different at a F (2,218) = .898 and p = .409 > **α** = 0.05.

Table 4.11: Market scope and IP: ANOVA Statistics

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.484	2	.242	.898	.409
Within Groups	58.703	218	.269		
Total	59.186	220			

Significant at **α = 0.05**

Results in Table 4.11 show that there is no significant difference between the mean values of the market scope and innovation performance. Therefore, the study **hypothesis 19** is rejected. Based on these results, SMEs is likely to innovate regardless of the scope of their operation, be it at provincial, national or international markets. In this context, it can be argued that the lack of exposure to international markets may affect the ability of SMEs to improve their products, processes, market strategies, and skills development. In contrast, previous studies found that the market scope had great impact on innovation, especially on product and process innovation (Radas and Bozic 2009:438). The tendency to be part of the international market motivates SMEs to innovate for their competitiveness. The findings of this study confirmed the absence of the majority of SMEs in international markets. However, no exposure to the international market in today's global market is the lack of opportunity to be competitive and innovative. This study is then aligned with the findings of Dai, Maksimov, Gilbert and Fernhaber (2014:511) who found that although innovation was needed to compete at international scope, a certain level of innovation was not likely to warrant commercialisation, especially as substantial costs were associated with innovating for a strong international presence. Miller also summarised that an entrepreneurial firm had to engage in product-market innovation and also be able to beat competitors (Miller 1983:771). This supports that a marketplace that is more and more competitive can continue to see an increased interest in understanding the factors associated with innovation (Kraus, Pohjola and Koponen 2012:266). Organisation size and innovation performance are discussed next.

4.5.5.2 HYPOTHESIS 20: Organisation Size and Innovation Performance of SMEs.

To test the study hypothesis Ho20, an analysis of variance using ANOVA is applied as more than two groups of mean values are compared. SMEs with one to ten employees, 11 to 50 employees, 51 to 100 employees and 101 to 200 employees were compared. Results in Table 4.12 prove that the mean values are significantly different at F (3, 217) = 4.030, α = p 0.008 < 0.01.

Table 4.12 SME size and IP: ANOVA Statistics

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.123	3	1.041	4.030	.008
Within Groups	56.063	217	.258		
Total	59.186	220			

Significant at **α = 0.01**

The results obtained prove that there is a significant difference in innovation performance depending on the size of the business. The study **hypothesis 20** is therefore accepted. This demonstrates that the size of SMEs influences their ability to exploit opportunities in new markets and in selecting or adjusting their innovation strategy. Previous literature is divided with regard to the innovation performance based on the size of the business. Instead, regardless of the size, all SMEs are encouraged to implement an entrepreneurial mindset and to recognise the threats and opportunities for competitiveness (Kraus, et al., 2012:162). According to Maier and Zanovia (2011: 972), the size of an organisation played an important role in entrepreneurial orientation as the bigger the organisation the more difficult it could have an overview of the actions of every employee that contributes to the innovation performance of firms. The study of Vrande et al. (2009:423) found that medium-sized enterprises seemed more involved in innovation than smaller counterparts. Sijde, Veenker and During (2013:29) on the other hand established that employees in smaller companies had a better innovative activities going on in the organisation than in larger organisations. It can be argued that despite the commitment to innovate, the size of SMEs is likely to determine the resource and capability to implement innovation projects. In this context, Maier and Zenovia (2011:972) stated that innovation was more difficult to implement in an existing organisation as resources are linked to organisation size. The age of SMEs is discussed next.

4.5.5.3 HYPOTHESIS 21: Organisation's Age and Innovation Performance of SMEs.

Hypothesis 21 states that there is a statistically significant difference between the mean values of organisation's age in innovation performance of SMEs. The attempt to test the hypothesis using ANOVA statistics was unsuccessful as all the ANOVA criteria were not met. In this case, the age groups as depicted in Table 4.2 had unequal sample sizes. It is standard practice to use Welch's test if ANOVA conditions are not met. If the assumption of homogeneity of variance is not met or is violated, the result is proven significant, in this case, an adjusted F test such as the Welch statistic is highly recommended (Landau and Everitt 2004:147). Welch robust test of equality of means is used and the results are shown in Table 4.13 as Welch (3, 99.707) = 5.735, α = p 0.001<.01.

Table 4.13: Robust Tests of Equality of Means: SMEs' age and IP

	Statistic[a]	df1	df2	Sig.
Welch	5.735	3	99.707	.001

a. Asymptotically F distributed.

The results conclude that at least one of the group means is significantly different at α = p 001<.01 from other groups. Based on the results, Hypothesis 21 that stated, there is a significant difference in innovation performance depending on the age of the business is therefore accepted. SMEs that have been operating for up to three years, those from four to ten years old, 11 to 17 years and 18 years old were compared. The age of SME has become a crucial factor to analyse its viability and survival. Any critical analysis in innovation performance considers the length of time over which the business has been operating.

Previous studies agree that the length of time that a business has been operating makes a difference in innovation performance. Furthermore, Rosenbusch, et al., (2011:442) ascertained that an innovation performance seemed stronger in younger SMEs than more established SMEs as referred to the liability of newness of younger firms that became the asset of those firms. New firms possess the unique capabilities to create and appropriate value through innovation. Another previous study confirmed that younger SMEs showed a strong relationship between innovativeness and innovation performance (Ahmad, et al., 2013:2). In addition, Karimi et al., (2011:635) asserted that in an established organisation, an entrepreneurial process might be subject to a number of constraints not found in independent start-ups. Zhang and Chen (2014:718) also argued that the age of SME had effect on innovation performance. In the same

context, Kuratko, et al., (2011:394) acknowledged that up to three years of operation, a SME was likely to survive and provide innovation results in terms of a new product and its commercialisation. In contrast, Price, Sroica and Boncella (2014:4) stated that old firms were likely to achieve innovation as there was usually a need for time to develop innovation in firms. In conclusion, based on the researcher's experience and the literature surveyed it can be argued that the pressure of survival is likely to motivate younger SMEs to put more effort in the business and show a 'hunger' to compete and succeed. It is for this reason that it was decided that no further test be conducted to determine which age category was the cause of the significant differences. The impact of ownership on innovation performance is assessed next.

4.5.5.4 HYPOTHESIS 22: Business Ownership and Innovation Performance of SMEs.

To analyse the difference between innovation performance of SMEs and business ownership, family-owned SMEs are compared to non-family owned SMEs. Although family and non-family firms share similarities, family firms are characterised by the involvement of the family members in the management. The results are likely to address how the business is run in terms of the characteristics of these two types of business ownership. In this context, to test the hypothesis, an independent t-test is applied instead of ANOVA as only two groups of mean values are to be compared. The results in Table 4.14 show that equal variances assumed $t(219) = -2.553$, $p = 0.01 = \alpha < 0.05$ to confirm significant difference between the two groups of mean values.

Table 4.14 Independent Samples Test: SME Ownership and IP

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
IP	Equal variances assumed	.066	.798	-2.553	219	.011	-.17907	.07014	-.31730	-.04083
	Equal variances not assumed			-2.545	189.354	.012	-.17907	.07036	-.31785	-.04028

Significant at **$\alpha = 0.05$**

Based on the results in Table 4.14, Hypothesis 22 is accepted. In this context, innovation performance of family and non-family's business is likely to differ. The ownership is likely to play a role in the decision-making process and consequently in the innovation decisions of the firm. The conservative nature of a family-owned enterprise may justify the difference in

innovation performance between the two types of SMEs. Succession transitions and cultural factors may impede the process of innovation in family-owned enterprises.

Ali, et al., (2017:16) found that decision-making was positively linked with organisational innovation. Decisions such as investment in research and development, rewarding employees, changing the production methods, a business strategy, the structure and the configuration of the business may create disagreements that are likely to affect SMEs' innovation performance. It can also be argued that resistance to change seemed to hinder the speed of decision-making. This study supports that cultural factors linked to a family-owned enterprise, especially in the context of Africa, present challenges that may not facilitate innovation. While previous studies differ in the findings on the difference in innovation based on business ownership, Taruwinga (2011:61) confirmed that in a South African context, especially Indian, coloured and African communities are characterised by collectivist cultural norms that imply joint decision-making. According to Kraus, et al., (2012:265), family firms remained more conservative, less risk-raking, or reluctant to grow, that is, less entrepreneurial than their non-family counterparts. Similarly, the existing literature often criticizes the lack of innovation in family firms. However, since innovation has long been discovered as one of the key drivers to company success, Kuratko and Hodgetts (2007:684) declared that managerial decision making in a firm was one of the greatest challenges confronting owners and entrepreneurs in family-held businesses. Among the issues of family business sustainability, the succession management appears important as well as the way in which the family and non-family members are rewarded in the organisation. As indicated by Kraus, et al., (2012:267), although a family firm is characterised by the family's control of resources and management rather than its size, a majority of family firms are regarded as SMEs, thus, the lack of innovation in family businesses is likely to have a negative impact on the SME sector. Furthermore, Cruz and Nordqvist (2012:35) confirmed that for family businesses to go beyond the founder organisation, family owners and managers had to contend with the evolution of both the business and the family which is rarely synchronised.

The next section will firstly describe the available rewards in manufacturing SMEs. It will further test the differences that various rewards make in the innovation performance of manufacturing SMEs.

4.5.5.4 HYPOTHESIS 23: Available Rewards and Innovation Performance dimension of SMEs.

Kuratko, et al., (2011:255) confirmed that rewards might range from a regular pay, bonuses, profit share, equity or share in the organisation, job security, promotion, and free time to work on pet project, money for research, public or private recognition and trips to conferences or exhibitions.

It was crucial to investigate the small medium enterprises' capacity to pay a variety of rewards and to test how various rewards contribute to their innovation performance. In this context, the study assumes that besides a regular salary, any incentive should be tested to measure its impact on the innovation performance of the firm.

Figure 4.5 depicts available rewards and shows that 99.5% of manufacturing SMEs pay a regular salary to employees. Furthermore, 37% reward employees with promotion, followed by 31.7% that consider regular salary increases in the organisation. In addition, 29% and 26.7% of SMEs consider a monetary bonus and sponsoring a special training respectively. Less than 20% of SMEs agree to a payment of the team financial incentives for meeting or exceeding innovation objectives or payments as a result of suggestions that lead to financial benefits from innovations. In the same context, only 17% and 18% of SMEs share equity or profit to encourage participation and pay commission on new products sold respectively.

Figure 4.5 Available rewards in manufacturing SMEs

Based on the results above, manufacturing SMEs have done little in terms of aligning innovation objectives and rewarding their employees. It can also be interpreted that SMEs are inclined to paying their employees a regular salary, and may consider promotion and salary increases, but do not promote innovation through a reward system. For example, the financial incentives for meetings or exceeding innovation objectives and payment as a result of suggestions that lead to financial benefits from innovations are considered by only less than (20%) of SMEs. Besides a regular salary that is rewarded by 99.5% of SMEs, other rewards are paid by fewer than 40% of SMEs.

Hypothesis 23 (Ho23) states that there is a statistically significant difference between the mean values of available rewards Ho23A – 23P and innovation performance of SMEs. To test the

hypothesis, an independent samples t-test is applied as two groups of mean values of independent variables are compared in relation to a dependent variable. Results in Table 4.15 show the different categories of rewards that are offered by firms to instil entrepreneurial culture and improve innovation performance. These are named as well and termed from Ho23A to Ho23P in relation to the stated hypothesis tests. Results of different rewards in Table 4.15 (A - P) are summarised as follows:

A. The results for Ho23A (Promotion) add these across the board show the t-test = 2.317, α = p 0.021<.05. This proves that there is a significant difference in innovation performance for SMEs that reward employees with promotion. Show only the t –test value & P value. Apply across the board
B. Results for Ho23B (Reward Suggestions) show that equal variances assumed the t-test = 6.549, α = p 0.000<.01. This indicates that there is a significant difference in innovation performance for SMEs that reward suggestions that lead to financial benefits from innovations.
C. Results for Ho23C (Equity share/profit) show that equal variances assumed the t-test t (219) = 6.379, α = p0.000<.01. This demonstrates that there is a significant difference in innovation performance for SMEs that reward with equity share or profit share to encourage participation.
D. Results for Ho23D (Monetary bonus rewards) show that equal variances assumed the t-test t (219) = 3.690, α = p0.000<. 01 prove that there is a significant difference in innovation performance for SMEs that reward give monetary bonus rewards.
E. Results for Ho23E (Recognition of achievement awards) show that equal variances assumed the t-test t (219) = 2.683, α = p0.008<.01. This proves that there is a significant difference in innovation performance for SMEs that recognise employees with the achievement awards.
F. Results for Ho23F (Commission on new products sold) show that equal variances assumed the t-test t (219) = 6.644, α = p0.000<.01. Based on the results, there is a significant difference in innovation performance for SMEs that reward employees with commission on new products sold.
G. Results for Ho23G (Team financial incentives) show that equal variances assumed the t-test t (219) = 5.429, α = p0.000<.01. Based on the results, there is a significant difference in innovation performance for SMEs that reward employees with team financial incentives for meeting or exceeding innovation objectives within the organisation.

H. Results for Ho23H (Regular salary increases) show that equal variances assumed the t-test t (219) = 3.177, α = p0.002<.01. Based on the results, there is a significant difference in innovation performance for SMEs that reward employees with regular salary increases.

I. Results for Ho23I (Company sponsored holiday) show that equal variances assumed the t-test t (219) = 4.996, α = p0.000<.01. Based on the results, there is a significant difference in innovation performance for SMEs that sponsor employees' holiday.

J. Results for Ho23J (Company sponsored lunch) show that equal variances assumed the t-test t (219) = .146, α = p = .884 > 0.1. Based on results, there is no significant different innovation performance for SMEs that sponsor lunch to employees within the organisation.

K. Results for Ho23K (Scholarship to employees' dependents) show that equal variances assumed the t-test t (219) = 3.821, α = p0.000<.01. Based on the results, that there is a significant difference in innovation performance for SMEs that reward employees' dependents with scholarship.

L. Results for Ho23L (Receive company shopping vouchers) show that equal variances assumed the t-test t (219) = 3.525, α = p0.001<.01. Based on the results, there is a significant difference in innovation performance for SMEs that give away company shopping vouchers.

M. Results for Ho23M (Receive gifts for achievement) show that equal variances assumed the t-test t (219) = 2.800, α = p0.006<.01. This proves that that there is a significant difference in innovation performance for SMEs that reward with gifts for achievement.

N. Results for Ho23N (Sponsoring special training for new skills) show that equal variances assumed the t-test t (219) = 5.148, α = p0.000<.01. This indicates that there is a significant difference in innovation performance for SMEs that sponsor special training for new skills.

O. Results for Ho23O (Remuneration depending on number of units produced) show that equal variances assumed the t-test t (219) = 3.320, α = p0.001<.01. Based on the results, there is a significant difference in innovation performance for SMEs that remunerate employees based on the units produced.

P. Results for Ho23P (Reward with time off) show that equal variances assumed the t-test = 1.535, α = p=.126 > 0.1. Based on the results, there is no significant difference in innovation performance for SMEs that reward employees with time off.

Table 4.15 Available rewards in SMEs and IP: Independent Samples t-test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
IP	Equal variances assumed **A**	5.414	.021	2.317	219	.021	.16568	.07152	.02473	.30663
	Promotion									
	Equal variances not assumed			2.204	145.000	.029	.16568	.07519	.01708	.31429
IP	Equal variances assumed **B**	.057	.812	6.549	219	.000	.63954	.09765	.44709	.83199
	Reward per suggestions									
	Equal variances not assumed			6.822	34.571	.000	.63954	.09375	.44914	.82994
IP	Equal variances assumed **C**	10.541	.001	6.379	219	.000	.54290	.08511	.37517	.71063
	Equity share/profit									
	Equal variances not assumed			5.244	45.755	.000	.54290	.10352	.33449	.75131
IP	Equal variances assumed **D**	45.394	.000	3.690	219	.000	.27605	.07481	.12861	.42348
	Monetary bonus rewards									
	Equal variances not assumed			3.093	85.158	.003	.27605	.08925	.09859	.45350
IP	Equal variances assumed **E**	13.478	.000	2.683	219	.008	.22390	.08345	.05944	.38837
	Achievement awards									
	Equal variances not assumed			2.240	61.238	.029	.22390	.09998	.02400	.42381
IP	Equal variances assumed **F** **Commission on new products sold**	10.257	.002	6.644	219	.000	.55051	.08286	.38720	.71381
	Equal variances not assumed			5.524	49.033	.000	.55051	.09965	.35025	.75076
IP	Equal variances assumed **G**	3.290	.071	5.429	219	.000	.52790	.09723	.33626	.71953
	Team financial incentives									
	Equal variances not assumed			4.965	34.963	.000	.52790	.10633	.31203	.74377
IP	Equal variances assumed **H**	11.723	.001	3.177	219	.002	.23350	.07350	.08865	.37835
	Regular salary increases									
	Equal variances not assumed			2.859	105.942	.005	.23350	.08166	.07159	.39541
IP	Equal variances assumed **I**	12.726	.000	4.996	219	.000	.59055	.11819	.35761	.82349
	Company sponsored holiday									
	Equal variances not assumed			3.630	19.584	.002	.59055	.16268	.25073	.93036
IP	Equal variances assumed **J**	12.925	.000	.146	219	.884	.01315	.08996	-.16414	.19044
	Company sponsored lunch									
	Equal variances not assumed			.120	50.040	.905	.01315	.10964	-.20706	.23336

IP	Equal variances assumed **K Scholarship to employees' dependents**	11.992	.001	3.821	219	.000	.41587	.10883	.20139	.63035
	Equal variances not assumed			2.866	25.731	.008	.41587	.14510	.11745	.71429
IP	Equal variances assumed **L Company shopping voucher**	.038	.846	3.525	219	.001	.64196	.18212	.28302	1.00090
	Equal variances not assumed			3.559	7.547	.008	.64196	.18040	.22158	1.06235
IP	Equal variances assumed **M Receive gifts**	1.203	.274	2.800	219	.006	.25240	.09013	.07476	.43004
	Equal variances not assumed			2.565	51.145	.013	.25240	.09841	.05485	.44995
IP	Equal variances assumed **N Sponsoring special training**	19.168	.000	5.148	219	.000	.38438	.07466	.23723	.53152
	Equal variances not assumed			4.438	81.072	.000	.38438	.08661	.21206	.55669
IP	Equal variances assumed **O Remuneration per units produced**	12.217	.001	3.320	219	.001	.40409	.12172	.16419	.64399
	Equal variances not assumed			2.340	19.466	.030	.40409	.17267	.04328	.76490
IP	Equal variances assumed **P Reward with time off**	1.492	.223	1.535	219	.126	.12759	.08313	-.03625	.29144
	Equal variances not assumed			1.443	73.424	.153	.12759	.08840	-.04858	.30376

Significant at **α = 0.01**

Results in Table 4.15 show that reward makes a difference in innovation performance of SMEs. Hypothesis Ho23J and Ho23P are not accepted while the rest are all accepted. The results show that offering lunch and offering time off, as rewards does not significantly contribute to innovation performance in manufacturing SMEs. The results obtained demonstrate that innovation performance is significantly different to rewards offered to employees in SMEs. The trend observed for most categories of reward depicted in Table 4.15 proved that rewards paid impact on the innovation performance of SMEs. However, it is unlikely that SMEs may avail resources to offer a range of rewards to motivate employees. In the same context, a regular salary could not stand as a motivator in enhancing innovation performance considering that any organisation has a legal obligation to pay its employees a salary as agreed in accordance with the contract of employment. The exception may be a typical example of family-owned businesses that may recruit a family member to volunteer and support one another without any prescribed salary.

The study is in line with previous findings such as those of De Jong and Wennekers (2008:26) who found that the availability of reward and resources was one of the important factors that could encourage individuals to act entrepreneurially and achieve innovation within a firm. This is supported by Ali, et al., (2017:7) who found that there had to be an innovation-friendly culture that could support as well as reward every initiative regarding innovation. Also Zheng, Wu and Xie (2017:16) observed that a transactional leadership style adopting contingent rewards was positively associated with the innovation performance. In addition, in line with the findings of this study, Maier and Zenovia (2011:972) ascertained that innovation was more difficult to be found in an existing SME as resources are linked to rewards for success. Based on the results, it can be concluded that the reward system must be aligned with an innovation strategy of manufacturing SMEs. This is corroborated by Marx, Soares and Barros (2016:268) who pointed out that reward system should be strategically designed when rewards are linked to activities that are likely to have a direct effect on the direction of employees' individual attention and effort. Furthermore, de Villiers-Scheepers (2011:249) confirmed that rewards were proven to motivate entrepreneurial behaviour. For example, by giving appropriate rewards, employees' willingness to assume risk associated with entrepreneurial activity was likely to be enhanced. This study also concurs with Azami's findings that recognised that entrepreneurial success was very rare in SMEs. Azami (2014:24) stated that no company provided payment in advance for what an intrapreneur might accomplish, but firms put high expectations that employees had to get involved and take risks. Ireland, Kuratko and Morris (2006:14) also found that rewards constituted an opportunity for employees to act entrepreneurially. In the same context, Kuratko (2017:381) asserted that a reward system had to have an explicit recognition given to people who pursued innovative opportunities.

Reward is supposed to be a reinforcement mechanism to motivate employees to engage in innovative behaviour (Kuratko, et al., 2005:279; Kuratko and Hodgetts 2007:70). The income received by employees is expected to positively affect their involvement into entrepreneurial activities (Nystrom 2012:4). In this context, it can be argued that the attachment to organisations of educated and skilled workforce to support innovation could possibly be justified by employees' expectation of various types of rewards. The results confirm that manufacturing SMEs have done little in terms of aligning innovation objectives and rewards. In summary, SMEs are inclined to paying employees a regular salary, and may consider promotion and salary increases, but do not promote innovation through a reward system. The next section will summarise the results of all the hypotheses tested.

4.5.6 Consolidation of Hypotheses Tests

The results in Table 4.16 summarise the tests results of all the hypotheses. Results depict the hypothesis statements, the test used and the decision of acceptance or rejection of the hypothesis.

Table 4.16: Consolidation of Hypotheses Tests

Hypothesis	Test	Accepted /Rejected
Ho1: There is a positive, statistically significant correlation between innovativeness and organisational orientation dimensions of SMEs.	Pearson Correlation	Accepted
Ho2: There is a positive, statistically significant correlation between risk taking and organisational orientation dimensions in SMEs.	Pearson Correlation	Accepted
Ho3: There is a positive, statistically significant correlation between proactiveness and organisational orientation dimensions of SMEs.	Pearson Correlation	Accepted
Ho4: There is a positive, statistically significant correlation between self-efficacy and organisational orientation dimensions of SMEs.	Pearson Correlation	Accepted
Ho5: There is a positive, statistically significant correlation between alertness and organisational orientation dimensions of SMEs	Pearson Correlation	Accepted
Ho6: There is a positive, statistically significant correlation between innovativeness and innovation performance of SMEs.	Pearson Correlation	Accepted
Ho7: There is a positive, statistically significant correlation between risk taking and innovation performance of SMEs.	Pearson Correlation	Accepted: Ho7.1, Ho7.3, Ho7.4 Rejected: Ho7.2
Ho8: There is a positive, statistically significant correlation between proactiveness and innovation performance of SMEs.	Pearson Correlation	Accepted
Ho9: There is a positive, statistically significant correlation between self-efficacy and innovation performance of SMEs.	Pearson Correlation	Accepted
Ho10: There is a positive, statistically significant correlation between alertness and innovation performance of SMEs.	Pearson Correlation	Accepted
Ho11: There is a positive, statistically significant correlation between organisational culture and innovation performance of SMEs.	Pearson Correlation	Accepted
Ho12: There is a positive, statistically significant correlation between strategy and innovation performance of SMEs.	Pearson Correlation	Accepted
Ho13: There is a positive, statistically significant correlation between structure and innovation performance of SMEs.	Pearson Correlation	Accepted
Ho14: There is a positive, statistically significant correlation between management systems and innovation performance of SMEs.	Pearson Correlation	Accepted

Ho15: There is a positive, statistically significant correlation between management style and innovation performance of SMEs.	Pearson Correlation	Accepted
Ho16: Entrepreneurial orientation significantly predicts the innovation performance of manufacturing SMEs	Linear Regression	Accepted
Ho17: Organisational orientation significantly predicts the innovation performance of manufacturing SMEs.	Linear Regression	Accepted
Ho18: The combined Entrepreneurial orientation and Organisational orientation significantly predicts innovation performance of manufacturing SMEs.	Linear Regression	Accepted
Ho19: There is a statistically significant difference between the mean values of market scope and innovation performance dimension of SMEs.	T-test	Rejected
Ho20: There is a statistically significant difference between the mean values of organisation's size and innovation performance dimension of SMEs.	ANOVA	Accepted
Ho21: There is a statistically significant difference between the mean values of organisation's age and innovation performance dimension of SMEs.	ANOVA: Welch Robust Test	Accepted
Ho22: There is a statistically significant difference between the mean values of business ownership and innovation performance dimension of SMEs.	T-test	Accepted
Ho23: There is a statistically significant difference between the mean values of available rewards and innovation performance dimension of SMEs.	T-test	Accepted

Source: researcher

The results in Table 4.16 show that almost all hypotheses have been accepted. Hypothesis 19 (Ho19) was rejected as no significant difference was found in innovation performance based on the market scope (provincial, national and international). In addition, no significant correlation was found between risk taking and process innovation sub-constructs. The next section will summarise the content of Chapter Four.

4.6 SUMMARY

Chapter Four presented the results obtained in the survey. The data structure made it possible to conduct statistical analyses using different statistical tests such as correlation, regression, ANOVA and t-test. The results in quantitative forms, figures and tables provided an indication of the trends with regard to the direction of manufacturing SMEs on the questions of entrepreneurial orientation, organisational orientation and innovation performance. Furthermore, this chapter discussed the results in terms of the correlation between entrepreneurial orientation and organisational orientation before assessing the impact of entrepreneurial orientation, organisational orientation and demographic factors on innovation

performance of manufacturing SMEs. Lastly, to achieve the objectives of the study, this chapter tested all the hypotheses before concluding about their acceptance or rejection. Chapter Five will provide the summary of the study, make recommendations, and address the study limitations and the need for further research.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The study investigated the correlational relationship between entrepreneurial orientation and organisational orientation and innovation performance of SMEs. In this context, the study brought to light the impact of entrepreneurial orientation and organisational orientation dimensions on innovation performance of manufacturing SMEs. In addition, the differences made by demographic dimensions in terms of their contribution to the innovation performance dimension of small and medium firms were explored. The innovation capability of SMEs was investigated and tested empirically to address the innovation and competitiveness of SMEs. Different models were developed in order to advance knowledge in addressing the conditions and context of innovation performance for an emerging economy such as South Africa. The study aimed to achieve the following broader objectives and sub-objectives:

To determine the correlation between entrepreneurial orientation, organisational orientation and innovation performance (objective 1)

- To investigate the relationship between organisational orientation and entrepreneurial orientation of SMEs (sub-objective 1.1).
- To investigate the relationship between entrepreneurial orientation and innovation performance of SME (sub-objective 1.2).
- To investigate the relationship between organisational orientation and innovation performance of SMEs (sub-objective 1.3).

To determine the impact of entrepreneurial orientation and organisational orientation on innovation performance (objective 2)

To establish the Effect of demographic factors on innovation performance (objective 3)

- To determine the impact of market scope, available rewards, the size and age of the business on innovation performance of SMEs (sub-objective 3.1)
- To determine the differences in innovation performance of family and non-family's business in order to support any policy project (sub-objective 3.2)

To satisfy the purpose of this study, the correlation test, regression analysis, analysis of variance (ANOVA) and independent t-test were utilised to test the hypotheses and address the objectives of the study. This chapter will summarise the literature and empirical findings of

the study in terms of correlational relationship, prediction of innovation performance from entrepreneurial orientation and organisational orientation and differences in innovation performance based on demographic dimensions. In addition, this study tested hypothesises which were summarised and assisted in constructing new models of innovation performance of SMEs. Lastly, managerial implications and recommendations are addressed as well as areas that need more attention for further research were suggested. The next section will conclude this study.

5.2 CONCLUSION

5.2.1 Literature review

Critical literature on entrepreneurial orientation, organisational orientation and innovation performance of SMEs was reviewed. Several models were explored, but a sustained corporate entrepreneurship model, (Kuratko, et al., 2011:50) captured the interest of this study as it emphasised the source of the organisational ability to sustain entrepreneurship.The theoretical background was established and the study model was constructed before developing hypotheses. Previous literature agreed that the internal organisation (for example, capabilities, structure, culture and process) was critical for entrepreneurial orientation. Hence, the correlationship between EO and OO. However, the dynamics in the context of SMEs and the nature of the correlation between EO and OO; and its relevance to innovation performance was paramount for the investigation of this study. Literature also found that innovativeness enhanced innovation performance, which, in turn, improved the overall organisational efficiency. In addition, previous studies concluded that the demographic factors addressed in the study were proven to have impact on innovation performance of manufacturing SMEs. Most EO models presented in the literature emphasised on individual motivation, although they acknowledged that organisational orientation was linked to business's owner entrepreneurial vision. Both small and big organisations could adopt an entrepreneurial approach for innovation.

5.2.2 Empirical findings

5.2.2.1 To determine the correlation between entrepreneurial orientation, organisational orientation and innovation performance (objective 1)

To achieve the main objective 1, there were three sub-objectives to be addressed.

The study sought to investigate the correlationship between organisational orientation dimensions and entrepreneurial orientation dimensions in SMEs.

To achieve this sub-objective, hypotheses Ho1-5 were tested through Pearson correlation and results analysed. The hypotheses Ho1-5 were accepted as all the sub-dimensions of entrepreneurial orientation and organisational orientation were positively correlated. This proved that innovativeness, risk taking propensity, proactiveness, self-efficacy and alertness are enhanced by an organisational culture, strategy, structure, systems, and a management style in SMEs. The results imply that the organisational architecture is likely to improve the implementation of an entrepreneurial strategy in SMEs. In this context, an entrepreneurial firm is required to take a strategic direction that paves the way for and aligns with the entrepreneurial orientation of the firm. An improved organisational architecture is likely to enhance innovativeness, a risk-taking attitude, proactiveness, self-efficacy and alertness in SMEs. In line with Platzak and Pretorius (2016:340), the entrepreneurial fits organisation was built on the overall organisational architecture with regards to strategy, structure, culture and competences. **The study sub-objective 1.1**: "To investigate the correlation between the organisational orientation and entrepreneurial orientation of SMEs" is therefore achieved.

Furthermore, the study intended to investigate the correlation between entrepreneurial orientation dimensions and innovation performance dimensions in SMEs (Ho6-10).
The hypotheses Ho6-10 were accepted. The entrepreneurial orientation and innovation performance dimensions were significantly and positively correlated. The success of entrepreneurial orientation is perceived likely to enhance innovation performance. It implies that cultivating entrepreneurial strategy and culture is likely to improve the standard of the product, the process, the market position and the business model of SMEs. In contrast, no significant relationship was found between the sub-dimension risk-taking and process innovation. The absence of the correlationship between risk-taking and process innovation was a signal that risk-taking did not have any impact on the change or improvement of the production processes used in manufacturing SMEs. Being reluctant to invest in risky projects despite returns could justify the lack of necessity to improve business processes. In summary, the study is in agreement with Goktan and Gupta (2015:98) who stated that EO was often seen as a strategic dimension comprising management tendencies, philosophies, and decision-making practices in order to achieve innovation of the firm. **The study sub-objective 1.2**: "To investigate the correlationship between the entrepreneurial organisation and innovation performance of SMEs" is therefore achieved.

The study sought to investigate the correlation between organisational orientation and innovation performance dimensions of SMEs (Ho11-15)

The hypotheses Ho11-15 were all accepted because the sub-dimensions of organisational orientation and innovation performance were significantly and positively correlated. This indicates that an organisational strategy, structure, culture, systems and a management style were likely to improve the innovation performance of SMEs. The managerial implication is that the internal organisation and capability of SMEs plays a crucial role in innovation performance. The strategy of SMEs should be aligned with other factors such as an organisational culture, structure systems and a leadership position of SMEs to enhance the marketability of their products. In line with Platzak and Pretorius (2016:340) organisational architectures for innovation protect, support and remove constraints. **The study sub-objective 1.3**: "To investigate the correlationship between organisational orientation and innovation performance of SMEs" was therefore achieved. In conclusion, **the study broader objective 1** was therefore achieved. The next section will summarise the findings about the prediction of innovation performance from EO and OO.

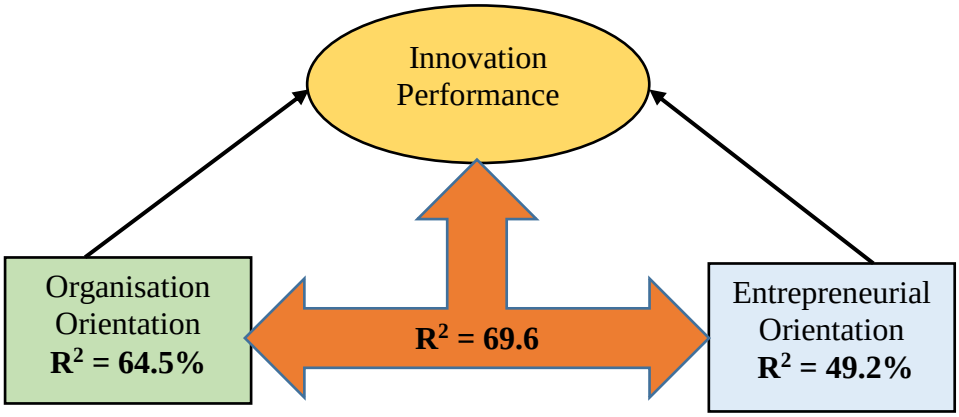
5.2.2.2 To determine the Impact of entrepreneurial orientation and organisational orientation on innovation performance (objective 2)

This section summarises the findings about the investigation on the prediction of innovation performance from EO and OO. The study investigated whether entrepreneurial orientation and organisational orientation significantly predict the innovation performance of manufacturing SMEs (Ho16-18). The hypotheses were tested and accepted as it was found that both EO and OO individually and combined significantly predict innovation performance of manufacturing SMEs. The findings were illustrated in Figure 5.1 Predictive Model of Innovation Performance from EO and OO as shown in the next section.

5.2.2.3 Predictive Model of Innovation Performance from EO and OO

Figure 5.1 clarified that both entrepreneurial orientation and organisational orientation individually significantly predict innovation performance, but their synergy showed a greater impact on innovation performance. It demonstrated that OO was more influential than EO with regard to innovation performance as the level of variance of OO was greater than EO variance in innovation performance.

Figure 5.1 Impact of EO and OO on Innovation performance



Source: Researcher

Based on Figure 5.1, the study established that the two independent variables (EO and OO) have a different degree of effect on innovation performance. Therefore, firms were required to look into their organisational culture with regard to innovation, consider their strategy and structure, their operational systems and reassess the leadership style chosen by owner-managers. All these dimensions seem to be a prerequisite to create a conducive innovation environment. The results also indicated that the perceived organisational orientation dimensions were vital to implement a strategic entrepreneurial orientation in SMEs. These findings align with Radas and Bozic (2009:438) who found that organisational structure, management support, strategy and systems in place had a positive impact on innovation performance of SMEs. The findings of the study also aligned with the notion that although organisational orientation and entrepreneurial orientation dimensions were separately central to innovation performance of SMEs, it was found that their synergy had a greater impact on innovation performance dimension of SMEs. **The study objective 2**: "To determine the impact of organisational orientation and entrepreneurial orientation on innovation performance of SMEs" was therefore achieved.

The next section will summarise the impact of demographic dimensions on innovation performance of manufacturing SMEs.

5.2.2.4 To establish the effect of demographic factors on innovation performance (objective 3)

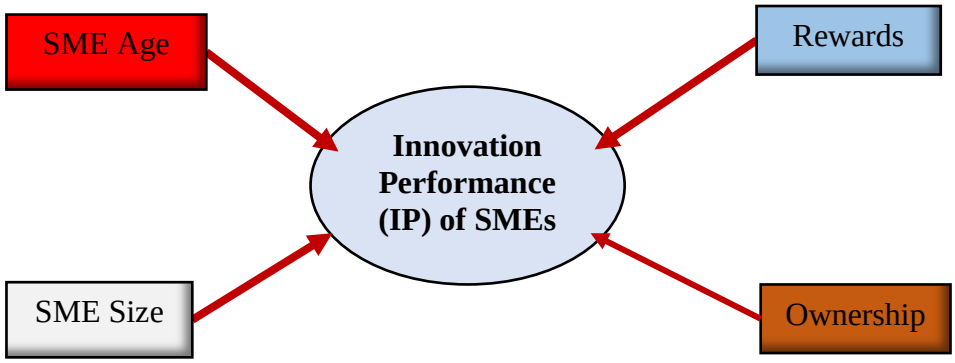
Five demographic dimensions that included available reward, market scope, SME's size, age and ownership were tested to investigate the differences they could make in innovation performance of manufacturing SMEs. A variety of rewards were tested and found that there was an improvement in innovation performance when different rewards were paid.

Unfortunately, although there was variety of rewards, the majority of SMEs seemed to focus only on the payment of a regular salary to their employees. Furthermore, the differences in innovation performance from family and non-family business, business size, market scope and age were tested. Empirical findings proved that the size, age and ownership of SMEs as well as the availability of rewards have impact on the innovation performance of SMEs. In contrast, a market scope did not have any impact on innovation performance of SMEs. **The study sub-objective 3.1**: "To determine the impact of market scope, available rewards, size and age of the business on innovation performance of SMEs" was achieved. The next section is the impact of demographic factors on innovation performance.

5.2.2.5 Conceptual Framework of Demographic Dimensions and IP of SMEs

The framework model recognises the role played by demographic dimensions in innovation performance of SMEs. Organisation demographics as independent variables provide another dimension and an insight into the innovation performance of SMEs. In this context, only four demographic dimensions show the effect on innovation performance. Figure 5.2 demonstrates that available rewards, SME's age, size and ownership make differences in the innovation performance of SMEs. It was proven that the market scope had no impact on IP. However, the study concluded that age, size, rewards and ownership of SMEs contributed to IP.

Figure 5.2: Conceptual framework of Demographic Dimensions and IP of SMEs



Source: Researcher

5.2.2.6 SME Age and Innovation Performance

The study found there were differences in SMEs' age in innovation performance. Empirically, it is proven that younger SMEs seem to capitalise on IP better that older SMEs. The pressure for survival and growth forces small enterprises to get involved in innovation activities.

Kuratko, et al., (2011:394) confirmed that up to three years of operation, a SME was likely to survive and provide innovation results in terms of a new product and its commercialisation.

5.2.2.7 SME Size and Innovation Performance

The size of SMEs significantly impacts in innovation performance. The size of SMEs seems most likely to influence their ability to exploit opportunities in new markets and in selecting or adjusting their innovation strategy. The benefits of size must be combined with a structural adjustment to build and prioritise innovation capability in SMEs. This is in line with Kuratko's (2011:38) statement, that innovation benefits were significantly dependent on the size and scope of organisations.

5.2.2.8 Available Rewards and Innovation Performance

The findings proved that reward has an impact on innovation performance. However, the lack of diversity in rewards paid by SMEs may hinder their innovation success. The study found out that 65% of SMEs did not pay any other reward besides a regular salary. Love and Roper (2013:11) opine that innovation poses skills and people management challenges for small firms, and necessitates a new ecosystem of skills in SME to maintain or retain skilled and entrepreneurial people in the organisation. The next section will summarise the contribution of the study through proximity as well as IP predictive models.

5.2.2.9 SME Ownership and Innovation Performance

The findings confirmed that there was a difference in IP between the family firm and non-family owned firm. Non-family SMEs showed an improved innovation performance in comparison with family-owned ones. The business model of family-owned firms is unique as it is shaped by internal family relations. Therefore, any decision is first a family decision before it can be seen as a business decision; for instance, investment in R&D. This is in line with Casillas and Moreno (2010:266) who confirmed that although the involvement of members of the owner's family helps to strengthen the results of the firm's innovation strategy, the greatest abhorrence of risk-taking arose in family-owned firms and might affect its innovation performance in comparison to non-family firms. In the context of SMEs, the role of business owners or founders and their managerial practices were believed to shape EO and OO at organisational level. **The study sub-objective 3.2: "**To determine the differences in innovation performance of family and non-family's business in order to support any policy project" was achieved. In conclusion, **the study broader objective 3: "**To establish the effect of

demographic factors on innovation performance" was therefore achieved. The next section will discuss the contribution of the study.

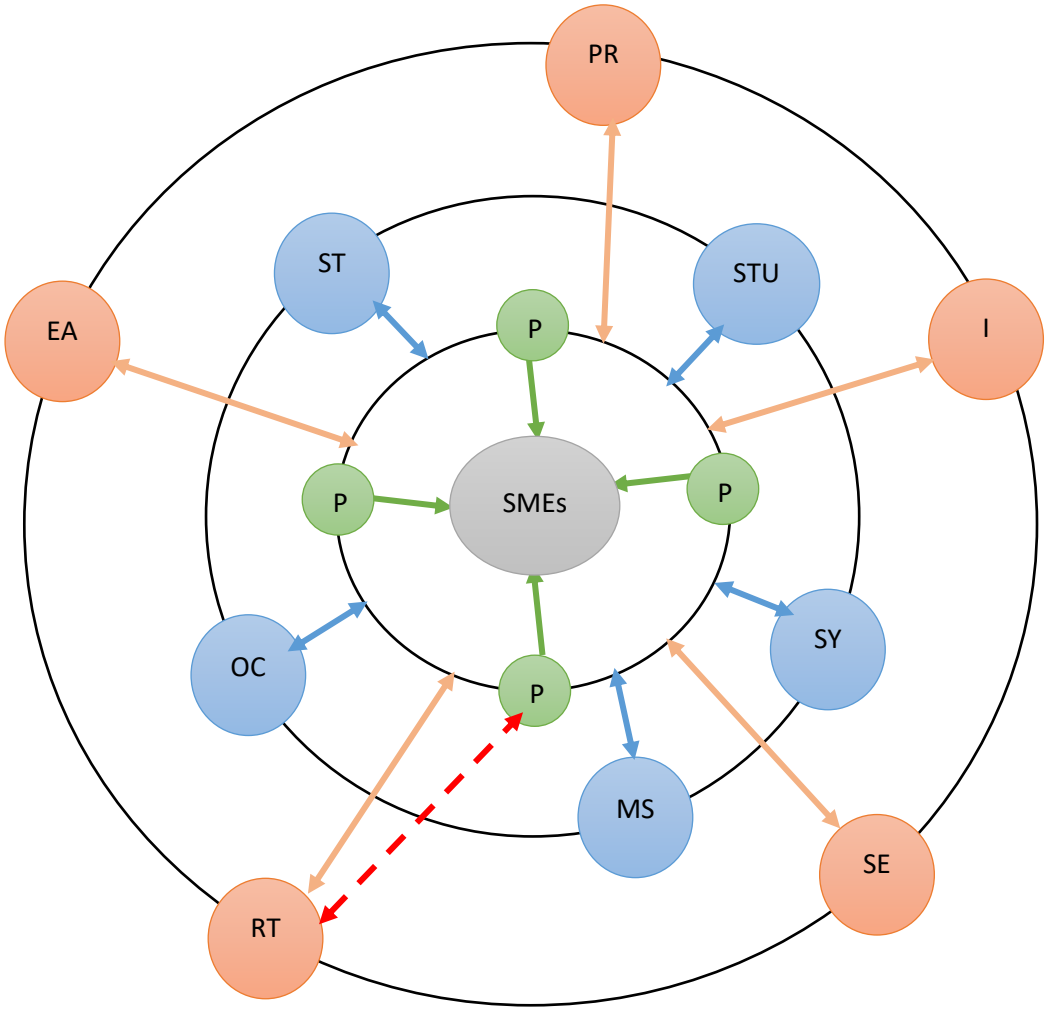
5.3 CONTRIBUTION OF THE STUDY

The study extended the empirical knowledge of entrepreneurial orientation, organisational orientation and innovation performance in the context of SMEs and emerging economy. The contribution of the study is summarised into two models: the proximity model of the correlation between entrepreneurial orientation, organisational orientation and innovation performance and the new model of innovation performance for SMEs. These models are beyond the behavioural consideration of entrepreneurial firms, instead they focus on structural problems of SMEs that hinder their innovation performance. Next is the proximity model of the correlation between EO, OO and IP in SMEs is presented.

5.3.1 Proximity Model of the Correlation between EO, OO and IP in SMEs

This study established that there was a relationship between Entrepreneurial Orientation, Organisational Orientation, and Innovation Performance in SMEs. All sub-dimensions of organisational orientation that included organisational culture (OC), strategy (ST), structure (STU), management style (MS) and systems (SY) were in significant and positive association with all the sub-dimensions of entrepreneurial orientation: innovativeness (I), proactiveness (PR), risk taking propensity (RT), self-efficacy (SE) and entrepreneurial alertness (EA). Furthermore, innovation performance sub-dimensions that included product (P1), process (P2), position (P3) and paradigm (P4) were positively and significantly correlated with entrepreneurial orientation and organisational orientation dimensions. Based on the findings, the researcher suggests a model that demonstrates the proximity to the innovation performance between entrepreneurial orientation and organisational orientation in SMEs as shown in Figure 5.3. The proximity model of the correlation between EO, OO and IP in SMEs questions the unplanned and reactive characteristics of SMEs business model. Instead, the model reiterates the need for strategic direction in order to instil innovative culture in SMEs.

Figure 5.3 Proximity Model of the Correlation between EO, OO and IP in SMEs



Source: Researcher

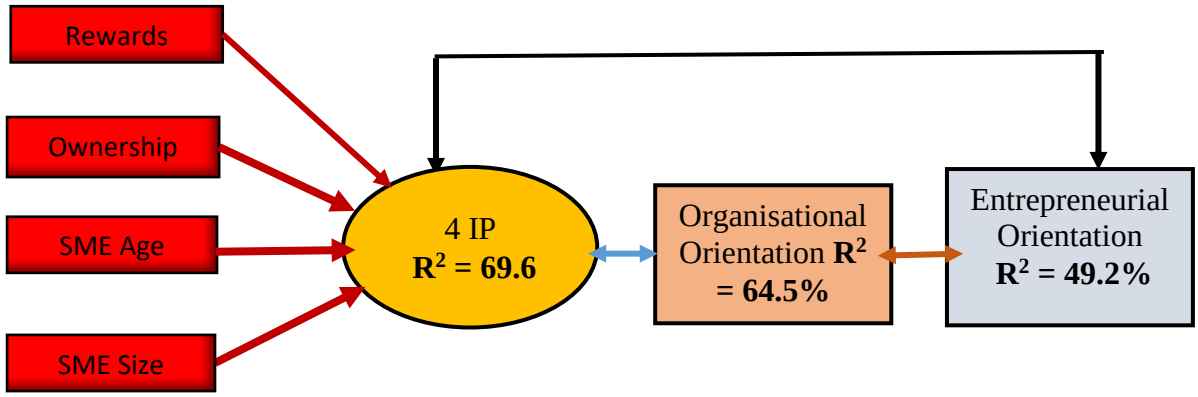
The model emphasises how EO and OO should be prioritised in order to create an environment conducive for innovation performance in SMEs. The model indicates that organisational orientation has a close relationship with innovation performance. This demonstrates that organisational orientation is more likely to improve innovation performance than entrepreneurial orientation. The simple implementation of entrepreneurial strategy is not sufficient if SMEs do not show strategic readiness. It entails that internal capability paves the way for innovation performance of SMEs. This model is in alignment with Li, Zhang and Xu's (2016:15) findings that the environment of the organisation should have the capability to transform the internal innovation input into output through support systems for enterprises to implement their innovative strategies and achieve their innovation objectives. SMEs should combine their own characteristics and corporate organisation management systems, place more emphasis on research and planning of corporate development strategy to establish a regulated decision system and decision process, in order to sustain innovation. Schachtebeck and

Nieuwenhuizen (2015:670) established that when SMEs increase in size, the level of management support for corporate entrepreneurship should be enhanced. In the same context, Kuratko, et al., (2011:174) pointed out that even the well-devised entrepreneurial strategies failed unless they were supported and reinforced by good management practices. Although the proximity model signicantly explored entrepreneurial studies of developed economies, Sitharam and Hoque (2016:277) reaffirmed that the structural problems of SMEs in South Africa and KwaZulu-Natal in particular remain linked to their internal and external environmental factors affecting their domestic and international competitiveness. These factors include: finance, lack of managerial skills, equipment and technology, regulatory issues, and access to international markets (Abor and Quartey 2010:224). The proximity model corroborate the South African entrepreneurial framework conditions stated in the report of Global Entrepreneurship Monitor (GEM 2016). In addition, there is a consensus in the context of emerging economies that local and regional innovation systems should provide a conducive environment for the development of innovation clusters and for sectoral systems of innovation. Any innovation strategies have to be focused on the strengths and relative advantages of those clusters. Hence, the identification choice of strategic areas for intervention is based on analysing the strengths and potential of the economic environment and on an entrepreneurial process (National Advisory Council on Innovation 2017:66).The next section presents a new model of innovation performance for SMEs.

5.3.2 New Model of Innovation Performance for SMEs

The findings of this study prove that the entrepreneurial orientation and organisational orientation have impact on the innovation performance of SMEs. Furthermore, organisation demographics as an independent variable provide another dimension and an insight into the innovation performance of SMEs. In addition, this study discovered that a diversity of rewards paid is critical for the innovation performance of SMEs despite the fact that SMEs' reward policy did not seem to support their innovation objectives. In conclusion, innovation performance (IP) success depends on both an implementation of EO and OO as well as the consideration of demographic dimensions in SMEs.

Figure 5.4 New model of Innovation performance of SMEs



Source: Researcher

This model considers the organisational and entrepreneurial dimensions to predict and reinforce innovation performance in the context of SMEs. For entrepreneurial orientation to succeed and innovation performance to take place, there is a need for a redefinition of the management practices of SMEs such as the introduction of new business operational models, different reward systems, and adaptive organisational structures (Morris, et al., 2014:333). The next section will summarise the practical implications of the findings and will provide recommendations to different SME's sector stakeholders.

5.4 MANAGERIAL IMPLICATIONS AND RECOMMENDATIONS

The principles of corporate entrepreneurship were rarely achieved in SMEs due to the structural context of SMEs. Fini, et al., (2010:389) emphasised the influence of resource constrained environments in an attempt to extend the corporate entrepreneurship to small and medium-sized firms. However, SMEs faced challenges to carry out innovation, mainly because of the lack of innovation resources (Zhang and Chen 2014:716). As confirmed by Neneh and Zyl (2012:118), both large firms and small and medium enterprises (SMEs) constantly emphasised a positive correlationship between business practices, management activities and performance. Managers (top, middle and first line) within organisations have a differential and structural role to play in supporting, facilitating and promoting entrepreneurial actions and innovation in firms (Hornsby, et al., 2009:238). Despite a positive relationship between EO, OO and IP, only about 40% of SMEs acknowledged having a long-term investment in research and development (R&D) as per owner-managers responses. South Africa's manufacturing industries continue to face challenges and threat of other emerging economies which continue to threaten the growth of South African manufacturers. The success of the sector depends on a strong and innovative

manufacturing base. In this context, efforts to promote manufacturing require science and innovation (Manufacturing Indaba KwaZulu-Natal, 2016:2)

The above-mentioned models justify the assertions of Corbett and Hmieleski (2007:103) and Kuratko (2015:246) that ongoing work raised new and important research questions and further theoretical avenues requiring exploration such as cognitive processes and the motivation of internal entrepreneurs. Furthermore, the findings proved that fewer than 35% of SMEs could pay various rewards to support innovation of the firm in Kwa-Zulu Natal (Figure 4.5). According to the National Advisory Council on Innovation (2017:13), South African innovation system has always been characterised as being fragmentated as a result of a lack of resources, collaboration, facilitation and leadership. Although the country has been investing in emerging research in manufacturing areas, chemical SMEs sub-sector, for instance, requires access to technical R&D to enhance innovation as South Africa shows negative trend in this area compared to other emerging economies (Chemical Summit NEDLAC 2005:3).

Owner-Managers must be aware of the impact of innovation performance on the overall organisational performance (Shoham, et al., 2012:226). The entrepreneurial venture that has an entrepreneurial owner-manager has the capacity to develop strategies and manage strategically to ensure that firms become successful and achieve innovations through the various product-market combinations (Mazzarol 2004:4). At governmental level, the New Growth Path's plan to create 80 000 jobs in South Africa in the manufacturing sector by 2020 (SEDA 2012:17) may be challenging if the issue of competitiveness and innovation performance of SMEs is not addressed. The empirical evidence shows that adaptability and flexibility to the market as well as some degree of efficiency that accommodates innovation can be achieved by SMEs. The Small and Medium manufacturing sector in Africa, and in KwaZulu Natal province, in particular, requires innovation to compete locally and globally.

SEDA (2016:8) found that failure and death rate of SMEs overshadowed their prospect to focus on innovation. Also, SAB foundation (2017:24-26) in their paper on the entrepreneurial ecosystem of South Africa reaffirmed that South Africa shows a strong product and process innovation in comparison to other African countries, but it is still facing challenges such as lack of support of new businesses, poor infrastructure for innovation, lack of entrepreneurial intention grounded on cultural and educational systems. In addition, Banga and Velde (2018:54) opined that digitalisation brought great value to small manufacturing all across Africa. However it appears critical to address the lack of measuring in the literature of

innovation performance of manufacturing SMEs in relation to entrepreneurial orientation and organisational orientation. SMEs and innovation are both considered a driver of any economic policy especially in the emerging economy as innovative SMEs are likely to improve the level of competitiveness and to maintain sustainability. Innovative SMEs necessitate a business environment that is conducive to expansion (Economic Development and Growth in Ethekwini 2013:33). In this context, the study recommends the support of manufacturing SMEs through managerial decision-making interventions at organisational and sectorial levels. The study reached the following recommendations:

- Regardless of the size of the organisation, SMEs should learn to develop and embrace a strategic planning culture in order to accommodate a long-term perspective of innovation objectives. In this context, the strategic direction and readiness must be understood by different levels of management to align their tasks and activities with the innovation targets of the firm. It will necessitate an adequate change management strategy that sustains innovations.

- Owner-managers must protect the innovation achievements of their firms, that is, new processes, new products, the market position and business models used through patents and license to maintain competitive advantage.

- SMEs must have a system in place to monitor and evaluate their innovation performance. Furthermore, the government departments of small and medium enterprises development as well as innovation and technology must strengthen their collaboration in order to provide meaningful support to SMEs innovation initiatives. This implies a policy design that takes into account the nature and structure of SMEs.

- Considering the resource constraint and the importance of research and development investment for innovation performance, SMEs must find an affordable alternative to carry out research and development (R&D) activities, for instance, partnering with learning institutions such as universities and colleges.

- Managers must link the overall organisational performance to innovation performance in order to show commitment to the implementation of the organisational and entrepreneurial strategies.

- SMEs must become entrepreneurial learning organisations, linking entrepreneurial theory to practice and using previous entrepreneurial experiences to optimise and confidently exploit new opportunities. This will assist in developing entrepreneurial competencies. Laudon and Laudon (2018:449) reaffirm that business survival depends on how it responds to changing environments. This is because organisations that involve in learning are likely to adjust their behaviours to reflect that through learning, new business processes may be created and management decision making patterns may be changed.

- In terms of entrepreneurial readiness, managers must shape their understanding of organisational strategy and entrepreneurial strategy in order to create a synergy that may facilitate the implementation of activities that are likely to lead to an improved innovation performance of SMEs.

- Owner-managers must diversify the rewards in SMEs, despite limited resources. Ceremonial rewards may bring a sense of recognition and become a positive motivator for employees to embrace an innovation culture.

- Different models illustrated in this study should serve and guide stakeholders such as owner-managers, practitioners and governments to design strategies and policies that support the manufacturing SME sector to be more innovative and competitive. Furthermore, other researchers may be able to refer to these models in order to embark on future studies.

5.5 LIMITATIONS OF THE STUDY

Although the study has created new knowledge and made new valuable contributions to the entrepreneurial strategy, organisational strategy and innovation performance of SMEs, Walliman (2011:158) points out that no research can provide all the answers. Findings are however acceptable as long as the limitations of the study are addressed to avoid an overstatement of the subject when conclusions and recommendations are made. The study presents some limitations. Firstly, the study was limited to manufacturing SMEs in Kwa-Zulu Natal region of South Africa, therefore the results may not be generalised to other regions or provinces where structural factors may be different. Therefore, different regions or countries

and large organisations may achieve different conclusions. Secondly, data was collected at a specific time, in this context, different time frames may affect the conclusions. For instance, the current economic environment such as the low GDP growth may affect SMEs' capacity to invest in research and development or other innovation programmes. In addition, change of research approach such as the use of in-depth interview and bigger sample size could lead to different findings. Lastly, only the manufacturing sector was included, and different sectors such as retail and construction may reach different conclusions. In this context, Atieno (2009:18) concludes that limitations defend potential weaknesses in the qualitative, quantitative or mixed research methods which may hinder, for instance, the generalisation of the findings. The next section will identify and suggest areas of further study.

5.6 FUTURE RESEARCH

The study focused on small and medium enterprises in the manufacturing sector and raises other questions considering the complexity of the business environment and the pressure on them to survive and grow. Nowadays, innovation has become synonymous with competitiveness and survival of any organisation regardless of size. South Africa's low rank among the more innovative countries necessitates further research into the innovation performance of companies. In this context, future research may be conducted using the cases of large organisations in South Africa and Africa in general. Furthermore, it is crucial to undertake studies on organisational strategies of SMEs with regard to investment in research and development; for example, the assessment of the relationship between research and development (R&D) and return on investment in SMEs. The study did not establish any significant relationship between a risk-taking propensity of SMEs and process innovation. Therefore, a further investigation may be required to get more insight into the nature of this relationship.

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APPENDIX A

LETTER OF INFORMATION

Faculty of Management Sciences
Department of Entrepreneurship
& Management Sciences
P.O. Box 5262
Durban 4000

Cellphone: 0834302364
Telephone: 0318119225
E-mail: gustavekm@gmail.com

Dear participant,

PARTICIPATION: RESEARCH QUESTIONNAIRE COMPLETION

I am a student at the Durban University of Technology (DUT) and conducting research for my doctorate degree (Business administration). The research project is titled "**The Relationship between Entrepreneurial Orientation, Organisation Orientation and Innovation Performance of Manufacturing Small and Medium Enterprises in KwaZulu Natal Province"**. For the purpose of obtaining data, a completion of questionnaire is needed.

I humbly request your assistance in completing the attached questionnaire that should not take more than 20 minutes of your time. In the process of this study, your participation is voluntary, your identity will remain anonymous and information provided strictly confidential. I would like to appreciate and thank you in advance for your participation and co-operation.

If you need more information concerning this research project from another person than the researcher, please do not hesitate to contact my supervisor Prof Shepherd Dhliwayo on 0115591689 / 083 733 7675, dhliwayos@yahoo.com and/or Department of Entrepreneurial studies and management (DUT) on 031 373 5147.

Thank you for your valuable input into this project.

Yours sincerely

Student

Gustave Mungeni Kankisingi

APPENDIX B

QUESTIONNAIRE

SECTION A: BIBLIOGRAPHICAL INFORMATION

The information under this section will assist us with the statistical analysis of data. We sincerely appreciate your help in collecting this important information. The confidentiality of data collected is guaranteed

Please mark the applicable box with a cross (X)

RESPONDENT DEMOGRAPHICS

1. **What is your gender?**

Male	
Female	

2. **What is your age group?**

≤ 25 years	
26-45 years	
46-65 years	
66 + years	

3. **What is the highest level of your education and training?**

Lower than Matric	
Matric	
Post Matric certificate or Diploma	
University degree	
Post graduate degree	

4. **What is your status in the business?**

Owner-Manager	
Manager only	

5. **How long have you run this organisation?**

≤ 5 years	
6-15 years	

16-25 years	
26 + years	

ORGANISATION DEMOGRAPHICS

6. How many full-time staff does your organisation currently employ, including owner (s) and manager(s)?

≤ 10	
11-50	
51-100	
101-200	

7. Is your organisation a family or a non-family business?

Family business	
Non-family business	

8. How long has the business been operating?

≤ 3 year	
4-10 years	
11-17 years	
18+ years	

9. Which of the following reward systems does your organisation use (Tick all that apply)

9.1 Regular salary pay	
9.2 Promotion within the organisation	
9.3 Equity share/profit share to encourage participation	
9.4 Monetary bonus rewards	
9.5 Payment as a result of suggestions that lead to financial benefits from innovations	
9.6 Recognition of achievement awards	
9.7 Commission on new products sold	
9.8 Team financial incentives for meeting or exceeding innovation objectives	

9.9 Company sponsored holiday	
9.10 Regular salary increases	
9.11 Remuneration depending on number of units produced	
9.12 Reward with time off	
9.13 Company sponsored lunch	
9.14 Scholarship to employees' dependents	
9.15 Receive company shopping vouchers	
9.16 Receive gifts for achievement	
9.17 Sponsoring special training for new skills	

10. What type of products do you manufacture? <u>(Select ONE option only)</u>

Food and beverages	
Clothing and textiles	
Paper, printing and allied products	
Chemical, petroleum, rubber, plastics	
Metal fabrication	
Motor vehicle and components	
Other (please specify):_____	

11. What is the extent of your market?

Provincial	
National	
International	

SECTION B: ENTREPRENEURIAL ORIENTATION, ORGANISATIONAL ORIENTATION AND INNOVATION PERFORMANCE

Indicate your agreement with the following statements:

ENTRPRENEURIAL ORIENTATION

	INNOVATIVENESS At this firm...	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
12	...research and development (R&D) are important					
13	...new lines of products have been marketed in the past five years (or since its establishment)					
14	...there are regular changes in product lines					
15	...innovation is encouraged					
16	...innovation is important for competitiveness					
17	... experimenting with new processes of production is encouraged					
18	…employees are encouraged to share information and knowledge within the company					

	RISK TAKING	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
19	The firm gets involved in high-risk projects when there is a good chance of					
20	The firm adopts a risk taking position in order to maximise the probability of exploiting potential opportunity					
21	A risk-taking attitude is considered a positive attribute for employees in this					

	PROACTIVENESS	Strongly disagree	Disagree	Neutral	Agree	Strongly disagree
22	The firm gets involved in high risk projects in order to be a step ahead of					
23	This firm initiates actions to which competitors then respond					
24	This firm strives to be the first business to introduce a new product					
25	This firm competes aggressively with its competitors					
26	This firm continuously monitors market trends to identify future needs of					
27	In case of intense competition, the firm finds a way to retain its customers					

	ENTREPRENEURIAL SELF-EFFICACY	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
28	This firm is able to deal with unexpected events					
29	In this firm failure makes people try harder					
30	The firm works on projects until they are completed					
31	There is belief in this firm that employees have the ability to attain					
32	There is confidence in this firm that employees are able to bring changes in the products					

	ENTREPRENEURIAL ALERTNESS	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
33	This firm continuously searches for new business opportunities					
34	The firm encourages members' suggestions in order to identify opportunities for new products					
35	The organisational members attend business fairs or exhibitions every year to seek new opportunities					
36	Employees are sent for training to improve their skills so that they are ready to implement new ideas					

ORGANISATION ORIENTATION

	ORGANISATIONAL CULTURE	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
37	The firm celebrates innovative achievements					
38	This firm has a culture whereby we learn from our failures					
39	Innovation is a core value of this firm					
40	New ideas are prioritised and given immediate attention					
41	The firm provides employees the freedom to use their own judgement					
42	The firm encourages employees to take individual responsibility for success or					
43	Employees need permission from management to get involved in creative					
44	Group success is considered more important than individual success					
45	Group welfare is considered more important than individual rewards					
46	Employees support one another in order to achieve innovation					
47	Ideas suggested by male and female employees are equally accepted					

	STRATEGY	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
48	The firm has a planned approach for sourcing new product ideas					
49	The firm collaborates with other firms to achieve its innovation goals.					
50	The firm is determined to differentiate its products from competitors					
51	The firm has long term investment in research and development (R&D)					
52	Strategies are in place to improve employees' skills in order to facilitate the					
53	Strategies are in place to improve production processes					
54	The firm regularly assesses its internal and external environment					
55	This firm has a strategy to exploit newly found opportunities					

	STRUCTURE	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
56	The firm encourages both individuals' initiatives and collaborative team work					
57	The firm easily adapts its operations to changes in business sector					
58	There is an open communication channel between managers and employees in this firm					
59	In this firm, employees need to specialise in order to carry out their job					
60	The firm is flexible when it comes to rules and regulations if it results in the promotion of innovation					
61	When relevant, employees have input into business or product decisions					
62	This firm promotes employees because of their creativity on the job					

	SYSTEMS	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
63	This firm uses suggestion box to collect ideas from all employees					
64	The firm has an innovation budget that facilitates the allocation and control of resources					
65	The firm has a system in place to share information and knowledge					
66	The firm maintains the records of new ideas and the employees who generated					
67	In recruiting new employees, creativity of candidates is considered as an important criterion for selection					
68	Only the owner/manager has the power to authorise the use of money on innovative projects					
69	The firm investigates the balances of stock and funds on a regular basis					
70	This firm holds meetings to discuss the progress and the performance of both the new ideas and the implementation projects					
71	The firm provides internet connection to employees for searching new ideas and opportunities					

	MANAGEMENT STYLE	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
72	The firm delegates decision making authority to accommodate					

73	The firm encourages new ideas or suggestions from its members					
74	In this firm, employees are empowered to take initiatives					
75	Employees with an idea are given free time to develop that idea into a product					
76	An employee who provides an idea that turns into a product is rewarded accordingly by the firm					
77	Employees are encouraged to go beyond their ordinary tasks in order to					
78	The firm considers contributions from employees when making decisions					

INNOVATION PERFORMANCE

	PRODUCT INNOVATION	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
79	New products have resulted in increased sales					
80	New products from this firm are produced by other firms on patent (license)					
81	With the introduction of new products the sales of existing products have improved					
82	Interest in the new products has been sustained					
83	In this firm, money spent on research & development (R&D) is rewarded by successful new products					
84	The new products have increased the profits realised by this firm					
85	New products have increased the daily cash flow of the firm					
86	At least 10 per cent of ideas generated by the firm have been used in new products.					

	PROCESS INNOVATION	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
87	The firm has developed new and improved processes					
88	The firm uses new processes that produce products faster than competitors					
89	The firm's production processes are adaptable and can accommodate changes					

90	Our firm's product development cycle is shorter than that of our competitors					
91	The firm's new production process has reduced the cost of production					

	POSITION INNOVATION	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
92	The sale of new products has improved the loyalty of the customers					
93	The firm has succeeded in exploiting other markets with its new products					
94	The new products have attracted new customers to the firm					
95	The new products have improved the reputation of the firm					

	PARADIGM INNOVATION	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
96	Many employees have acquired new skills in order to improve innovation					
97	The firm alters its strategies, if necessary, to meet its innovation goals					
98	The firm and its employees don't give up on innovations and work on them until the product goal is achieved.					
99	The firm has increased its funds in research and development (R&D)					

Thank you for your precious time in completing this questionnaire

APPENDIX C: STATISTIC MEAN OF RESEARCH ITEMS

Entrepreneurial Orientation

One-Sample Statistics

Innovativeness	N	Mean	Std. Deviation	Std. Error Mean
EO_I_12 ...research and development (R&D) are important	221	4.18	.949	.064
EO_I_13 ...new lines of products have been marketed in the past five years (or since its establishment)	221	3.78	.883	.059
EO_I_14 ...there are regular changes in product lines	221	3.63	1.119	.075
EO_I_15 ...innovation is encouraged	221	3.90	.828	.056
EO_I_16 ...innovation is important for competitiveness	221	4.29	.712	.048
EO_I_17 ... experimenting with new processes of production is encouraged	221	4.03	.836	.056
EO_I_18 …employees are encouraged to share information and knowledge within the company	221	4.24	.808	.054

One-Sample Statistics

Risk taking	N	Mean	Std. Deviation	Std. Error Mean
EO_RT_19 The firm gets involved in high-risk projects when there is a good chance of high returns	221	3.28	1.191	.080
EO_RT_20 The firm adopts a risk taking position in order to maximise the probability of exploiting potential opportunity	221	3.41	1.111	.075
EO_RT_21 A risk-taking attitude is considered a positive attribute for employees in this firm	221	3.47	1.085	.073

One-Sample Statistics

Proactiveness	N	Mean	Std. Deviation	Std. Error Mean
EO_P_22 The firm gets involved in high risk projects in order to be a step ahead of the competitors	221	3.32	1.083	.073
EO_P_23 This firm initiates actions to which competitors then respond	221	3.44	1.063	.071
EO_P_24 This firm strives to be the first business to introduce a new product	221	3.64	.993	.067
EO_P_25 This firm competes aggressively with its competitors	221	3.40	1.146	.077
EO_P_26 This firm continuously monitors market trends to identify future needs of customers.	221	3.88	.907	.061
EO_P_27 In case of intense competition, the firm finds a way to retain its customers	221	3.87	.807	.054

One-Sample Statistics

Self-efficacy	N	Mean	Std. Deviation	Std. Error Mean
EO_SE_28 This firm is able to deal with unexpected events	221	3.83	.855	.058
EO_SE_29 In this firm failure makes people try harder	221	3.97	.792	.053
EO_SE_30 The firm works on projects until they are completed	221	4.14	.809	.054
EO_SE_31 There is belief in this firm that employees have the ability to attain project goals	221	4.00	.745	.050
EO_SE_32 There is confidence in this firm that employees are able to bring changes in the products	221	4.10	.709	.048

One-Sample Statistics

Alertness	N	Mean	Std. Deviation	Std. Error Mean
EO_A_33 This firm continuously searches for new business opportunities	221	3.98	.912	.061
EO_A_34 The firm encourages members' suggestions in order to identify opportunities for new products	221	3.87	.856	.058
EO_A_35 The organisational members attend business fairs or exhibitions every year to seek new opportunities	221	3.54	1.002	.067
EO_A_36 Employees are sent for training to improve their skills so that they are ready to implement new ideas	221	3.66	.953	.064

Organisational orientation

One-Sample Statistics

Organisation Culture	N	Mean	Std. Deviation	Std. Error Mean
OO_OC_37 The firm celebrates innovative achievements	221	3.45	.916	.062
OO_OC_38 This firm has a culture whereby we learn from our failures	221	3.90	.759	.051
OO_OC_39 Innovation is a core value of this firm	221	3.90	.772	.052
OO_OC_40 New ideas are prioritised and given immediate attention	221	3.89	.867	.058
OO_OC_41 The firm provides employees the freedom to use their own judgement	221	3.70	.890	.060
OO_OC_42 The firm encourages employees to take individual responsibility for success or failure of their actions.	221	3.74	.739	.050
OO_OC_43 Employees need permission from management to get involved in creative tasks (activities)	221	3.53	1.034	.070
OO_OC_44 Group success is considered more important than individual success	221	3.65	.930	.063
OO_OC_45 Group welfare is considered more important than individual rewards	221	3.45	1.006	.068
OO_OC_46 Employees support one another in order to achieve innovation	221	3.88	.819	.055
OO_OC_47 Ideas suggested by male and female employees are equally accepted	221	4.05	.851	.057

One-Sample Statistics

Organisation Strategy	N	Mean	Std. Deviation	Std. Error Mean
OO_Strat_48 The firm has a planned approach for sourcing new product ideas	221	3.86	.796	.054
OO_Strat_49 The firm collaborates with other firms to achieve its innovation goals.	221	3.47	1.068	.072
OO_Strat_50 The firm is determined to differentiate its products from competitors	221	3.73	.857	.058
OO_Strat_51 The firm has long term investment in research and development (R&D)	221	3.31	1.016	.068
OO_Strat_52 Strategies are in place to improve employees' skills in order to facilitate the introduction of new products	221	3.71	.952	.064
OO_Strat_53 Strategies are in place to improve production processes	221	3.88	.948	.064
OO_Strat_54 The firm regularly assesses its internal and external environment	221	3.78	.943	.063
OO_Strat_55 This firm has a strategy to exploit newly found opportunities	221	3.72	.987	.066

One-Sample Statistics

Organisation Structure	N	Mean	Std. Deviation	Std. Error Mean
OO_Struc_56 The firm encourages both individuals' initiatives and collaborative team work	221	3.89	.920	.062
OO_Struc_57 The firm easily adapts its operations to changes in business sector	221	3.84	.792	.053
OO_Struc_58 There is an open communication channel between managers and employees in this firm	221	4.14	.792	.053
OO_Struc_59 In this firm, employees need to specialise in order to carry out their job	221	3.67	.845	.057
OO_Struc_60 The firm is flexible when it comes to rules and regulations if it results in the promotion of innovation	221	3.72	.945	.064
OO_Struc_61 When relevant, employees have input into business or product decisions	221	3.83	.790	.053
OO_Struc_62 This firm promotes employees because of their creativity on the job	221	3.54	.965	.065

One-Sample Statistics

Organisation Systems	N	Mean	Std. Deviation	Std. Error Mean
OO_Sys_63 This firm uses suggestion box to collect ideas from all employees	221	2.96	1.149	.077
OO_Sys_64 The firm has an innovation budget that facilitates the allocation and control of resources	221	3.30	1.002	.067
OO_Sys_65 The firm has a system in place to share information and knowledge	221	3.58	1.144	.077
OO_Sys_66 The firm maintains the records of new ideas and the employees who generated them	221	3.50	1.030	.069
OO_Sys_67 In recruiting new employees, creativity of candidates is considered as an important criterion for selection	221	3.58	1.017	.068
OO_Sys_68 Only the owner/manager has the power to authorise the use of money on innovative projects	221	3.88	.932	.063
OO_Sys_69 The firm investigates the balances of stock and funds on a regular basis	221	4.00	.907	.061
OO_Sys_70 This firm holds meetings to discuss the progress and the performance of both the new ideas and the implementation projects	221	3.67	1.038	.070
OO_Sys_71 The firm provides internet connection to employees for searching new ideas and opportunities	221	3.50	1.162	.078

One-Sample Statistics

Management Support	N	Mean	Std. Deviation	Std. Error Mean
OO_MS_72 The firm delegates decision making authority to accommodate innovation	221	3.52	.970	.065
OO_MS_73 The firm encourages new ideas or suggestions from its members	221	3.80	.858	.058
OO_MS_74 In this firm, employees are empowered to take initiatives	221	3.79	.975	.066
OO_MS_75 Employees with an idea are given free time to develop that idea into a product	221	3.35	.964	.065
OO_MS_76 An employee who provides an idea that turns into a product is rewarded accordingly by the firm	221	3.50	.980	.066
OO_MS_77 Employees are encouraged to go beyond their ordinary tasks in order to facilitate innovation	221	3.62	.884	.059
OO_MS_78 The firm considers contributions from employees when making decisions	221	3.87	.816	.055

Innovation Performance

One-Sample Statistics

Product Innovation	N	Mean	Std. Deviation	Std. Error Mean
IP_Prod_79 New products have resulted in increased sales	221	3.91	.730	.049
IP_Prod_80 New products from this firm are produced by other firms on patent (license)	221	3.40	1.020	.069
IP_Prod_81 With the introduction of new products the sales of existing products have improved	221	3.66	.774	.052
IP_Prod_82 Interest in the new products has been sustained	221	3.62	.905	.061
IP_Prod_83 In this firm, money spent on research & development (R&D) is rewarded by successful new products	221	3.64	.946	.064
IP_Prod_84 The new products have increased the profits realised by this firm	221	3.77	.790	.053
IP_Prod_85 New products have increased the daily cash flow of the firm	221	3.75	.840	.057
IP_Prod_86 At least 10 per cent of ideas generated by the firm have been used in new products.	221	3.59	.942	.063

One-Sample Statistics

Process Innovation	N	Mean	Std. Deviation	Std. Error Mean
IP_Proc_87 The firm has developed new and improved processes	221	3.89	.679	.046
IP_Proc_88 The firm uses new processes that produce products faster than competitors	221	3.82	.833	.056
IP_Proc_89 The firm's production processes are adaptable and can accommodate changes when necessary	221	3.81	.751	.051
IP_Proc_90 Our firm's product development cycle is shorter than that of our competitors	221	3.61	.926	.062
IP_Proc_91 The firm's new production process has reduced the cost of production	221	3.58	.830	.056

One-Sample Statistics

Position Innovation	N	Mean	Std. Deviation	Std. Error Mean
IP_Pos_92 The sale of new products has improved the loyalty of the customers	221	3.96	.646	.043
IP_Pos_93 The firm has succeeded in exploiting other markets with its new products	221	3.82	.853	.057
IP_Pos_94 The new products have attracted new customers to the firm	221	4.11	.705	.047
IP_Pos_95 The new products have improved the reputation of the firm	221	3.99	.754	.051

One-Sample Statistics

Paradigm Innovation	N	Mean	Std. Deviation	Std. Error Mean
IP_Par_96 Many employees have acquired new skills in order to improve innovation	221	3.74	.799	.054
IP_Par_97 The firm alters its strategies, if necessary, to meet its innovation goals	221	3.71	.749	.050
IP_Par_98 The firm and its employees don't give up on innovations and work on them until the product goal is achieved.	221	3.84	.737	.050
IP_Par_99 The firm has increased its funds in research and development (R&D)	221	3.28	1.096	.074