

Entrepreneurs' innovativeness in the South African new business ventures

Clive Sithole

**A research report submitted to the Faculty of Commerce, Law and
Management, University of the Witwatersrand, in partial fulfilment of the
requirements for the degree of Master of Business Administration**

Johannesburg, 2016

ABSTRACT

Innovation and entrepreneurship are two interrelated concepts that have become an area of interest for many economies. The reasons for such interest are as a result of a realisation of the benefits of entrepreneurship and innovation to the economy. South Africa's level of entrepreneurship is considered to be quite low when compared to other African countries. This includes the level of innovativeness.

Considering the above mentioned context, the main purpose of this research was to investigate innovation in South African Small Medium Enterprises. Through the utilisation of a qualitative research technique, the study analysed the level of entrepreneurs' innovativeness in South African new business ventures. The research also aimed to understand the potential impact of innovation and determine the factors which increase and inhibit innovation within SA SMEs.

In line with the chosen qualitative paradigm, respondents of this research were 14 SME owners / entrepreneurs from the Gauteng region. These were selected through purposive sampling. Face to face semi-structured interviews with the participants were utilised as the research instrument. The data gathered from the interviews was analysed through the method of content analysis.

Findings of the research indicate a good understanding and implementation of innovation in South African SMEs. Furthermore, there are various types of innovation which exist within these SMEs. These include process, incremental and product innovation. However, it is important to note the disruptive innovation is still lagging behind as most of the entrepreneurs would rather emulate existing ideas instead of creating new ideas. Factors which influence innovation in SMEs include technology, changing customer needs, resource optimisation and the need to implement best practices. The key limitations of innovation were identified as shortage of skills and funding, labour relations issues, risk associated with innovation and lack of policy support. The impacts of innovation include improved turnover, enhanced business reputation and competitiveness.

In as much as South Africa might still be lagging behind in terms of the generic entrepreneurship, there is strong evidence of innovation implementation within

some SMEs and willingness to innovate. A concerted effort is required from all the relevant stakeholders to create a supportive environment underpinned by a sound policy framework. This includes addressing the skills gap and providing the required funding for innovation to thrive.

DECLARATION

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

CLIVE BHEKA SITHOLE

Signed at

On the day of 2016

ACKNOWLEDGEMENTS

My biggest thank you goes to my wife Helen & daughter Iminathi, for all the love, unwavering support, and motivation throughout the entire MBA program. I greatly appreciate the time and effort you devoted to the editing and proof reading this research paper. Lastly, for all the sacrifice and patience, you have been a pillar of strength.

To my Supervisor Dr Kambidima Wotela: Thank you for all the commitment and guidance you demonstrated for the compilation of this research paper. Your work ethic is humbling and invaluable.

To all my family and friends, thank you for all the support offered during the course of this program.

To all the MBA colleagues, thank you for all the insight and support offered during the course of the program. Your presence made a difference and I truly appreciate it.

Last but not the least, thank you to all the participants who availed themselves to be interviewed for this research. Your contributions added great value.

TABLE OF CONTENTS

LIST OF TABLES	ix
----------------------	----

LIST OF FIGURES	x
-----------------------	---

CHAPTER 1. INTRODUCTION.....	11
------------------------------	----

1.1	CONTEXT OF THE STUDY.....	11
1.2	PROBLEM STATEMENT	13
1.2.1	MAIN PROBLEM	13
1.2.2	SUB-PROBLEMS	13
1.3	PURPOSE OF THE STUDY	13
1.4	SIGNIFICANCE OF THE STUDY	13
1.5	DELIMITATIONS OF THE STUDY	14
1.6	DEFINITION OF TERMS	15
1.7	ASSUMPTIONS	15

CHAPTER 2. LITERATURE REVIEW.....	17
-----------------------------------	----

2.1	INTRODUCTION	17
2.2	DEFINITION OF TOPIC & BACKGROUND DISCUSSION	17
2.2.1	DIMENSIONS ON INNOVATION	19
2.2.2	DETERMINANTS OF INNOVATION.....	20
2.3	KEY INNOVATION CONCEPTS	22
2.3.1	TYPES OF INNOVATION, MODELS AND BEST PRACTICES	22
2.3.1.1	OPEN INNOVATION	24
2.3.1.2	DISRUPTIVE INNOVATION	25
2.3.1.3	MODELS OF INNOVATION.....	27
2.3.2	THE IMPORTANCE OF CONTEXT IN ENTREPRENEURIAL INNOVATION	28
2.3.3	BUSINESS MODEL INNOVATION & FIRM PERFORMANCE.....	29
2.4	PREVIOUS RESEARCH ON INNOVATION AND ENTREPRENEURSHIP	31
2.4.1	THE KNOWLEDGE GAP	33
2.4.2	RESEARCH QUESTION 1	35
2.5	FACTORS THAT BOOST OR INHIBIT SME INNOVATION.....	35
2.5.1	FACTORS THAT INCREASE INNOVATION.....	35
2.5.2	BARRIERS TO INNOVATION.....	36
2.5.3	RESEARCH QUESTIONS 2, 3 & 4	38
2.6	CONCLUSION OF LITERATURE REVIEW.....	39
2.6.1	RESEARCH QUESTION 1	39
2.6.2	RESEARCH QUESTION 2	40
2.6.3	RESEARCH QUESTION 3	40
2.6.4	RESEARCH QUESTION 4	40

CHAPTER 3. RESEARCH METHODOLOGY42

3.1	RESEARCH STRATEGY	42
3.2	RESEARCH DESIGN	44
3.3	RESEARCH PROCEDURE & METHODS	45
3.3.1	DATA COLLECTION INSTRUMENT	45
3.3.2	TARGET POPULATION & SAMPLING	47
3.3.3	ETHICAL CONSIDERATIONS	48
3.3.4	DATA COLLECTION AND STORAGE	49
3.3.5	DATA PROCESSING & ANALYSIS	49
3.3.6	DESCRIPTION OF RESPONDENTS.....	50
3.3.7	RELIABILITY & VALIDITY	50
3.3.8	LIMITATIONS	52

CHAPTER 4. PRESENTATION OF RESULTS.....53

4.1	INTRODUCTION	53
4.2	EXTENT TO WHICH SA SMES HAVE IMPLEMENTED INNOVATION	54
4.2.1	INNOVATION IMPLEMENTATION	54
4.2.2	INNOVATION IDEAS DERIVED FROM OTHER EXISTING MODELS.....	55
4.2.3	NEW INNOVATIVE IDEAS.....	57
4.3	FACTORS WHICH ENHANCE INNOVATION IN SA SMES	59
4.4	FACTORS WHICH LIMIT INNOVATION IN SA SMES.....	65
4.5	IMPACT OF INNOVATION WITHIN SA SMES	73
4.6	SUMMARY OF THE RESULTS	77

CHAPTER 5. ANALYSIS AND DISCUSSION OF THE RESULTS .79

5.1	INTRODUCTION	79
5.2	BRIEF CONTEXTUAL BACKGROUND	79
5.3	DIMENSIONS OF INNOVATION.....	80
5.4	TYPES OF INNOVATION	84
5.4.1	DISRUPTIVE INNOVATION.....	85
5.4.2	OPEN INNOVATION	88
5.5	COMPARISONS OF FINDINGS WITH PREVIOUS STUDIES	88
5.6	LINK BETWEEN INNOVATION AND ENTREPRENEURSHIP	89
5.7	DETERMINANTS OF INNOVATION	91
5.8	OBSTACLES TO INNOVATION	94
5.9	EFFECTS OF INNOVATION.....	97
5.10	CONCLUSION.....	98

CHAPTER 6. CONCLUSIONS & RECOMMENDATIONS	100
6.1 INTRODUCTION	100
6.2 CONCLUSIONS OF THE STUDY	100
6.3 RECOMMENDATIONS	102
6.4 SUGGESTIONS FOR FURTHER RESEARCH	104
REFERENCES.....	106
APPENDIX A: Interview Schedule/ guide	113
APPENDIX B: Table of respondents' results on innovation implementation.....	114
APPENDIX C: The impacts of innovation in SMEs.....	115

LIST OF TABLES

Table 1: A comparison of innovation barriers..... 37

Table 2: The dimensions of innovation (application to findings)..... 81

Table 3: The dimensions of innovation (application to findings), continued. 82

Table 4: Linking entrepreneurship with innovation. 83

LIST OF FIGURES

Figure 1; Motivation for early-stage entrepreneurial activity in the GEM Economies in 2011, by region	12
Figure 2: A Framework of organisational innovation	18
Figure 3: Types of innovation typologies.....	23
Figure 4: SME Challenges and opportunities for Open Innovation.	24
Figure 5: A model of the entrepreneurial process.	27
Figure 6: Linking entrepreneurship with innovation.....	28

CHAPTER 1. INTRODUCTION

1.1 Context of the study

Innovation and entrepreneurship is fast becoming an area of interest in many economies. Hasan & Harris (2009) has explored the topic of entrepreneurship and innovation within the e-commerce industry in Australia. These same authors centred their study on the entrepreneur paradigm, highlighting the close links between entrepreneurship and innovation. They maintained that innovation cannot be separated from entrepreneurship and these two concepts work interchangeably. On the other hand, Pretorius and Millard (2005) concur by stating that these two terms are interdependent, evidence being that most of the successful business ventures are usually the ones that significantly innovate. It is in this regard that this study will factor in such considerations in order to establish this relationship in practical and real scenarios (business ventures in South Africa which are owned by entrepreneurs).

According to the Global Entrepreneur Monitor (2013), South Africa has the lowest number of entrepreneurs when compared to other African countries. For instance, the same source states that South Africa's Total Entrepreneurial Activity (TEA) is lower than that of the other sub-Saharan countries. Of these, there are few that have successful business ventures. South Africa's entrepreneurial discontinuance rate was 4.9% in 2013 and the pipeline for potential youths with entrepreneurial capability is 25%. This is a very low figure when compared to other sub-Saharan countries which all have an average of 60% (GEM, 2014).

There is a need to understand which of the South African business ventures are created from unique / innovative ideas. The Entrepreneur dialogues (2013) indicated a number of South African entrepreneurs would rather "emulate" ideas that have been tried and tested than to venture into their own new ideas when starting their own ventures. This often leads to business failure.

In a study conducted by Perez-Luno, Wiklund and Carera (2010), innovation generation and adoption was analysed using a sample of innovative firms in Spain. The results showed that 39% of the firms used both methods; 7% generated their own innovative ideas and 54% were using adopted innovations. However, it is important to note that this was not in the South African context, hence the importance of this study in order to ascertain these measures in a sample of new business ventures.

Figure 1; Motivation for early-stage entrepreneurial activity in the GEM Economies in 2011, by region

<i>Region and economies</i>		<i>Early-stage entrepreneurial activity (TEA) (% of adult population)</i>	<i>Necessity-driven (% of TEA)</i>	<i>Opportunity-driven (% of TEA)</i>	<i>Improvement-driven opportunity (% of TEA)</i>	<i>Motivational index[±]</i>
Africa	Angola	21.5	24.5	72.1	43.4	1.8
	Botswana	32.8	30.3	67.2	54.7	1.8
	Burkina Faso	21.7	22.3	75.3	52.8	2.4
	Cameroon	37.4	33.5	59.2	40.5	1.2
	South Africa	7.0	28.2	71.3	35.5	1.3
	Uganda	35.5	18.9	80.8	54.3	2.9
	Average (unweighted)	26.0	26.3	71.0	46.9	1.8

Source: GEM (2014)

Table 1. shows that there is 7% early stage entrepreneurial activity (which is way below average when compared to the rest of Africa). On the other hand 35.5% of the motivation is improvement driven opportunity (which is also below the weighted average of 46.9%). Looking at this data, it is then important to understand if this might have an impact on the entrepreneurial innovativeness in new business ventures. The results of this study can be used to determine the level of innovativeness of South African entrepreneurs and also determine how they compare to the rest of the world (global competitiveness profile). In addition, this information can be used to improve government policies and strategies on Small Medium Enterprise support.

1.2 Problem statement

1.2.1 Main problem

The intention of this research is to investigate innovation in South African Small Medium Enterprises (SMEs). In addition, the research aims to analyse the SME barriers to innovation.

1.2.2 Sub-problems

- To investigate the level of innovativeness within the SA SMEs
- To analyse factors that increase innovation in the SA SMEs.
- To analyse factors that inhibit innovation in the SA SMEs.
- To identify and describe potential impacts of innovation within the South African new business ventures.

1.3 Purpose of the Study

The research will analyse the level of entrepreneurs' innovativeness in South African new business ventures. The research is also focused on understanding the potential impacts of innovation and determines the factors which increase and inhibit innovation within SA SMEs.

1.4 Significance of the study

Even though there has been research in Spain and other countries about the link between innovation and entrepreneurship in small business ventures (Hasan & Harris 2009), there has been minimal research done in the South African context. Therefore, this study will attempt to close this gap by providing more literature on the topic. Some aspects that contribute to the significance of this study are as follows:

- South Africa's level of innovativeness and entrepreneurialism is still lagging behind when compared to other sub-Saharan countries; therefore this study might be

beneficial in adding more context to this situation and also showing the validity of this aspect (GEM, 2013).

- It is important to understand how innovation (or lack of it) might lead to success or failure of a new business venture.
- Government agencies such as the Small Enterprise Development Agency (SEDA) might benefit from this study as they aim to improve the level of innovation and entrepreneurship for small business development.
- South Africa still has a huge gap in entrepreneurial development, with most entrepreneurs being necessity driven and less being opportunity driven (GEM 2013). Therefore, an understanding of the levels of innovativeness might assist in identifying the impact of these concepts in the South African context.
- Funding entities such as the IDC might also find this study beneficial as a guide when evaluating funding applicants.
- The study could assist in innovation and entrepreneurship policy formulation and implementation in South Africa.
- Government departments such as the Ministry of Small business and entrepreneurship might benefit from the research findings and insights uncovered.
- There has been increased focus on start up and entrepreneurship incubators aimed at giving support to small businesses and entrepreneurs. These incubators could find value in the findings of this research for decision making purposes.
- Entrepreneurship is fast becoming one of the key modules in business schools. The rationale for such is that there is a concerted effort to improve the learners' entrepreneurial skills in order to improve self-employment. As a result, academics and potential entrepreneurs could derive some insights from the research findings.
- Researchers might find some of the research results beneficial to add to the body of knowledge and further broaden the literature on this topic.

1.5 Delimitations of the study

- The study only focussed on successful small to medium enterprises (owned by entrepreneurs), therefore, the results cannot be used to generalise to big South African corporate companies.
- The study focussed on businesses that have been running for less than 10 years.

- The study only considered small businesses that are South African owned.
- A qualitative method of research was utilised, therefore, the study did not incorporate any quantitative methods.
- Even though there is a considerable amount of entrepreneurs in the informal sector, this study was only centred on the formal sector entrepreneurs only.
- The study did not factor in aspects such as race, gender of the participants. Therefore, a generic approach was adopted.

1.6 Definition of terms

- **Innovation** – Successful implementation of creative ideas (Brazeal and Herbert 1999).
- **Entrepreneurial Orientation** – Refers to the strategy making practices that provide organisations to launch new ventures (Dess and Lumpkin 2005).
- **Total Early-Stage Entrepreneurial Activity** – refers to the total of the population which is about to start a business or those who have been running businesses for more than 3 years (Global Entrepreneur Monitor 2013).
- **Discontinuance rate** – The level at which someone opts to stop a process.

1.7 Assumptions

- The entrepreneurs / business owners will be willing to share the information about their businesses.
- The SME owners (entrepreneurs) will be quite clear on the motivations behind their ideas or rationale to start businesses.
- Participants will be in a position to understand the entrepreneurial concepts such as idea generation, innovation, and disruptive innovation.
- The participants of this study will not be sceptical about providing information for this study as they will provide the information anonymously.
- There might be a level of innovativeness in idea generation and implementation (since literature review has shown that these terms are interdependent).

The following sections will look at the literature review (this includes previous studies that have been done on this topic, innovation best practices and models, determinants and barriers of innovation, South African policies that support SMEs and innovation). The subsequent sections will discuss the research methodology. This includes the sampling techniques, research instruments, ethical considerations, validity and reliability.

CHAPTER 2. LITERATURE REVIEW

2.1 Introduction

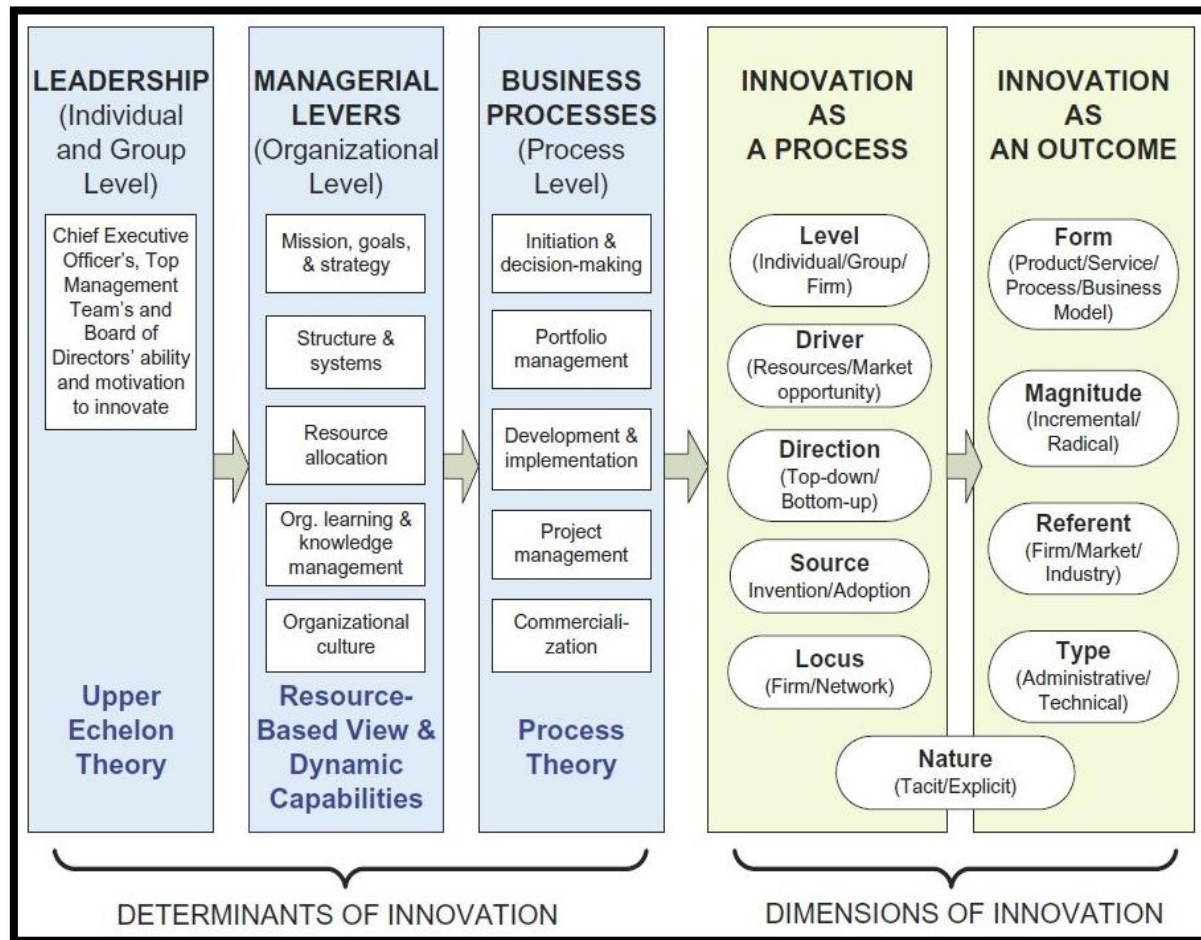
Various scholars globally have investigated the relationship between innovation and entrepreneurship in Small Medium enterprises. However, there is minimal research that has been done in the South African context. It is thus imperative for one to understand the concepts, background information, as well as other factors that are associated with innovation and entrepreneurship in SMEs. Therefore, the following section shall look at some background to this topic, key innovation concepts and frameworks, and the importance of context in innovation. Lastly, this section will identify and explain the factors that increase and inhibit innovation.

2.2 Definition of topic & background discussion

Crossan and Apaydin (2010) define innovation as production, adoption, assimilation, and exploitation of value added novelty in economic and social spheres, renewal, and enlargement of products, services and markets, development of new methods of production, and the establishment of new systems (p. 1155). This definition explains innovation as a process as well as an outcome. It also further explains innovation as something that can be developed internally (within a company) or something that could be “adopted” from other external sources. These authors also indicate that innovation can be classified into various categories which include innovation leadership, innovation as an outcome, and innovation as a process.

The diagram below is a depiction of the determinants of innovation as well as the dimensions of innovation.

Figure 2: A Framework of organisational innovation



Source: Crossan & Apaydin (2009).

The determinants of innovation are tools that can be used to analyse innovation at various levels within an organisation. This incorporates the individual, organisational, and process levels (Crossan and Apaydin, 2010). On the other hand, the same authors state that the 10 dimensions explain innovation as an outcome and innovation as a process. Innovation as a process can either be a source or driver dimension. The internal driver pertains to the knowledge or resources allocated to the innovation process. On the other hand, the driver could be anything external which includes competition, market opportunity, and regulations.

2.2.1 Dimensions on innovation

Dimensions that are associated with innovation as an outcome include referent, form, magnitude, nature, and type. According to Croissan and Apaydin (2004), the referent dimension “establishes the benchmark which defines the newness of innovation as an outcome” (p. 1167). This could be an idea that is new to the industry or to the firm. There are 3 aspects which are associated with the form dimension; these are process innovation, service innovation and product innovation. The magnitude dimension is mainly centred on the originality and “degree of newness” of a certain idea. This is often associated with incremental or radical innovation (Gopalakrishnan and Damanpour, 1997). It is from this angle that other terms such as disruptive innovation tend to surface.

With regards to the type dimension, Gopalakrishnan and Damanpour (1997) state that this is mainly concerned with the technical and administrative aspects of innovation. The technical aspects of innovation could be products, process, or technology. On the other hand, the administrative innovation aspects are mainly centred on human resources, organisational structure, and the administrative processes within a company.

Croissan and Apaydin (2004) bring another important point with regard to the influence of managerial levers on innovation. They define these as firm-level variables which support innovation. The five types of these levers are: goals / mission / strategies, the company structure and systems, company culture and knowledge management tools. These levers each play a role in influencing innovation within an organisation. To elaborate, Tipping and Zefran (1995) state that an explicit innovation strategy assists in linking the company’s innovation goals and the strategic goals.

In this way, innovation can be embedded in the core of the company’s day to day activities. The resource allocation can determine how much of the financial and human resources need to be channelled towards the innovation process. On the other hand, knowledge management assists in ensuring that idea generation as well as innovation systems are documented for future references. Lastly, through culture, an organisation’s leadership can be in a position to create an enabling environment, encourage taking risks and trying new ideas (Croissan and Apaydin, 2004).

The following is a theoretical framework on the dimensions of innovation, formulated by Damanpour and Gopalakrishnan (1997). This model was later expanded by Crossan and Apaydin (2009) to incorporate other aspects of innovation analysis.

1. **The level of analysis** – this could be industry specific, company specific, or at Business unit level.
2. **The stage of innovation process** – this could be at ideation, product development, process improvement, idea commercialization, or problem solving level (Wang & Ahmed, 2004).
3. **Types of innovation:** This category incorporates aspects such as radical or incremental innovation, product or process innovation, and administrative / technical innovation. These all demonstrate what can be referred to as the magnitude dimension. Radical innovation may be associated with what is happening outside the firm (externally within the industry).

2.2.2 Determinants of innovation.

Even though Croissan and Apaydin (2004) gave the individual, organisational and process level analysis as determinants of innovation, other scholars have also added to this topic. Additional information on the determinants of innovation is outlined below.

Portfolio management: This is mainly focussed on the Return on Investment and risk. Such can be achieved through effective strategic management of resources that “govern project selection as well as the future shape of the organisation”. Cooper et al. (1999, p. 1173)

Development and implementation: It incorporates the idea modification, adjustments, trials as well as the actual roll out (Bessant, 2003).

Project management: mainly deals with the process of transforming the inputs or ideas into actual innovation deliverables. Bessant (2003) states that this includes the utilization of tools such as problem solving cycles.

Commercialization and marketing: This involves ensuring that all the innovation activities are turned into commercial value.

Even though this is one of the important parts of the innovation lifecycle, Adams et al. (2006) argues that this is an area that is often given to external specialists.

There are various factors that have contributed to the importance of innovation within the SMEs sector. For instance, we live in a world where technology is growing fast, consumer preferences are changing on a day to day basis and customer demands are changing rapidly (Ndabeni, 2012). Thus it is imperative that SMEs keep abreast with such changes through innovating their business models in order to sustain their businesses and improve competitive edge (Madrid-Guijarro, Garcia & Van Auken, 2009). Globally, organisations (whether small or large) are constantly innovating their product or service offerings due to technological changes as well as global competitiveness. Looking at the South African context, innovation in the SMEs sector has a potential to generate employment and increase endogenous growth in the economy (Ndabeni, 2012). Endogenous growth can be defined as a long run situation whereby the growth in the economy will be driven by factors emanating from the technological knowledge (Maré, 2004).

Hausman (2004) raises a valid point by posing a question probing how SMEs can be expected to be innovative considering that they usually have limited resources and minimal market influence. The answer to this question could be attributed to the point that there is a close relationship between managers and customers in small businesses. This helps the SMEs to react quickly to customer needs and market demands (Hausman, 2004). The same author states that firm innovation can be translated to the owner / manager innovativeness because of the power and decisions being controlled by the owners.

Schumpeter (1940) was one of the key theorists on innovation and entrepreneurship. His theory portrays innovation as the “central feature of economic development” (Sweezy, 1943, p.96). In addition, this innovation often creates “gales of creative destruction” (Sledzik, 2013). This is synonymous with current theories on disruptive innovation therefore, making some parts of Schumpeter’s theory valid in the present day. In his definition of an entrepreneur, Schumpeter directly linked the entrepreneur with innovation. For instance, the entrepreneur’s function was portrayed as reforming and revolutionising patterns of production by exploiting inventions and untried technological possibilities (Sledzik, 2013).

The later version of Schumpeter's theory suggested that innovation is mostly linked to large firms. This was a huge shift from the earlier theory which linked innovation more to entrepreneurs. However, there are other theories that have yielded a different understanding of the area of innovation and entrepreneurship. For instance, Audretsch and Feldman (2003), states that SMEs are instrumental in driving innovation within some industries. Contrary to some parts of Schumpeter's theory, there has been more focus on the relationship between innovation and small businesses internationally. Even though this is the case, there has been minimal research which focuses on the South African context with the exception of Booyens (2011), Ndabeni (2012) and Moses et.al. (2012).

In as much as SMES are characterised by their ability to quickly react to changes in market conditions, Carayannis, Popescu, Sipp and Stewart (2006) argue that the SMEs still lag behind in terms of product innovation as well as technology adoption. Hossain (2015) mentions that SMEs need to ensure that their strategy is aligned to the absorptive and desorptive capacities. Absorptive capacities refer to the firm's ability to sense, apply, and utilise newly acquired knowledge, whilst desorptive capacities refers to firm's capability to utilise / exploit external knowledge (Lichtenthaler, 2007).

2.3 Key innovation concepts

2.3.1 Types of innovation, models and best practices

It is imperative to understand the types of innovation, and some of the best practices that are applicable to this topic in order to get a comprehensive understanding of the topic. There are four categories that most scholars seem to agree are the main differentiators of innovation.

These are:

- **Product innovation:** Under this type of innovation, two distinctive subcategories can be drawn out, these are incremental and radical innovation. Incremental innovation is an extension of existing current products / portfolios. On the other hand, radical product innovation involves the creation of new products that do not exist in the market (Radas & Božić, 2009).

- **Business model innovation:** this involves changes that could be made in the business' structure, competitive advantage, value proposition, and the position of the firm in linking suppliers and customers (Chesbrough, 2010).
- **Process / incremental innovation:** Refers to the “improved tools, materials, equipment and other technologies that directly affect how the innovating firm produces goods” (Bogers, 2009, p.7)

The above mentioned types on innovation are underpinned by different innovation typologies and strategies. Some of the well-known typologies include Freeman (1978), who classified innovation strategies in six subdivisions namely: offensive, dependent, traditional, opportunistic, imitative, and defensive innovation strategies. The typology was more aligned to the speed at which organisations entered into the technological space (Hadjimanolis & Dickson, 2000).

The same authors mention the proactive / reactive, follower / leader typologies which can be adopted for innovation. Other types of typologies applicable to the innovation process are summarised on the table below:

Figure 3: Types of innovation typologies

Typology	Author
Prospectors, defenders, analysers, reactors	Miles & Snow (1978)
Entrepreneurial innovators and conservative innovators	Miller & Friesen (1984)
Proactive and reactive strategies	Urban & Hauser (1980).

Source: Hadjimanolis & Dickson (2000).

Looking at the above theoretical concepts and applying them to South Africa, evidence indicates that there has been a fairly high innovation rate within SMEs. For instance Moses et al. (2012) gave a summarised version of the findings on the state of innovation in South Africa as presented in the South African National Innovation Survey. The results indicated that from a sample of 4000 enterprises, 65.4% engaged in some innovation activities, and 34.6% were not innovative. Of these, 4.4% indicated that their innovations were not only

new to the South African market but new to the world. However, it is important to note that this data included both the big corporate companies and SMEs. Therefore, a gap in literature exists which will focus more on the SMEs' innovativeness.

2.3.1.1 Open Innovation

Open innovation can be defined as “the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively” (Chesbrough, 2005, p. 2). In other words, an organisation needs to use its internal systems together with external technologies in order to create value and enhance its competitive advantage.

Hossain (2015) closely looked at how much research has been conducted on open innovation in small and medium-sized enterprises. The results of this study revealed that there was minimal research that was done in this field. The same author demonstrates that there is a need for policy that will assist SMEs to adopt and implement open innovation. As noted by Gassman and Chesbrough (2010), SMEs are gradually seeing the need to implement open innovation as a way of increasing profitability although this is still at a small scale when compared to the large corporations. Bianchi et al. states that implementing open innovation in SMEs is a huge challenge because of their lack of financial resources and lack of specialised knowledge. More of these challenges are depicted in the table below:

Figure 4: SME Challenges and opportunities for Open Innovation.

Challenges	Opportunities
Limited market influence	Entrepreneurial capabilities
Less systematic management capability	Business specialization
Lower standing as innovation partner	Less bureaucracy, leading to fast decision making and flexibility
High costs of securing IP	High value in personal networks

Source: Bianchi et al. (2010).

2.3.1.2 Disruptive innovation

When exploring the topic of innovation in entrepreneurship, one cannot ignore the concept of disruptive innovation. This is a concept that has been explored by various scholars as it forms a huge element in the area of innovation. As stated earlier on in this paper, entrepreneurs can either establish their businesses from new ideas in the market or emulate other business models. For those that choose to begin with new ideas, then the opportunity to introduce disruptive innovation is huge. New ideas or technologies can result in new waves or habits being introduced in the market. It is therefore imperative to get a good understanding of the meaning of this concept.

Disruptive innovation can be defined as “a technology, product, or process that creeps up from an existing business and threatens to replace it” (Thormond, Herzerg & Lettice, 2003, p.63). Another definition by Hamel (2000) states that disruptive innovations are services, products, or processes that have been successfully exploited hence allowing the organisations to drastically change the competitive rules, creating new trends in demand. Christensen and Raynor (2003) make it clear that disruptive innovation is not a once off process but rather an ongoing process. Forces of disruption can work within the industry for a long period of time (gradually changing the way things are done, customer mind-sets and consumer preferences).

The main features of disruptive innovation have been summarised as simplicity, unexpected replacement of processes / technology and affordability. From the above definitions, Thormond et al. expanded by giving four conceptual frameworks for disruptive innovation. These frameworks work in a sequence in order to achieve disruptive innovation and they are as follows:

- **Opportunity recognition:** This is comprised of actions that are meant to generate ideas that will be then translated to action plans. In this way, ideas can then be translated into radical innovation or disruptive innovation.
- **Opportunity development:** This is derived from opportunity recognition and mainly centred on the refining of an idea in order to create a credible business case with potential to be a disruptive innovation.

- **Solution development:** This is subsequent to the opportunity development, focussing on the selection of compelling business cases and the selection of long-term action plans that support disruptive innovation
- **Exploitation:** This stage involves the selection of marketing channels, distribution methods as well as making long term investment decisions in order to achieve the required disruption.

An effective implementation of the above-mentioned conceptual framework might lead to a successful disruptive innovation. However, even though disruptive innovation might be a suitable starting point for entrepreneurs with new business ideas, it is worth pointing out that it does come with various barriers. For instance, if the idea generation is not refined appropriately and there is minimal research on the idea, then this might pose a huge risk / barrier. Thormond et al. (2003) adds other barriers such as lack of funding for the disruptive technology ideas, insufficient industry advice, reliance on customer perceptions for disruptive innovation ideas, and inability to challenge the innovation status quo.

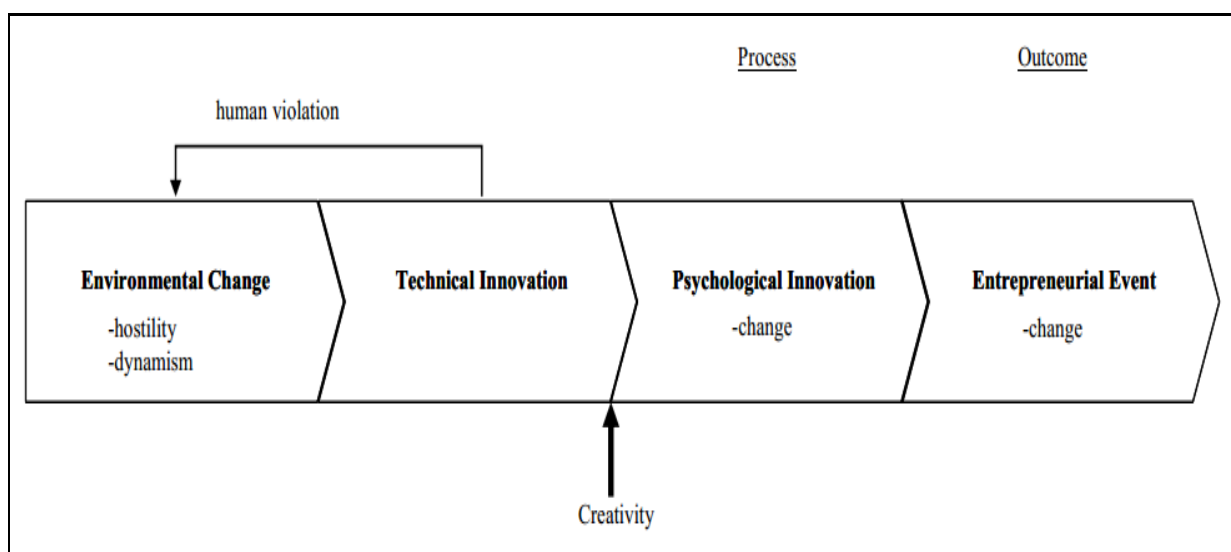
Markides (2006) argues that the concept of disruptive innovation has somewhat been defined in different ways resulting in confusion as to what exactly constitutes the main definition. He elaborates this point by stating that a disruptive technological innovation has major differences to a disruptive business model innovation and a disruptive product innovation. These innovations all arise from different circumstances and they have varying competitive advantage effects. Therefore, they cannot be grouped into one category (under the same definition).

Radical innovations are disruptive in nature. The rationale behind this reasoning is that radical innovations “introduce products and value propositions that disturb prevailing consumer habits and behaviours in a major way”. (Markides, 2006, p. 22). It is also worth pointing out that these types of innovations may disrupt the customer / consumer habits as well as the producers, hence they are hardly influenced by demand factors. In summary this author’s deduction is that radical innovation can take various forms which include technological changes, product innovations, as well as business model innovations.

2.3.1.3 Models of innovation

Various scholars have explored the linkages between innovation and entrepreneurship and conclusively formulated different models that support this topic. The model below is a depiction of the entrepreneurial process and how it ties up with innovation. As stated by Brem (2011), this portrays how innovation and entrepreneurship are complimentary of each other, as “innovation is the source of entrepreneurship, and entrepreneurship allows innovation to flourish” (p.13).

Figure 5: A model of the entrepreneurial process.



Source: Brazeal and Herbert (2000).

The model below is a depiction of how entrepreneurship links with innovation. In this model, McFadzean et al. (2005) attempts to demonstrate how an organisation’s performance could be determined by its entrepreneurial capabilities as well as innovativeness. This is also achieved through a combination of external / internal variables and the entrepreneur’s attitudes and actions.

Innovation process

Current state of technical knowledge
Current economic and social environment

Idea generation

- Regognition of a need
- Idea formulation

Problem solving

- Design and evaluate
- Prototype solutions

Implementation and diffusion

- Commercial development
- Manufacturing and marketing

Time

Relationships

Dynamics

Relationships

Attitudes, vision and actions

Strategic variables

- Mission strategy
- Business practices
- Competitive tactics

External variables

- Technological sophistication
- Industry lifecycle
- Competition

Internal variables

- Entrepreneurial descriptors
- Precipitating factors
- Management factors
- Venture-specific factors

(Corporate) Entrepreneur

Firm performance

- Value creation
- Profits/benefits
- Revenue growth
- New products, services or processes

2.3.2 The importance of context in entrepreneurial innovation

- 28 -

On the opposite end, self-employment rates seem to be lower in the developed countries, and the “aggregate contributions of entrepreneurs to innovation are very high”. Such a trend is a typical example of how context can play a role within entrepreneurship and innovation. Some of the contexts which are relevant to this topic as mentioned by Autio et al. (2003) are technological and industry context, organizational and social contexts, as well as institutional and policy contexts. All these different contexts are interdependent and play a role in influencing / driving entrepreneurship and innovation. It is worth noting that even though these contexts might be applicable to large organizations, a number of them will also be applicable to small to medium enterprises. For instance, some SMEs tend to exploit new technologies in order to drive their new businesses. This has been the instance with the introduction of social networks (which have become one of the major platforms for marketing and information dissemination within the SMEs).

In support of the above-mentioned on context, Rosenbusch, Brinckmann and Bausch (2009) concur that innovation can also be influenced by the resource / input allocations, innovation orientation that has been adopted by the entrepreneur, and a focus on the innovation outputs. However, excessive resource allocation to an innovation idea without capabilities to turn these into viable offerings could have an adverse impact on the venture performance. SMEs with a strong approach towards innovation orientation are able to transform ideas into innovative offerings. Therefore, Rosenbusch et al. (2009) concluded that it is important for SMEs to not only focus on the development of an innovative product but rather to take a holistic strategic approach towards innovation orientation. This will lead to an effective allocation of resources, creation of ambitious goals and also nurture a long-term sustainable innovation culture.

2.3.3 Business Model innovation & firm performance

Effort has been made by scholars to address the connection between innovation and firm performance. As such, different scholars have come up with various conclusions. For instance, Mone et al. (2003) states that a firm’s innovation capability can be used as a determinant of that firm’s performance. In line with the above-mentioned, Zott and Amit (2007) explored the relationship between business model design and firm performance. The results of this study confirmed that business model design does contribute to the firm’s success (especially when it used as an independent variable).

The similar authors then concluded that the key elements of business model innovation are efficiency, lock-in complementarities, and novelty. However, when looking at new businesses or entrepreneurial ventures, a slightly different picture seems to exist. Shirky (2008) differs to the above sentiments by stating that new business ventures which tend to be successful are those that do not have a “perfect business model template” but those which allow for flexibility that enables the entrepreneur to adjust and change when the situation allows.

In relation to the above point, Andries and Debackere (2007) demonstrate that business models modification and creation should be in line with the company’s lifecycle evolution. Therefore, business models in entrepreneurial ventures cannot be a once off event or formulation but rather an ongoing process, fine-tuned with time in order to meet the changing market needs. This is also referred to as the push and pulls approach (Teece, 2010). The benefit of this approach is that entrepreneurs can be in a position to anticipate possible problems before they occur, and also be in a position to project future scenarios (Delmar & Shane, 2003). Anthony (2012) concurs with this point by stating that present day innovation does not only focus on the product or service, but it extends to the business model.

On the other hand, business models can also represent another form of innovation. This can be achieved through the introduction of new processes without necessarily changing the product or services that a firm offers. In addition, business models can also be the drivers in disruptive innovation whereby firms formulate cutting edge ideas in order to remain market leaders (Christensen, 1999). According to Markides (2006), for a business model to qualify as an innovation, there must be substantial economic value derived from it. In other words, the business model must create additional demand or enlarge the customer base within the chosen target market.

All the above-mentioned points demonstrate that business models play a vital role in innovation and entrepreneurship (either in the idea generation process) or in the idea change stages. George and Bock (2011) sum it up by mentioning that “business models represent a unique opportunity to unlock the entrepreneurial process, evaluate the firm configuration effects, and describe and forecast the entrepreneurial outcomes (p. 461).

Chesbrough (2010) brings an interesting point when he links technology / innovation with a business model. This author states that even though an idea might be good, it has to be supported by an effective and suitable business model. Some barriers to business model innovation often emanate from the challenge of maintaining the current technology at the same time ensuring that a company can exploit the emerging technology.

2.4 Previous research on innovation and entrepreneurship

Kropp, Fredric, Shoham (2006) conducted a study that examined interrelationships that exist between entrepreneurial learning, market orientations and international entrepreneurial business venture performance (IEBV). From a sample size of 396 entrepreneurs, results showed that innovativeness was closely related to the performance of IEBVs. In addition, the results of the study also showed that IEBVs that apply innovative concepts as part of their strategy tend to perform better than those which practise less innovation. These results are consistent with another study which was conducted by Purcarea, et al. (2013). These authors explored the SMEs approach to learning and innovation in a Romanian context. From a sample of 161 Romanian SMEs, their findings demonstrated that SMEs innovate in areas that are in line with their business models and strategic direction. It is from such results that the authors then recommended that there should be on-going programs aimed at improving innovation in different industries.

Anokhin and Wincent (2012) conducted a study to prove that there is no positive relationship between innovation and start up rates – contrary to what has been attested by early scholars. The data used for this study was collected from 35 countries from 1996 to 2002. These authors maintain that the relationship between innovation and entrepreneurship has not been tested directly, rather, the relationship between innovation and entrepreneurship is dependent on the country's stage of development. To elaborate, these authors stated that observations from developed countries such as the United States cannot be generalised to the developing nations. The rationale for these differences is based on the fact that innovation opportunities differ across the developed and the developing countries. Entrepreneurs in less developed countries tend to pursue low quality opportunities (necessity based) which seldom bring innovation advances. The situation in the developed countries paints a different picture as entrepreneurs tend to pursue

opportunities that have high innovation growth potential (Shane, 2009, Anokhin and Wincent, 2012). These findings are in congruence with previous studies done by Wong and Autio (2005). These authors concluded that there was no “collinearity between innovation and new business creation” (p. 345).

Radas and Božić (2009) concur and expand on the above mentioned points. They state that generalizations cannot be made in the relationship between entrepreneurs and innovation because of the complexities that are presented by different industry sectors and geographical locations. As a precaution to counter this phenomenon these authors advise that policy makers in developing countries should desist from using generalisations that are attributed to the developed countries. This could be detrimental to the policies formulated.

Studies conducted to investigate the implementation of innovation in SMEs seemingly present a wide range of contrary conclusions. The existence of varying / differing conclusions on this topic presents an opportunity for further exploratory studies in order to determine the context and other variables that might be leading to such results. For instance, Massa and Testa (2008) conducted a study to demonstrate whether Italian entrepreneurs were drivers of radical innovation. The outcomes of this research showed a vast misalignment between the entrepreneurs' views and the available institutional data. There was no consensus on the policies that support innovation. In addition, there was a huge demonstration of paradoxical views amongst the key stakeholders who were part of this research, i.e. the entrepreneurs, policy makers, and academics (Massa & Testa, 2008). This study demonstrates the importance of stakeholder engagement and alignment especially on the policies that are meant to support innovation in SMEs.

Having looked at the International context, the following section looks at studies of a similar nature which have been done in the African context. Robson, Haugh, and Obeng (2009) used data from 496 entrepreneurs in Ghana – to analyse seven different types of innovations against three categorical variables. The results demonstrated that Ghanaian entrepreneurs have attempted to innovate their products and services, hence benefiting from this process. Another interesting revelation was that the entrepreneurs' level of education had an impact on the level of their innovativeness. These authors also revealed that larger firms tend to have an advantage and upper hand when it comes to innovation when compared to smaller firms. This is attributed to larger firms having better resources.

Mahemba and Bruijn, (2003) conducted a study to explore and establish SME innovative activities and their relationships with performance in Tanzania (specifically in the manufacturing sector). This study used some of the following measurements as innovation indicators (over a three year period):

- Knowledge and technological information
- Knowledge and skills
- Growth performance
- Characteristics and capabilities
- External relationships and nature of the market. (Mahemba & Bruijn, 2003)

The results of this study demonstrated that a large number of Tanzanian SMEs tend to implement incremental innovation on products produced by other firms because of their customer demands. Therefore, there was evidence of radical innovation amongst these SMEs. It is important to note that this innovation was achieved albeit the low level of market competition that exists in this country. In addition, Mahemba and Bruijn (2003) state that this innovation was achieved without any government support or help from universities, but from other enterprises as well as and customers. The above information therefore, presents an interesting phenomenon as far as these two variables are concerned. The evidence on linkages appears to be prevalent, and this needs to be explored further.

2.4.1 *The knowledge gap*

Even though there have been various studies conducted on this topic internationally and in the African context, there are some gaps in literature which need further exploration. This forms the knowledge gap which partly guided this research. For instance, most of these studies looked at the relationship between innovation and entrepreneurship in SMEs. However, in most instances, these were conducted in one sector and lack the cross sector information. This renders the results not representative across the other sectors. With the exception of Ghana and Tanzania, most of the studies were conducted in the developed countries. In this case, the results might not be applicable to South Africa as a developing nation. It also worth noting that some of these studies did not incorporate factors such as determinants of innovation, and the challenges being faced by SMEs in these countries when it comes to innovation. Therefore, this research aims to close these knowledge gaps.

From the studies conducted in other countries, there are methodologies and theoretical frameworks that will be replicated as a guide to this research. For instance, Robson et al. (2008) went a further step to review the Ghanaian context of entrepreneurship and innovation. They looked at Ghana's historical development of small business and entrepreneurship and how this informed the current state of innovation in that country. This is one approach which will be looked at in relation to the South African context so as to better understand the challenges faced by the SMEs when taking the country's historical context into consideration.

From the study conducted by Mahemba and De Bruijn (2003), some useful models and frameworks were applied and will be utilised for this research. These models and theoretical frameworks are as follows:

- ***Innovation and its adoption process:*** This theoretical framework looks at the key innovation activities (the process), the results / impacts of innovation, and “the extent to which innovation is new” (Mahemba & De Bruijn, 2003). A similar approach also looks at the influence of the external environment on innovation generation or adoption. Therefore, this framework will be adopted in this research as some of the mentioned concepts can act as a guide to probe for answers to the research questions.
- ***Model of innovation activities of SMEs:*** This model was formulated to look at the existing entrepreneurial characteristics and capabilities, and how these can influence innovativeness (Mahemba & De Bruijn, 2003). In addition, the model also incorporates factors such as the size of the market, knowledge and technological information. Such a model will assist in the analysis of the innovative activities within the South African SMEs.

Looking at the above theoretical concepts and applying them to South Africa, evidence indicates that there has been a fairly high innovation rate within South African companies. For instance Moses et al. (2012) gave a summarised version of the findings on the state of innovation in South Africa as presented in the South African National Innovation Survey. The results indicated that from a sample of 4000 enterprises, 65.4% engaged in some innovation activities, and 34.6% were not innovative. Of these, 4.4% indicated that their innovations were not only new to the South African market but new to the world.

However, it is important to note that this data included both the big corporate as well as the SMEs. Caution must also be exercised as these figures were not presented in comparison to other countries.

2.4.2 Research Question 1

The research question below has been formulated to support sub-problem 1 on the implementation of innovation within the SMEs.

Research Question 1: To what extent have South African SMEs implemented innovation within their businesses?

2.5 Factors that boost or inhibit SME innovation

Various factors can increase an SME's capability to innovate and inversely some factors might inhibit innovation. This can be influenced by internal or external aspects within a given context. In other instances it could be a combination of both.

2.5.1 Factors that increase innovation

Booyens (2001) has indicated 6 factors that contribute to the firm's capability to innovate. These factors are as follows:

1. **Investment in research and development:** This aspect is of importance as it is the backbone of successful innovative SMEs. This is the process where most exploratory analysis and discoveries are made for the creation of new products or solutions. However, a study conducted by Pretorius and Oerlemans (2006) in the South African manufacturing sector, concluded that the R&D effort is minimal in such a way that it has little to no impact on innovation outcomes. In addition, there are limited human resource efforts allocated to Research and Development.
2. **Public support to private innovation:** There is high risk associated with new products, hence their inadequate commercialization. This has a spill over effect to the financial support that is channelled to innovation.

Nonetheless, a study by Pretorius and Oerlemans (2006) seems to dispute the relationship between innovation and innovation outcomes.

3. **Skilled labour:** A highly educated workforce is required for innovation to flourish. In this way, firms can then be in a position to generate new knowledge (Pretorius & Oerlemans, 2006). In support of this point, Audretsch and Fieldman (2003) mentioned technology as playing a vital role in facilitating innovation and also improving new ideas.
4. **Knowledge networks:** Transfer of knowledge is an important factor in innovation. Knowledge networks are mostly comprised of interrelations between creators, users, and producers. All these stakeholders work together in experimentation and information exchange, which in turn enhances innovation.
5. **Knowledge systems:** This includes the creation of an “appropriate incentives regime to correct market and institutional failures in capturing technological knowledge and learning, including policy planning for the economy’s long-term competitiveness” (Wolf, 2006 p.4).
6. **Creativity, internal determinants, and entrepreneurship:** Schumpeter’s theory states that entrepreneurship plays a very important role in innovation. Someone’s internal dynamics also plays a role in creativity and this enhances innovation. This point has been emphasized by Marcati et al. (2008) who states that there has been heightened focus on how psychological foundations, skills and knowledge influence innovation.

2.5.2 Barriers to innovation

Various scholars have discussed the SME innovation barriers especially in European countries. Amongst these, Cordeiro and Vieira (2012) are worth singling out as they did a comparative study amongst the different European countries and one African country (Uganda).

The general understanding from various authors seems to summarize innovation barriers across the government regulatory environment, economic and financial factors, as well as human resource constraints. Of these, the main categorizations seem to be internal and external barriers. Internal barriers are those that arise from within the company whilst the external barriers are those that are caused by the external environment (Cordeiro and Vieira, 2012).

The table below shows a country comparison of innovation barriers as stated by Cordeiro and Vieira (2012).

Table 1: A comparison of innovation barriers.

Country	Type of Barrier faced
South Africa	Lack of access to finance, rigid market structures, non-supportive regulatory environment, weak entrepreneurial culture, and skills shortages (Wolf, 2006; Herrington <i>et al.</i> , 2008).
Portugal	Organisational structures, absence of market leadership thinking, high risk associated with innovation government regulation and lack of innovation skills
Spain	External environment, cost implications, knowledge deficiency on technology, lack of demand for innovative ideas
United Kingdom	Risk aversion, poor market knowledge and difficulty in innovation timing
Germany	Cost implications, bureaucracy within SMEs, lack of strategic co-operation between enterprises,
Cyprus	Weak Research and development activities, lack of funding, government bureaucracy
Turkey	Inadequate policy support, lack of investment on innovation, skills shortages
Czech Republic	Long payback periods, lack of legislation support, low consumer response, fear of risk
Switzerland	Limited skills, regulatory (legal) restrictions, lack of support in innovation education
France	Lack of funding, resistance to innovation, low appetite for innovation from the consumer
Italy	High financial risk, scarcity in information technology, regulatory requirements
Brazil	Inadequate market access, risk in the human resource allocation
Uganda	Domestic market complications, non-supportive policies, bureaucratic regulatory requirements
Iran	Low funding on innovation - also linked to high costs in innovation initiatives, poor response to innovation by the consumer and skills shortage.

Source: Cordeiro and Vieira (2012).

From the table above, it can be noted that there are various similarities in innovation barriers across the different countries globally. Some of these are attributed to the regulatory environment and some of them emanate from internal organisational structures.

In the South African context, one of the key barriers to innovation is lack of policy support (Booyens, 2011). Even though there is evidence of talented entrepreneurs in the country, there isn't adequate legislation to nurture and support this talent. Even though there is a wide array of policies and additional initiatives aimed at growth and innovation in SMEs, there are various gaps that have been identified.

For instance, the Labour legislation hinders the success and innovation of SMEs because of complications in human resources processes (SME Growth Index, 2013). The same source also mentions the contradictions that are evident between the National Development Plan and the regulatory environment. For instance, there are 1.3million jobs that were cut by SMEs from 2013, this being a total contrast to the job creation ambitions of the NDP. These job cuts were attributed to the rigid labour laws. Other factors that are impediments to innovation in South Africa include a weakness in the national innovation system, a weak entrepreneurial culture and difficulties experienced by the SMEs when entering markets that are already dominated by large companies (Booyens, 2011).

2.5.3 Research Questions 2, 3 & 4

The research questions below have been formulated to support sub-problems 2, 3 & 4 on the factors that increase and limit innovation, as well as the impacts of innovation.

Research Question 2: What factors enhance innovation in the South African SMEs?

Research Question 3: What factors limit innovation in the South African SMEs?

Research Question 4: What are the impacts of innovation (or lack of it) on the overall success of South African SMEs?

2.6 Conclusion of Literature Review

The above sections have delved into the available literature on this topic. Innovation is a broad topic with different categories, typologies, and models which all contribute to best practices. Various SMEs and entrepreneurs can choose to implement any of the stated typologies in order to remain competitive and grow their businesses. Key concepts in this topic range from innovation dimensions, innovation types, frameworks, and models. Context is also important in innovation and entrepreneurship as it can act as a driver and set the scene for innovation and entrepreneurship. Innovation can be enhanced or limited by different aspects that range from internal organisational capabilities to external factors (out of organisation's control). Internally, factors such as skills shortages and resistance to innovate can hamper the rate at which an SME innovates. Externally, factors such as the market conditions, financial constraints, and labour law bureaucracy can cripple the innovation process (Cordeiro and Vieira, 2012).

The following section gives a summary of all the research questions as well as an indication of the literature applicable.

2.6.1 Research Question 1

To what extent have South African SMEs implemented innovation within their businesses?

This research question was prompted by the theory on types of innovation as indicated by these sources cited in the literature review: Radas & Božić (2009), Chesbrough (2010), Bogers, 2009). The aspects of disruptive innovation are mainly centred on the literature by Thormond, Herzerg & Lettice (2003) and Markides (2006). The country contextual aspects that form part of this research question are guided by the literature derived from Booyens (2011). Additional points on comparisons with other studies are linked to studies conducted by the following authors: (Robson et al., 2008; Mahemba & Debruijn, 2003; Kropp et al. 2006; Massa & Testa, 2008).

2.6.2 Research Question 2

What factors enhance innovation in South African SMEs?

The second research question is derived from the literature that deals with factors which increase innovation. As demonstrated in the literature review, these factors were discussed in detail by Wolf (2006), Pretorius & Oerlemans (2006), Booyens (2011) and Marcati et al. (2008). The determinants and dimensions of innovation were obtained from the literature by Croissan and Apaydin (2004). Additional points on the business model innovation and firm performance were derived from the following scholars cited in the literature review: (Andries and Debackere, 2007; Teece, 2010; Delmar & Shane, 2003; Anthony, 2012; Christensen, 1999; Markides, 2006; Chesbrough, 2010; George and Bock, (2011).

2.6.3 Research Question 3

What factors limit innovation in South African SMEs?

The research question was prompted by the literature presented by Herrington et.al (2008). The detailed country to country comparison of these barriers was presented by Cordeiro and Vieira, 2012).

2.6.4 Research Question 4

What are the impacts of innovation (or lack of it) on the overall success of the South African SMEs?

This research question was formulated from the literature presented by Ndabeni (2012) on the Small Medium and Micro Enterprises in South Africa's National System of Innovation. This was coupled with the findings from the South African National Innovation Survey as presented by Moses et.al. (2012). Additional points on the impacts of innovation were derived from the readings by Brem, (2011), McFadzean et al. (2005), Christensen and Raynor (2003).

The section above introduced the topic to be researched by outlining the relevant literature review. Various theories and frameworks relating to innovation and entrepreneurship were identified and explained. The knowledge gap which is resultant from the deficiencies in past studies was outlined. The section also showed factors that limit and enhance innovation within SMEs, as well as the impacts of innovation. The research problem, sub-problems as well research questions were formulated. The following section will discuss the research methodology which was adopted for this study. This was a 10 point methodology consisting of the research strategy, research design, data collection instrument, target population and sampling, ethical considerations and data collection procedure. Other aspects include data processing and analysis, description of respondents, reliability and validity as well as the limitations of this research.

CHAPTER 3. RESEARCH METHODOLOGY

A research methodology can be defined as the overall approach that can be adopted for the entire process of a research study (Collins & Hussey, 2009). Similarly, Remenyi et al. (2003) describe a research methodology as the “overall approach to a problem which could be put into practice in a research process, from the theoretical underpinning to the collection and analysis of data” (p.19). The following section will give the methodology that was adopted to gather data, analyse, and interpret the results in order to give substance to the research questions that have been identified above. The ethical considerations and limitations will also be discussed.

3.1 Research strategy

A research strategy can be defined as the general plan that will be used by a researcher to answer a research question (Saunders, 2003). In relation, Remenyi et al. (2003) states that a research strategy helps as a guide to provide direction of the entire research; this includes the process by which the research will be conducted. It is imperative to note that the research strategy has to be selected based on the research question, research objectives and the amount of information available on the search as well the time and resources (Saunders et al., 2008).

Three forms of research strategies can be adopted or utilised based on the researcher's topic of study. These are qualitative, quantitative and mixed methods (Creswell, 2007). A mixed method combines the qualitative and quantitative research. In order to get detailed results, this research will utilise the qualitative research strategy. According to Strauss and Corbin (1998) qualitative research is a type of research which “produces findings not arrived at by any means of statistical procedures or other means of quantification” (p. 12). The same authors also add that quantitative data might be used as background information but most of the analysis is interpretive in nature. It is also worth noting that qualitative research also uses qualitative analysis of results. This is a non-mathematical process of analysing information in order to discover common themes, concepts and organising these into a “theoretical exploratory scheme” (Strauss & Corbin, 1998).

According to Creswell (2003), in a qualitative approach to research, the enquirer uses open ended interview questions (or any other tools) to probe and develop themes from the collected information. This approach allows the enquirer to make “knowledge claims” based on the interviewee’s experiences, in order to derive some common themes. Hennink, Hutter, and Bailey (2010) add that qualitative research could be advantageous as participants can be interviewed from their natural settings, thereby making it easy for the interviewer to understand the contextual settings. Creswell (2003) alludes to the fact that qualitative research can be beneficial since the process of data gathering is conducted by the interviewer; themes and trends can be easily identified during the course of the interview. In addition, the researcher can use the inductive data analysis, building themes and abstracts in order to reach the desired outcome. The topic researched in this paper aimed to get detailed information around innovation and entrepreneurship in SA SMEs. As such, it was imperative for the researcher to use methods that will allow for the identification of various themes that interlink. Therefore, the above mentioned characteristics and processes of qualitative research enabled effective analysis, and allowed the researcher to gain new insights on the topic of innovation (Leedy & Omrod, 2005)

Various studies on the topic of innovation and entrepreneurship have used qualitative research strategies. One of these studies was conducted by Massa and Testa (2008). Using a qualitative strategy, these researchers probed the misaligned perspectives and goals among entrepreneurs, academics, and policy makers on innovation and SMEs. The first step in this qualitative approach was the identification of the main stakeholders who were knowledgeable with innovation issues. These stakeholders included entrepreneurs, policy makers, and academics. Qualitative data was collected from these stakeholders using in-depth interviews which were comprised of explorative questions in order to “identify major themes and the most relevant discrepancies among them” (Massa & Testa, 2008).

The advantages that were derived from this study are as follows: the researchers were able to capture in-depth knowledge and insights on the misaligned perspectives on innovation as well as existing similarities amongst the different stakeholders. To expand, data collected indicated that all the stakeholders interviewed had a consensus on the importance of SME innovation as a driver of competitiveness. On the other hand, divergent views and opinions were obtained with regards to the roles played by academics and policy to support innovation.

In summary, the researchers were able to use a qualitative research method to create in-depth interviews, generate main themes and discrepancies, and present the results to show contrasting opinions and points of agreement.

3.2 Research design

A research design can be defined as the overall strategy that one may choose to utilise in order to integrate all the components of a study in a coherent way and address the research problem (De Vaus & De Vaus, 2001). The same author also expands that the research design acts as a blueprint for collection, measurement, and analysis of the data obtained. There are various types of research designs which can be adopted in a qualitative research. These include case studies, descriptive designs, action research design, exploratory designs, mixed-method design, cross-sectional design, and cohort design (Gupta & Awasthy, 2015).

This study utilised the cross-sectional research design approach. According to Adèr and Mellenbergh (1999), a cross sectional research design involves the analysis of data collected from a population at one point in time. The same authors add that this type of design aims to find relationships between variables at one moment in time. The grouping or sampling method for this type of design is purposive, aimed at selecting the subjects who will most likely provide the needed information instead of using random sampling (Olsen & George, 2004). In a cross sectional design, the participants / respondents can be grouped into “cohorts”. For this study the participants will be entrepreneurs / SME owners who have businesses that have been running for less than 10 years and based in Gauteng.

Another characteristic of the cross sectional research design is that it can be used to assess the prevalence of certain aspects within a population. For the purposes of this research, it will be assessing the level of innovativeness within SA SMEs or entrepreneurs. It is for the reasons stated above that various studies utilised cross sectional designs. For instance, Pretorius, Millard and Kruger (2005) used a cross sectional research design to investigate the “perceptions of small venture owners about their own creativity, their ventures’ innovativeness and implementation orientation in South Africa” (p.55). These researchers used a survey method for the collection of data pertaining to the managers’ perceptions of their creative behaviour.

On the other hand, face to face interviews were utilised in order to determine the level of innovativeness amongst the owner-managers. The findings from this study indicated that even though the entrepreneurs saw themselves as innovative, the implementation was minimal to prove this. In other words, there was a gap in perception when compared to the actual innovation implementation (Pretorius et al., 2005). The main advantage of using this type of research design is that the researchers were able to use multiple variables in order to identify the level of innovativeness amongst the venture managers and owners. In addition, through the cross sectional research design, the researchers identified that innovation implementation was higher in larger ventures than the smaller ventures – which could be linked to the availability of resources and capabilities of the larger ventures (Pretorius et al., 2005).

3.3 Research procedure & methods

3.3.1 *Data collection instrument*

In line with the chosen qualitative paradigm, the research instrument that was used for this research is the face to face semi-structured interviews and recording of notes. According to Willig (2008), semi-structured interviews present an opportunity for the researcher to hear the participant's views on particular aspects which also includes their experience on a certain topic under discussion. These views were probed by the interviewer through the compiled research questions. In addition, semi-structured interviews are reliant on the rapport that is created between the interviewer and interviewee.

For the purposes of this research, one-on-one (face to face) semi-structured open-response interviews were conducted with the chosen participants (SME owners). The rationale for the use of face to face interviews was to allow the interviewer to gather as much information as possible without limiting the interviewee.

The advantages of this method are as follows:

- Allows participants to provide historical data and any other relevant information (Creswell, 2003).
- Gives the researcher the ability to control the questioning and the general flow of the interview. This assists in ensuring that information given is relevant. Probing questions can also be asked with regards to points of interest (Knox & Burkard, 2009).
- It is important to understand the context, scope, and implications of innovation, therefore, face to face interviews helped to achieve this since it allowed interviewees to give other related factors without any limitations that could be encountered in surveys.

The disadvantages of the interview methods are as follows:

- Some participants might be biased with the information that they provide because of the interviewer's presence (Creswell, 2003).
- The responses given might not be accurate as people's ways of expressing a point differ. In other words, some participants might be more articulate when they are writing a point than saying it (Opdenakker, 2006).
- There is a high risk of data overload, as the participants in the interview process might give large volumes of information, resulting in lots of time being required to filter and process this information (Opdenakker, 2006). For instance, participants might give additional information that is not related to innovation or lack of it.

An interview questionnaire is illustrated in Appendix A. The interview questionnaire was divided into 4 different parts in order to effectively probe answers that adequately address the research problem. The first section on the questionnaire aimed at determining the innovative ideas that were implemented by the entrepreneurs. This included any ideation, business process innovation or innovative improvements that could have been undertaken by the entrepreneur. The second part of the questionnaire dealt with the factors that influence innovation (either internally or externally). The third part of the questionnaire looked at factors that inhibit innovation within these SMEs. The last part of the questionnaire looked at the impacts of innovation in these SMEs.

3.3.2 Target population & sampling

The population for this research was drawn from SME owners / entrepreneurs who have businesses that are currently operational (within the Gauteng Region) and across various sectors in order to get in-depth analysis. The population is not comprised of any NGO as it is focussed only on SMEs whose aim is profit generation. In addition, the population was drawn without any limitations on colour, gender, race, class, or educational qualifications.

Various scholars emphasize on the importance of sampling in any research. For instance, Creswell (2007) puts emphasis on the point that researchers must select the right and qualified candidates or participants who can provide detailed and reliable information on the study. The sampling method that will be used is purposive sampling. Teddlie and Yu (2007, p.4) mention that purposive sampling “involves selecting certain units or cases based on specific purposes rather than randomly”. In this case, the research sampling process targeted 14 SME owners within the Gauteng region, ultimately influencing this sampling to be purposive. Another rationale for this choice of sampling is that the research is qualitative in nature; therefore, there was a need to gather in-depth information from the interviewees. In addition, the research only focussed on narrative data with minimal numeric data (Teddlie & Yu, 2007).

The specific category of purposive sampling utilised is ‘sampling to achieve representativeness or comparability’. This form of category can be used when a researcher wants to use a sample that may be a representation of a broader group of situations / cases, and also compare different cases (Teddlie & Yu, 2007). In practical terms, purposive sampling was successfully used by Hausman (2005) in a research that was meant to investigate innovativeness amongst small businesses in the US and Spain. Participants of this interview were “selected for their variability to provide a broad range of perspectives regarding the topic of interest” (p.776). All the participants’ names were obtained from a small firms data base in the US and Spain. The key advantages derived from this sampling technique were that participants were able to provide the specific information required since their profiles were carefully scrutinized during the sampling process. In addition, all the businesses / participants who were interviewed suited the required criteria in terms of the business size, company philosophy, and culture (Hausman, 2005).

A total of 14 in-depth semi-structured interviews were conducted amongst small SME owners in the Gauteng region. These entrepreneurs were from different sectors / industries which include the IT Sector, Retail, Telecommunications, Mining, Medical, Finance, consulting and construction. It was envisaged that the 14 participants / interviewees would give a fair amount of data to show trends, comparability, and any indications of innovation within these SMEs. One interview was conducted per participant, and telephonic follow ups were made in cases where there were points that need further clarification. Therefore, in total, 14 face to face interviews were conducted.

3.3.3 *Ethical considerations*

Ethics are an important aspect in any form of research that is undertaken. Resnik (2011) defines ethics as “norms for conduct that distinguish between acceptable and unacceptable behaviour” (p.1). The same author emphasizes the importance of adhering to research ethics in order to promote the research aims, promote moral and social values, and minimise errors in the findings. It is for these reasons that research must aim to address the following factors with regards to ethical considerations: honesty, objectivity, integrity, carefulness, respect for intellectual property, non-discrimination and responsible publication (Resnik, 2011).

In order to meet the above criteria, this research was authorised and authenticated by Wits Business School (WBS). Participants were provided with a non-disclosure letter indicating the confidentiality of information. This is in line with Cooper and Schindler (2011) who state that ethical research is voluntary and involves getting full consent and authorisation from the participants. The information gathered from respondents was kept private and findings did not indicate the respondents' company name and any other factors that could hinder anonymity. Lastly, all the sources of information used in this research were acknowledged as per the required WBS standards.

3.3.4 Data collection and storage

Data was gathered through the steps below:

1. Pre-interview briefings on the topic and objectives of the research were sent to participants (including the Wits Business School letter authenticating this research).
2. Interview bookings were arranged with the participants / interviewees.
3. Face to face interviews were held – Researcher requested consent to record the meeting conversations.
4. During the interview – The researcher guided the process by asking questions as per the structure of the research instrument.
5. Probing questions were asked whilst taking notes on every answer given, also carefully watching the interviewee to create rapport and observe body language.
6. After the interviews, all the notes and data were transcribed and stored safely for analysis.
7. Follow ups were done telephonically in cases where further clarity was required from the participants.

To prevent the loss of data and anonymity, information gathered was stored privately with sufficient back-ups in case of technical failures.

3.3.5 Data processing & analysis

The data gathered from the interviews was analysed through the method of content analysis. Zhang and Wildemuth (2009, p.2) define content analysis as “any qualitative data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meanings”. This method allowed the researcher to identify key themes and patterns within the data, typical of what Elo and Kyngäs (2008) refer to as inductive content analysis. This includes aspects such as “open coding, creating categories, and abstraction” (p.109). These same authors add that inductive content analysis is ideal in situations where there is limited previous data on the research topic and where the knowledge is “fragmented”.

Various qualitative studies have utilised content analysis in order to analyse data effectively. For instance, Hausman (2005) conducted a study to determine the level of

innovativeness among US and Spanish small businesses, and also to develop propositions for future research. Data was collected through a series of in-depth interviews with the small firms. This data was then analysed through inductive analysis method which also formed part of the hermeneutic procedure as outlined by Thompson (1997). In this process of inductive content analysis, the researcher dissected the texts in order to identify any consistent themes and differences. The second step involved the creation of individual descriptions which were formed out of the researcher's understanding of the text. This process is also referred to as open coding (Elo and Kyngäs, 2008). The key advantage that was derived from this method of analysis is that the researcher was able to successfully develop theory through the creation of a model of small firm innovation and adoption. Through this model, the researcher effectively demonstrated how factors such as industry concentration, manager factors, network effects, and tangibility of products can influence the innovativeness of small firms.

3.3.6 *Description of respondents*

Respondents of this research were SME owners / entrepreneurs from the Gauteng region. These were Small business owners with ventures which are currently functional and from various sectors within the entrepreneurial space. The research respondents were not specific to any sex or gender. In addition, the respondents varied across different industries in order to get varied responses.

3.3.7 *Reliability & validity*

Ecological validity can be defined as the extent to which research results of a particular study can be generalised to real life situations (Merriam, 1998). This study was specific to a sample of 14 SME owners as participants. Consequently, the findings of this study could be generalised to real life situations since the research information was acquired from real life running companies.

Internal validity can be defined as the degree to which the data collected is similar to reality (Merriam, 1998). For the purposes of this qualitative study, the researcher will use the term “credibility”. There are various factors that could limit the credibility of this research / study. Therefore, to maximise the credibility of this study, the following measures were adopted:

- Making the respondents feel at ease so that they can give accurate information.
- Effective questioning methods were used, involving tried and tested successful methods to gather data from the participants.
- Shenton (2004), suggests that the researcher should familiarise themselves with the organisation and its culture before the data gathering process starts. This method was utilised. In this way, trust was developed, leading to better chances of getting accurate information.

Reliability can be defined as the extent to which results are consistent over time and an accurate representation of the total population under study (Joppe, 2000). The same author also adds that if a similar methodology can produce the same results, then it can be concluded that the research instrument is a reliable one. Considering that this is a qualitative research, with interview results which might tend to be subjective, one can say that this research partially meets the reliability criteria. There was a concerted and detailed effort to improve the reliability of this study. This was achieved by ensuring exhaustive and consistent use of the research tool and creating a rapport with the participants in order to minimize bias in the information they provide. In relation to this point, Morse et al. (2008) asserts that the process of verification is important to improve reliability. This is a process whereby one ensures “methodical coherence, sampling sufficiency, data collection, and analysis” (p.18).

3.3.8 Limitations

The limitations of this study were as follows:

- Due to time and logistical constraints, the study only focussed on SMEs within the Gauteng region, meaning that other parts of South Africa were not covered.
- The study is generalised across different sectors, therefore, results are not a reflection of a specific sector.
- It is likely that the research methodology and research instrument might have resulted in bias as some participants might have been intimidated by the interviewer's presence and failed to eloquently articulate their points (especially considering that these conversations were recorded).
- The sampling method might have resulted in some bias as it was purposive in nature, reliant mostly on the researcher's subjectivity (Creswell, 2014).

This section outlined and explained the methodology used in conducting this research. This incorporates the research tools, methods of analysis and validity of this research. Ethics and limitations of the research were also discussed. The following section will present the research findings as per the interview questions. In addition, findings from probing and follow up questions in relation to the main questions shall be presented. The format to be followed will incorporate similarities in views, differences of opinion, inconsistencies, as well as outliers that were drawn from the participants' responses. This section will also present any findings which are consistent with other research findings from similar studies.

CHAPTER 4. PRESENTATION OF RESULTS

4.1 Introduction

This research set out to investigate innovation in the South African Small Medium Enterprises. This was achieved by obtaining an understanding of how the South African SMEs innovate and if none, the reasons for not innovating. In other words, there was a concerted effort to understand the drivers behind reasons to innovate, as well factors that often deter SMEs from innovating. The research also probed the resultant factors that are achieved as a result of innovation.

In the framework of this research, innovation was probed from various contexts which include incremental innovation, radical innovation and as well as disruptive innovation (based on conceptual references from the literature review). Factors that influence innovation were probed from the SMEs' internal and external experiences. The same applies to the limitations of innovation. In order to get detailed results on the above-mentioned information, the following 4 questions were formulated in order to address the research problem:

1. To what extent have the South African SMEs implemented innovation within their businesses?
2. What factors enhance innovation within the South African SMEs?
3. What factors limit innovation within the South African SMEs?
4. What is the impact of innovation (or lack of it) on the overall success of the South African SMEs?

The following section will present the findings as per the interview questions that were posed in chapter 2 and also stated above.

4.2 Extent to which SA SMEs have implemented innovation

The participants were asked to outline innovative ideas which have been undertaken within their companies. The two questions which were used to determine the extent of innovation within the South African SMEs were: “Can you outline any innovations that your company has undertaken” and “Were these new ideas or were they emulated from existing models”. Follow up questions were asked where necessary.

4.2.1 *Innovation implementation*

Results obtained from the interviews varied based on the topic of innovation. All the participants indicated that they had innovated to a certain extent. There were various classifications of innovation demonstrated. Below are the classifications of the innovative ideas as indicated by the participants:

- Ideas were based on models that have been seen in other countries and never implemented in South Africa
- Some ideas were a replication of other businesses that already exist in the South African market
- A few ideas were mainly business process innovations
- Two of the participants had totally new ideas which had never been implemented anywhere in the world.

Some of these innovations were centred on the entire business idea whilst some of them were more of business process innovations. The findings demonstrated in Appendix B indicate a wide array of innovations that have been undertaken by the SMEs. It is worth noting that most of the entrepreneurs who were interviewed embarked more on process and incremental innovation than on radical and disruptive innovation. These findings are similar to those of Robson et al. (2008) who conducted a similar study in Ghana. The results of their study demonstrated that the most dominant form of innovation in Ghana was incremental innovation instead of novel and radical innovations. Back to the South African context, there were only two participants who came up with totally new ideas. In one instance, one SME implemented a totally new idea which also disrupted the market.

The results also indicated that most of these ideas were implemented successfully and are operational.

Appendix B is a detailed presentation of results pertaining to the innovations that have been undertaken by the SMEs. The participants will be denoted as SME1 to SME14 in order to maintain their anonymity. The table also shows the number of years that the companies have been running, as well as the industry / sector that the SME operates within. A synopsis of this table demonstrates that SMEs implemented various types of solutions, services, and products as part of their innovation journey in their business cycles. For instance, some participants from the Finance sector indicated that they had devised new service offerings to their clients as illustrated below:

“We brought a credit marketplace to the Fin space allowing the ordinary man in the street to directly participate in loans” (SME3).

“We moved away from industry focus on selling financial products to providing advice at a fee” (SME12).

In the mining and ICT sectors, most of the innovations were product improvements aimed at enhancing the mining process for the clients. These were demonstrated in the statements below:

“From there on it just kind of snowballed because we ended up developing a lot more products and some of them were quite sophisticated for the mines” (SME1).

“We have created a portal; it’s a consumer, enterprise, and employee facing portal for a retailer” (SME7).

4.2.2 Innovation ideas derived from other existing models

From the interview responses, it is quite evident that the SMEs devised and implemented various innovation ideas based on a range of factors such as the company’s objectives, customer needs, trading environment, competition and the need to remain competitive. More than half of the participants demonstrated that they had implemented innovative ideas

emulated from other business models. The captions below were derived from the interviews to show how the innovative ideas implemented were derived from other existing models:

“So from a business process point of view we did something which was being done to some extent in the US and Australia... I believe we were either the first or we would have been one of the first five in SA” (SME8).

“We looked at the US, where schools have their own buses...So we produced that model....In that sense it was taking something that is known elsewhere, and then applying it here” (SME3).

“The model was adopted from an existing practice in the UK. The model was implemented gradually over time” (SME13).

It is worth noting that there were some outliers who had formulated and implemented purely new ideas in addition to other previously existing models. This was also part of a disruptive idea generation as stated below:

“The idea was partly based on existing ideas, but focus was more on disruption than innovation. Innovation was an inevitable part of the process” (SME1)

There are other instances where innovative ideas were implemented out of a realisation of the limited competition in the country. This phenomenon presented more opportunities for SMEs to emulate existing models in order to provide the required services. This was noted in the captions below:

“It is not a unique solution. It is a solution that exists in the world but then they brought it here to the country where only two or three players at the time had a platform like that...” (SME3).

I believe we were either the first or we would have been one of the first five in SA” (SME8).

4.2.3 New innovative ideas

Even though the majority of participants demonstrated that their innovative ideas were derived from existing models, some showed that their ideas were new to the market and they had done something that was previously not available anywhere. This is what Radas and Božić (2009) refer to as radical innovation. 2 of the participants formulated ideas that were new to the South African context and implemented these across their companies. These were ideas that were totally new and never existed anywhere else.

“So this is what we would probably call radical, it was all the way, almost the over type, where you come in and almost change the industry perceptions and all those kind of things” (SME8)

“We were the first true Robo advisor in SA” (SME8).

A large number of the participants demonstrated that their innovative ideas were more centred on business process innovations. In other words, they implemented new ideas in order to improve some business processes and remain competitive. Some of these ideas were derived from their customers' needs, and some were generated from the competitors. The captions below are some of the examples of these ideas that were more of business process innovations:

“We had to look at our queuing system as well as methods of enabling quality service” (SME6).

“The second innovation was more from a process point of view, which was the one you saw earlier...” (SME10).

“So there was a product but he came up with innovative ideas of how to actually install all the devices safely and also lower cost as well” (SME1).

The thinking behind innovation is that it is something that is often done deliberately, with clear objectives and in some cases with guidelines as to how one wants to innovate. However, this notion was partially challenged by two participants. They stated that there are instances where they actually innovate without taking a conscious decision.

In other words, they would embark on a business process which is very innovative although their objective would not be innovation as such. This was derived from the responses stated below:

“...Some of these ideas are almost like knee jerk reactions, they are things that we do on a day to day basis without sitting and saying ‘I am going to innovate’ (SME15).

“..... Innovation for me is not just technology, we sometimes innovate without knowing we are innovating (SME1).

It is worth noting that even though there were quite a number of positive results as far as innovation ideas and implementation are concerned, two participants gave innovative ideas which were a bit vague. For instance, some of them would give normal day to day business processes as innovations. In other words, one could not decipher what exactly was innovative within the idea or the business process regardless of the numerous follow up questions which were posed. This might be an indication that innovation is sometimes not well understood as a concept.

Conclusion

The results pertaining to research question 1 indicated a variety of innovations that have been undertaken by the entrepreneurs in their SMEs. Product innovations, process innovations, disruptive and incremental innovations were evident from the results obtained. In as much as innovation is at times based on new ideas, the results also demonstrated implementation of innovation based on other existing models that have been done elsewhere. There were also indications of instances where the entrepreneurs would innovate without necessarily realising that they are innovating.

4.3 Factors which enhance innovation in SA SMEs

Three questions were formulated in order to determine factors that influence innovation. These questions were as follows:

- How did you come up with your innovative business idea?
- Has your business model / service / product changed within the last 3 years. If so, how were the changes implemented and what were the reasons for the change?
- In relation to the previous questions, are there any other factors that may influence you to change your model / service / products in future?

From the findings, it was clear that there are various reasons why SMEs chose to innovate within their business. Some of the influencing factors emanated internally – from the desire to do things differently. On the other hand, some of these influences were often as a result of market changes. Most of the reasons were normally centred on the customer demands or in reaction to the market trends or perceptions. The main consistent themes identified as innovation influences were as follows:

1. Technology.

50 percent of the participants pointed out technology as one of the influences of innovation. Technology does not only revolve around the internal business processes, but it also influences the consumer / customer choices and preferences. Such were the deductions from statements given by the participants such as these below – given as a response to the question on innovation influences:

“I think is because we are in a modern environment. So it's new technology, new offerings. With new technology, there are more influences” (SME7).

“I only used technology to help far sighted individuals maximise what they were already doing” (SME10).

Such a finding is similar to the sentiments shared by Audretsch and Fieldman (2003) as they stated that technology plays a vital role in facilitating innovation and also improving new ideas.

2. Client's needs, demands and satisfaction

A number of the participants seemed to share the same sentiment when it comes to customer needs as a factor that influences innovation. A customer need can be based on the actual necessity that arises from a consumer or perhaps one that can be identified by an entrepreneur as an opportunity to address a problem. In other words, some needs are created either by consumers or by the company creating a need for a certain service. This kind of thinking was picked up from one of the responses as stated below:

“Ok, so we looked at the customer journey, in terms of if you want a one stop shop to talk to your customers, so here is a one stop shop”.
(SME7)

Some participants indicated their willingness to always listen to their clients' feedback and requests, know their needs, and respond appropriately. In this way, they tended to innovate in order to meet some of these needs. Statements below are a testament to the above-mentioned point:

“....So what drove it was really an understanding and appreciation of the user's problem and then solving a problem specifically for them”
(SME10).

“Four years ago we got probably 100 emails a week from new investors, primarily young, black people, trying to enter the market. Their parents don't have a history of investing so they have no basis to work from” (SME8).

“The innovation we came up with was actually based on the need that we saw in the mining sector” (SME1).

“Our patients are always looking for quality service” (SME2).

On the other hand, it was the entrepreneurs themselves who created certain products which would later on translate to a customer need. In other words, the SMEs would create demand for certain products or services through innovation.

3. Business growth, competitiveness and continuity

The desire to grow a company's turnover was an influence of innovation which was identified by most of the participants. This is often achieved by methods of acquiring new business, improving on the current value proposition in order to grow the clientele base. Furthermore, the participants indicated that this resulted in them being more competitive.

Even though competition was mentioned as an influence of innovation amongst some of the SMEs, there were 2 who indicated that competition did not really play a huge part as an influence of innovation. Below is a caption to substantiate the above:

"From an industry perspective what you can judge your competitors on is the end product, is it very difficult to know what the internal processes are" (SME11).

"In the medical fraternity it is difficult to point out competition as a direct influence of innovation as we are not allowed to do direct marketing" (SME2).

4. Systems and resource optimization

An influence of innovation pointed out by at least 3 participants was optimization. The entrepreneurs stated that from time to time, as the businesses grow, there comes a need to ensure that all the systems internally are aligned to the resource allocation. This is often caused by a range of factors which at times include profitability and the general business strategy. Such was indicated in the statement below from one of the participants in the digital marketing sector:

"I think the innovation drive was an internal burn, it was internal frustration of optimizing resources, optimizing cost without compromising quality and end product" (SME6).

5. Pricing and cost reduction

There are instances where the cost of providing a service or product can lead to innovation. These costs can include raw material costs to produce a certain product. Evidence from the participants' responses indicated that fluctuation of exchange rates (giving rise to the fluctuating cost of raw materials) made the company look at other options that could be utilised to counter these costs. This led to some of the most successful innovative ideas being formulated within the company. An example of was given by one participant in relation to the cost of the raw materials, which drove the company to innovate:

“One of our suppliers supplying a key component to our system started to shortcut us. So he priced us up and our competitors were getting a bulk discount. We are a small niche. So as a result we found ourselves paying double for the same item than the people we were competing with” (SME9).

Pricing can be considered as an influence of innovation. To illustrate this point, if prices in the market are too high then this can create an opportunity to be innovative with their pricing model or structure. This was the case with one of the participants as demonstrated below:

“...We identified that the market was overpriced...We felt we could shift the market radically in terms of pricing by getting those solutions”. (SME8).

6. Customer behaviour

From the participants' responses, there is evidence that customer behaviour, customer choices, and perceptions do play a huge role in influencing innovation. According to one participant, perception created in the market became an innovation driver / influence in their business. In other words, a negative perception of financial planners identified in the market led the SME to innovate. This was summed up as follows:

"The industry's perception in the market, (from the client base), was very poor because of unethical business practices" (SME8).

On the other hand, looking at customer behaviour elements, one participant indicated that one of their innovative ideas when they founded their business was mostly driven by user behaviour. Their second idea was formulated as a result of a need that arose from the market place.

7. Convenience for the customers.

Present day customers are always looking for convenience since they live in a fast paced environment. This was identified as a factor that influences entrepreneurs to be innovative. The captions below from two participants demonstrated this point:

"...We looked at the customer journey, in terms of if you want a one stop shop, here is a one stop shop" (SME7).

"So what we then decided to do is we are going to do that value add in house and it speaks to convenience, quicker turnaround times, and all those things. (SME5).

8. Disruption

At times SMEs tend to be driven to innovate as a result of a “disruptive” need that has been identified in the market. A similar view was shared by Christensen and Raynor (2003) in an attempt to give reasons for innovation. Evidence given by some participants indicated that there was a huge gap in the market and a need to shift things radically through disruptive innovations. This became an influence behind some innovations which were implemented as demonstrated below:

“Our idea is indeed disruptive; we play in the current banking lending market. Every loan we conclude is disrupting their business” (SME3).

9. Best practices & unique value proposition

Evidence gathered from the participants indicates that SMEs sometimes are influenced to innovate in order to implement best practices. These could be guided by what is happening in other markets / countries or as driven by the customer needs. The same applies to the need to offer a unique value proposition in order to improve competitive advantage. This was demonstrated through the captions below:

“....we brought this product into South Africa to help us implement world class best practices” (SME9).

“Our patients are always looking for quality service” (SME2).

10. Unethical business practices

Even though most of the factors that influence innovation tend to be positive ones, there are instances when innovation is driven purely by a negative situation. For instance a participant indicated that one of the reasons they decided to innovate was as a result of unethical practice which they identified in the market. A second participant indicated that innovation within their business was as a result of a pricing collusion identified from one of their machine suppliers.

“One of our suppliers supplying a key component to our system started to shortcut us. So he priced us up and our competitors were getting a bulk discount” (SME9).

Conclusion

Looking at the above mentioned responses / results, there are a variety of factors that drive South African SMEs to be innovative. Some of these factors emanate from within these companies yet some of them are linked to the external environment as well as the clients and customers. Innovation can be influenced by the market that one serves, the type of product being sold, the service that one provides, feedback from the market, and competition. In addition, customer behaviour and perceptions also play a role in influencing innovation. Lastly, unethical business practices as well as lack of fair trading can also lead to SMEs innovating in order to counter such practices.

4.4 Factors which limit innovation in SA SMEs

Two questions were posed to the interviewees to determine factors that limit innovation. These questions were as follows:

- “What has mostly impacted or restricted you to change the way you run your business / service offerings or products?”
- “What is the biggest setback that prevents you to improve your service / product offering?”

In response to the above mentioned questions, the participants gave a variety of answers which showed some similarities as well as a few differences in their experiences around the innovation limitations. The information gathered also demonstrated that there are some limitations which are mainly of an internal nature (which the SMEs can easily influence) yet some factors originate from the external business environment. The entrepreneurs / SMEs normally do not have control over these external factors. The main themes that were identified as limitations to innovation are stated below:

1. Skills shortages

From the participants' responses, it is clear that a lack of skills is a big concern when it comes to innovation. There were indications that at times an SME might need to innovate but not have properly trained personnel to undertake that task. One participant also expanded by stating that at times the skill is there in the market, but

the actual challenge is around the ability to pay for that skill as most qualified individuals come “with big salaries”.

“Finding the right talent is a major thing. More specifically I think is finding the right talent at the right price, from an SME perspective” (SME6).

An additional point indicated by one of the participants was that in some instances, the skill set is there, but the major problem is that employees are not aligned to the strategic goal of the SME. In other words, even though the employees have the capability and know how on innovation, their objectives often are not aligned to the broader business goals, resulting in this being an innovation limitation. In relation to this point, one of the entrepreneurs indicated that lack of buy-in from senior management in SMEs can also negatively impact innovation:

“If senior management does not want to buy into an innovative culture you are not going to get anywhere” (SME9).

2. Access to funding

A number of the participants portrayed financial accessibility as a major hurdle for SMEs. They indicated that either the collateral required is unreasonable or there are high levels of bureaucracy which limit access to these funds. In other instances, finance institutions do not want to fund some aspects of the business. For instance, funds can be obtained for operational purposes, and be declined for certain aspects such as motor vehicles. Another view was that funding institutions in South Africa are sceptical to fund innovative ideas, especially if it's a new idea. Often they want an indication of where the idea has been successfully implemented before they can commit to any funding. Examples were captured on the below captions:

“...You have a bright idea and a good business plan, take this to the funding institution and the first question is always around you having to prove that this has been implemented somewhere...they always want proof of concept” (SME4).

“....you can’t get access to capital to go to a funder and say ‘give me the funding because I can launch something which is going to change the industry. They don’t care” (SME8).

Even though access to funding was identified as a major limitation to innovation, one participant gave a totally different view on this. Their view was that funding is always accessible as long as one can prove that they are solving a real problem / need. They indicated that often SMEs would apply for finance without showing good reasons why they need the finance, resulting in the applications being declined. These sentiments were derived from the captions below:

“.....So the guys come and say ‘oh I have this great idea, but the problem is there is not enough money.’ That is not true. There is a lot of money as long as you are solving a real problem and you can show that your product solves a real need” (SME10).

In contrast to the earlier point stated with regards to high collateral that is normally required by funding institutions, one participant stated that finance is not easily accessible and the reasons for this might be valid ones. The rationale behind this reasoning is captured on the following statement:

“I think finance is a challenge but it is a challenge for obvious and potentially correct reasons and we need to find a way around it...So the banks lend... take the money from depositors and lend you money. If you have nothing to lose at the end of the day the business fails and you walk out. So how will the bank get their money back to get it back to the depositors?” (SME9).

3. Human resources and labour issues

Various points in relation to human resources were given by the participants. There was a view that staff turnover tends to be high, resulting in some innovative ideas being stalled and some never materializing. One participant demonstrated this point when they stated the below:

“I would get someone new, train them up, get them to understand the processes etc., and then before you know it something happens, that person has to move on or they can get poached. And it is an issue with small businesses, because each person you get, you invest so much in that person and when they leave it leaves such a huge vacuum” (SME11).

The fact that labour relations tend to be too protective of the employees was identified as another obstacle when it comes to innovation. To expand on this, SMEs can identify a gap in performance from some of their employees and yet still find it difficult to dismiss them. This results in a situation where they have to keep these employees with them for longer periods, limiting the capacity for new thinking. This sentiment was demonstrated in the following statement:

“In SA it is very difficult to fire someone. It is a huge problem. So if I get someone in I can’t get rid of this person until I have done verbal warning, written warning, training again – then I can fire them. So I am not saying it is wrong, I am saying from a SA point of view the hiring and firing is a problem” (SME10).

4. Regulatory environment & policies

Government regulations and compliance requirements were identified as factors that hamper innovation within the SMEs. Similarly, a study conducted by Rogerson (2008) concluded that SMEs were over-regulated and the intended efforts to correct this phenomenon have not yielded positive results. Similar sentiments were shared by Ndabeni (2012). This author stated that South Africa still has a deficit in policies and regulations, and some of the already existing policies and regulations tend to hamper entrepreneurship and innovation in SMEs. A participant from the medical industry pointed out that issues on medical insurance, and rules on medical platforms of marketing limited their capability to innovate:

“So the regulations from government have impacted us and entrepreneurs directly” (SME8).

There was also a general consensus from some of the participants that the current government policies haven't supported innovation within the SMEs. Another view was that the personnel tasked to formulate policies for the SMEs are not well versed with the proper knowledge. These sentiments were captured as per the below information:

"I think to some extent that has got to do with the regulatory environment and then the unstable policy environment from government" (SME8).

"How can you have someone who is driving policy for small businesses and they have never run one themselves? You can't. It makes no sense" (SME10).

Regardless of the strong views on regulation as an impediment to innovation, there were 3 participants who had different views. One stated that regulation is not necessary an issue when it comes to SMEs, but rather it might be a limitation to the big corporates. On the other hand, one entrepreneur stated that regulation does not necessarily hamper innovation. Rather it is up to the entrepreneur to influence the regulatory environment through breakthrough innovative ideas. The last view indicated that regulation actually assisted this particular SME to successfully implement their innovations. All these views were summed up as follows:

"You can always influence regulation if your innovation is right; regulation has always stopped negative innovation but not positive innovation" (SME7).

"I think for me regulation will hamper innovation in a mature large corporate than it would a smaller business" (SME11).

"As soon as the regulation forced the other guys to start disclosing their fees in the same way we were, our potential clients could see that we were charging a third of the price, and that gave us enormous tail wind" (SME8).

5. Difficulty in getting partnerships

Innovation not only requires internal capabilities of a company, but needs partnerships which can be formed with other industry players. However, one participant pointed out that securing these partnerships is a nearly impossible task (especially for new ideas). The same participant also added that some of these potential partners would rather adopt a “wait and see” attitude before they commit to any partnerships. In this way, they want to first see a new idea going to successful implementation. These sentiments were derived from the below information:

“Ironically now there are three or four banks that are now saying to us ‘okay hang on, we need to build something like this, can we buy into your business and maybe partner with you?’..... Every time we have tried to innovate in the financial space, the established competitors and the entrenched players just refuse to consider it until someone else has done it first” (SME8).

6. Risk associated with innovation

Most of the participants interviewed pointed that the innovation journey has got high risks (especially if the idea does not get buy in or if it is poorly implemented). Risk was portrayed from different angles, i.e. whereby it could be attributed to the internal or external elements within the SME. These include skills, human resource aspects, and misaligned employee objectives. On the other hand the external aspects that were identified as contributing to risk are labour relations, change in consumer preferences, regulations, and compliance.

In some instances, risk also includes environmental hazards that are associated with some industries, for example mining. One participant pointed out to the hazards that are normally associated with innovations within the mining industry which are becoming an innovation limitation:

“Then there is also the physical limitations on what can be done in various environments like coal mines you find that we are limited by

the fact that there is always fire hazards, you can't just put any technology in there" (SME9).

7. Fear and perception of failure

Unlike in developed countries where failure is often not viewed negatively, the participants indicated that South Africa generally doesn't embrace failure of entrepreneurs as a learning point. Normally if someone fails they are often portrayed negatively, and this limits the entrepreneurs' desire and capability to innovate.

"The other think is the fear of failure or perception of failure. So in SA if I started a business and failed and I go to the bank, they will look at this record and say 'you have lost this money, you started this company – we are not going to invest in you again" (SME10).

8. Commercial models which are not viable

For any idea to be considered as innovative, it must be able to answer to a certain need and also be adopted by the potential users. Same applies to the commercial model behind it. One participant pointed out that sometimes ideas are not commercially viable from the onset. Therefore, even if the idea is implemented, it leaves no room for further innovation in the future. Another participant added that innovation is often limited by its lack of producing Return on Investment, leading to its demise. Additionally, one participant indicated that generally some South African entrepreneurs tend to be followers than inventors when it comes to innovation. Therefore, this limits the capacity to innovate within the SMEs.

"The commercial model has to be viable and the customer, customer needs to be able to afford it, if it doesn't meet these criteria then it's worthless" (SME7).

9. Lack of exposure and networking

One participant indicated that entrepreneurs in South Africa don't often get the exposure to potential areas of opportunity or to networking opportunities. Therefore, they tend to end up with ideas which are not exposed to the future customer or any influential board:

"Innovation goes with exposure; it makes no use to make an innovation which can never be used or exposed to the correct networks" (SME7).

10. Affordability, exposure, and usability.

There was a strong sentiment from the ICT participants on affordability and exposure. The participants indicated that these can become limitations of innovation if the user cannot afford to pay for a certain service (even if it is a breakthrough innovation). The same sentiment was expressed with regards to exposure. Potential clients / customers of any new idea or process should be able to use such ideas with ease. If all these factors are not considered carefully, they become limitations to the innovation process.

11. Clients' contentment and resistance to change

This point was raised in reference to the fact that sometimes clients want to continue using old ways of working and they are not willing to accept any innovative ideas proposed by the SMEs. This was captured in the sentiment below:

"...I don't want to call it ignorance, let's call it contentment of clients because sometimes clients have been doing things this way and they want to keep it that way" (SME5).

Another element which was raised in relation to client's contentment was resistance to change. A participant added that this is normally linked to perceptions. This was summed up in the statement below:

"There is a perception that if you change something that works you are going to break it and it is going to be unreliable and it won't be sustainable" (SME13).

Conclusion

A number of themes and reasons were given with regards to the factors that limit innovation in SMEs. From the evidence gathered, most of the participants pointed out issues such as finance, regulation, and difficulty in finding partnerships as some of the key factors that limit innovation. Additional information given pointed mostly to customers' resistance to change, skills shortages, and human resources. There is also an element of "fear of failure" in the South African context resulting in SMEs being reluctant to innovate.

4.5 Impact of innovation within SA SMEs

Two questions were formulated in order to determine the impact of innovation within the South African SMEs. Follow up questions were then posed in cases where further clarity was needed. The two questions were formulated as follows.

- Have you ever benefited from a new business idea / service / product change that you implemented in your business?
- Briefly describe your most memorable new business idea that you implemented (if any) and what success factors you like about it.

The table in Appendix C below is a summary of the impacts of innovation as stated by the participants. The table also indicates the SMEs interviewed coded as (SME1 to SME14), states the type of industry, the idea implemented as well the impact thereof. The major findings on the impact of innovation within the SMEs can be classified into the following criteria:

Business growth: Most of the participants indicated that they had seen a growth in turnover, sales, profit, and achievement of business targets at a faster rate. In some instances innovation resulted in huge cost savings, in turn positively influencing innovation within the SMEs. These results are synonymous with those of McFadzean et.al. (2005). Through a model linking innovation and entrepreneurship, these authors indicated that innovation often results in value creation, profits, and revenue growth. These captions below are an illustration of the results:

“Look our customer base increased and our sales also grew. We moved from just under R5 million turnover and we are higher than R10 million turnover” (SME9).

“So the impact of innovation is that it exposes you to more customers or more clients” (SME10).

“The benefits are reduced costs for the client; the client will be able to afford to have cheaper transport costs” (SME1).

“So as a company we found that we have had a growth rate that has averaged around 33% per year, compounded, for about the last six years now” (SME8).

Enhanced business reputation and brand name: This was achieved through the various initiatives that the entrepreneurs embarked on. It is imperative to note that such outcomes were achieved through the process of innovation and in some instances through the outcome of innovation. These views below are testaments to the information above:

“It allows transparency; it broadcasts everything that the customers want (SME7).

“It meant that we were clear market leaders in a particular niche, and it gave us enormous credibility in the market (SME8).

Culture transition: One participant indicated that through the gradual implementation of innovation within their mining SME, there was a steady cultural shift from previous state to that of high performance. This was achieved through the different innovation KPIs which were introduced in order to inculcate a culture of creativity.

“Innovation implementation brought us the high performance culture”. (SME9).

Better quality of service: According to most participants, innovation impacts incorporate vast improvements as seen in the implementation process. This improved service was as a result of improved communication, improved business processes which ultimately led to enhanced speed of execution, consistency, and convenience.

“The retailer is able to communicate with their customers, getting more value of their analytics” (SME7).

“It really changed the way both in terms of consumption of the material – so it’s not grassroots level – but also speed of execution” (SME10).

“I think I am starting to get a better consistent customer experience, and starting to get faster through put” (SME6).

Client satisfaction: Better quality service often leads to customer satisfaction. Such was indicated in the findings on the impacts of innovation. The customer/ client satisfaction in turn led to positive public relations as well as firm relationships as demonstrated below:

“So we created a lot of very positive public relations by doing the right thing” (SME8).

“I think what stands out for is what I call relationships because the approach that we take and as a result of all this implementation all of a sudden clients realise we are not just an I want to take away supplier” (SME5).

Improved competitive advantage: Innovation tends to give one a competitive edge above the rest, i.e. if the right idea has been formulated and successfully implemented. This was evident from the research findings:

“It sets you apart from the other people. Even though you are still selling the same service” (SME13).

Challenging the status quo – This point is solely based on disruptive innovation as the new ideas often result in change of habits and creating new trends. The evidence below was given by the only 2 entrepreneurs who formulated and implemented disruptive innovations within their SMEs. This evidence goes to highlight how innovation can lead to a change in habits, and also set new trends in the market:

“So it was challenging the status quo, what they had known for many years” (SME10)

“As a result of our launch, what I found now is every man is now entering that market, even established players are now offering a range of index tracking products and the international players have started coming to SA” (SME8)

Conclusion

It is worth noting that the themes identified in impacts of innovation were quite consistent across all the 14 participants who were interviewed. Most of the impacts were centred on improved business performance, better ways of dealing with competition as well as customer needs being met. The evidence obtained with regards to the impact of innovation points to much improved business processes, increased turnover, enhanced operational efficiency, and enhanced customer experience. Some participants also pointed out that innovation had improved their competitive advantage and they were able to adequately meet their customer needs. In other instances, innovation contributed to the creation of a reputable brand name and SME reputation. For those SMEs which had brought disruptive services, innovation influenced other companies to adopt best practices and there was a substantial growth in company profits.

4.6 Summary of the results

This chapter presented some information and insights with regards to the nature of innovations in South African SMEs, the factors that increase / influence innovation, factors that limit innovation as well as the impacts of innovation. These results will be summarised below as per the research questions.

1. To what extent have the South African SMEs implemented innovation within their businesses?

Evidence and results were given by the participants who demonstrated that they have innovated within their SMEs. Some of the innovations which were undertaken include process innovation, incremental innovation, radical innovation, as well as disruptive innovation in a few instances.

2. What factors enhance innovation in the South African SMEs?

The information gathered from the participants mainly pointed to customer behaviour, consumer choices, and cost reduction as some of the main factors that enhance innovation. In addition, technology, systems optimization and the need for disruptive innovation are other factors identified as innovation influencers.

3. What factors limit innovation in the South African SMEs

Factors that limit innovation can be summarised as human resource aspects, lack of support from policies, and the regulatory framework, lack of exposure and networking. Additional points include skills shortages and the fear of failure.

4. What is the impact of innovation (or lack of it) on the overall success of the South African SMEs?

Points that were identified in this section include improved business processes, growth as a result of increased turnover, enhanced profitability, and business stability. Other additional points were centred on improved company culture on innovation and cost savings.

This section has presented the research results which were obtained from the research participants. Similarities with previous findings have also been demonstrated. The following section will give a critical analysis and discussion of the research findings. Linkages with theoretical frameworks and models will be presented. Similarities and differences in findings and literature review will be outlined and explained. Lastly, any new information gathered from the research findings shall be presented and explained.

CHAPTER 5. ANALYSIS AND DISCUSSION OF THE RESULTS

5.1 Introduction

The following chapter presents an interpretation and analysis of the research findings which were presented in chapter 4. The analysis will be done by comparing the findings to the literature review on the topic on innovation and entrepreneurship. Similarities, differences as well as any new information / insights which might contribute to the body of literature on this topic shall be identified and discussed. The key theoretical concepts, trends, models and frameworks identified in Chapter 2 as part of the literature review will be compared to the actual findings of this research (from the evidence gathered from the interviews). The chapter will then give a summary of the analysis.

5.2 Brief contextual background

As indicated earlier in this paper, and as a key theorist on innovation and entrepreneurship, Schumpeter (1934) asserted, innovation is a critical aspect of the entrepreneurial endeavour. Even though the later version of Schumpeter's (1940) theory was of the view that innovation is only associated with large companies, the research findings seem to present a different view. The research findings show some level of innovative thinking and implementation within South African SMEs. In addition, even though there are still some challenges internally and within the macro-environment, a considerable effort is applied towards innovation within the SMEs. Therefore, such findings are in agreement with Audretsch and Feldman (2003) who maintain that SMEs are instrumental in driving innovation within some industries. The effectiveness of the entrepreneurial characteristics and capabilities evident further conform to the Mahemba and De Buijn (2003) model on innovation activities of SMEs. The following subsections have been formulated in order to effectively present a holistic interpretation and analysis of results:

5.3 Dimensions of innovation

The following section gives an analysis of the findings through an application of the innovation dimensions which were formulated by Gopalakrishnan and Damanpour (1997). The 3 primary innovation dimensions summarize the “innovation journey” by looking at how companies embark on a process or product innovation.

This might include idea generation or adoption of an already existing innovation. The second dimension defines the level at which the innovation might happen, for instance it might be at industry, company or business unit level. The last dimension mainly deals with the nature of the innovation activity, which might be product or process innovation (Gopalakrishnan and Damanpour, 1997). These authors add that the above mentioned information can be summarised into the 3 primary dimensions of innovation as follows:

- Stage of innovation process
- Level of analysis
- Type of innovation

The tables below will match the innovation dimensions to the research findings in order to synthesize and analyse the two, in this way also determining where the South African SMEs which were samples fit within the 3 dimensions. The table also shows the type of SME, and the innovation implemented.

Table 2: The dimensions of innovation (application to findings)

SME code	Type of Industry	Types of innovation implemented	The Level of Analysis	The stage of innovation process	Types of innovation
SME 1	Mining	☐ Integrated systems to supply offshore mining companies.	Business Unit	Adoption of innovation	Incremental innovation
SME 2	Medical	☐ New payment system which is set apart from the medical Aid ☐ Queuing systems which incorporated selective booking times	Company	Problem solving	☐ Product innovation ☐ Process innovation
SME 3	Finance	☐ Bringing a credit marketplace to the financial space allowing ordinary man in the street to directly participate in loans.	Company	Problem solving	Product innovation
SME 4	Consulting	☐ Quality checks and monitoring systems as part of the operational model review.	Company	Process Improvement	Process innovation
SME 5	Retail	☐ Customized/ tailor made safety combo ☐ Centralised tailoring solution for safety and protective clothing	Company	Process Improvement	Process innovation
SME 6	Digital Marketing	☐ Process improvement - Industrializing the client on boarding process to the solution delivery stage ☐ Process optimization on the company	Company	Process Improvement	Technical innovation

Table 3: The dimensions of innovation (application to findings), continued.

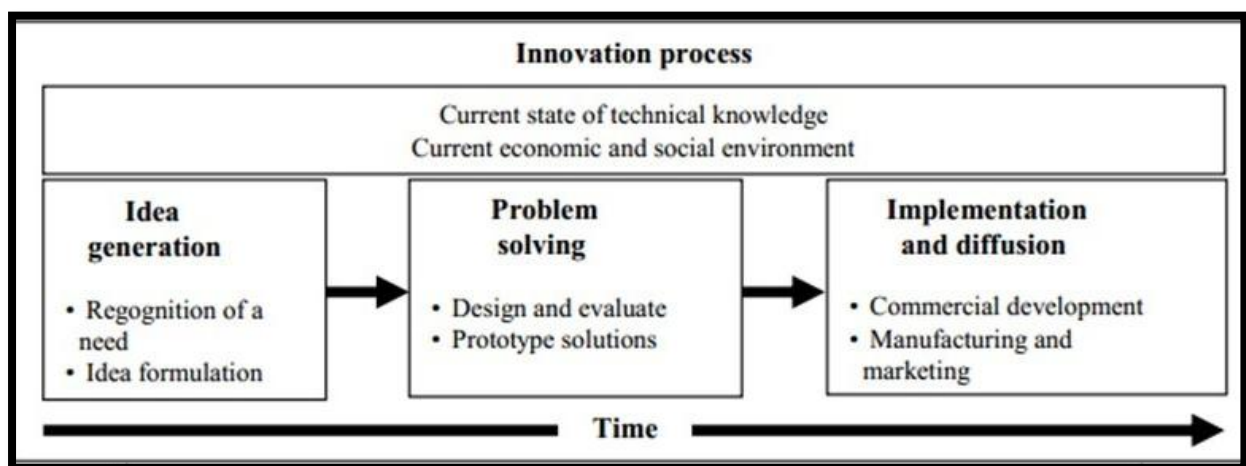
SME code	Type of Industry	Types of innovation implemented	The Level of Analysis	The stage of innovation process	Types of innovation
SME 7	ICT	□ Creation of an in store portal for the consumer, enterprise and employees	Business Unit	Marketing or commercialization	Product innovation
SME 8	Finance	□ Creation of an online financial advice process (Robo Adviser) □ Launching index tracking investment products for the retirement market.	Company	Generation of innovation	Radical innovation & Disruptive innovation
SME 9	Mining	□ Refinement of the cable anchoring system or supporting the underground mines stopping tunnels from caving in. □ Introduction of a world class system of	Company	Generation of innovation	Incremental innovation
SME 10	Medical	□ Creation of a visual aid to assist the partially sighted children to improve their remaining vision □ Registration of a new patent for Macular	Company	Problem solving	Radical innovation & Disruptive innovation
SME 11	Finance	□ Business development processes and audit practice management process refinement	Company	Process Improvement	Incremental innovation
SME 12	Finance	□ Moved away from industry focus on selling financial products to providing advice at a fee, and launching a new service for provision of Wills.	Company	Idea commercialization	Incremental innovation
SME 13	Construction & Logistics	□ Introduction of a school bus ownership system.	Business Unit	Adoption of innovation	Product and process innovation
SME 14	Auctioneer & Logistics	□ Setting up on of an online auction	Company	Process Improvement	Product and process innovation

The table above indicates the various types of innovations that have been implemented by the SMEs and also how they fit within the three dimensions of innovation. Various responses were given with regards to innovation in South African SMEs. Generally, it was ascertained that SMEs in South Africa do innovate to a certain level although this differs from company to company as a result of different strategic objectives. In addition, there are various types of innovations that SMEs have implemented. In line with the Crossan and Apaydin (2010) definition of innovation, some of the SMEs implemented innovation as a process and in some instances it was achieved as an outcome.

For instance, the SMEs who embarked on radical innovations portrayed their innovations as outcomes versus the incremental innovators who were more concerned about the process.

The above mentioned analysis also aligns with the model linking innovation and entrepreneurship as devised by McFadzean et.al. (2005), shown in the diagram below. This model depicts the innovation process and most of the steps that are often followed when companies are innovating. From the research findings, some evidence was given indicating the idea generation process, problem solving mechanisms as well as implementation and diffusion. For instance, in most of the SMEs there was an indication of a rigorous process adopted in the idea generation process. Some of these processes were guided by an identification of a gap in the market, the need for disruptive innovation and competitor forces. This led to the successful implementation of these ideas as can be seen in the impacts of innovation which were given. Such a sequential process evident in the South African SMEs might be an indication of best practice implementation and capabilities.

Table 4: Linking entrepreneurship with innovation.



Source: McFadzean et.al. (2005).

5.4 Types of innovation

The main types of innovation that have been consistently identified by scholars are product innovation (incremental & radical innovation), process innovation, and business level innovation (Radas & Božić, 2009; Chesbrough, 2010; Bogers, 2009). To expand on this, companies adopt some level of innovation based on the need and the internal capabilities to undertake the chosen type of innovation. Even though there has been evidence of high innovation rates within the SMEs, minimal effort has been directed at looking specifically at the types of innovation that has been implemented by the SMEs. For instance, Booyens (2012) mentions that SME levels of innovativeness are relatively high, but there was no detail with regards to the types of innovations which are normally implemented.

According to Millard and Pretorius (2005), “not all innovations are creative, for some innovations may be implementations of ideas developed by others and adapted for use locally or are minor incremental changes to existing products, services or processes” (p.56). The research findings fully confirmed this view. From the findings, it is emphatically clear that most entrepreneurs within the SMEs would rather adopt an already existing idea, fine tune it and then implement it. In this case, most of the innovation becomes more incremental and process innovation. The evidence also shows that there is some level of product innovation which is mostly associated with the desire to improve the SMEs’ competitive advantage. Where SA entrepreneurs seemed to fall short was in radical innovations. For example, there were a high number of entrepreneurs who would improve on a process that is already existent and less of those who came up with a new product to improve on that process. This also impacted on the level of creativity. It’s also worth noting that a high number of the SMEs had adopted business models from other countries and implemented within their companies. For example, one of the SMEs emulated a School bus ownership model which was developed in the US, and successfully implemented it in South Africa.

In as much as there was evidence of innovation implementation within the South African SMEs, only a few of them have managed to bring radical and totally new ideas in South Africa and also to the entire world. Of all the participants who were interviewed, only two gave evidence of products which were totally new ideas to the entire world.

Some of the participants had introduced innovation ideas which are new to South Africa but have been done somewhere else in the world. Such observations are partly concurrent with findings of The Entrepreneur dialogues (2013). This source indicated that a number of South African entrepreneurs are more “emulators” of ideas that have been tried and tested rather than coming up with purely new ideas. Considering that innovation and entrepreneurship are almost inseparable terms, these findings would then align to the Global Entrepreneur Monitor (2013) which stated that South Africa’s Total Entrepreneurial Activity (TEA) is lower when compared to other sub-Saharan countries. Where the Global Entrepreneurship Monitor falls short is an explanation of whether the high levels of entrepreneurship in other African countries is comprised of high quality opportunity entrepreneurs or more of self-employment necessity entrepreneurship.

Surprisingly, only one of the interviewees gave evidence of business model innovation. The participant indicated that their innovation was mostly centred on the improvement of their value proposition; hence this resulted in an automatic review of their entire business model in order to meet this objective. The refinement of the business model is aligned to the views shared by Andries and Debackere (2007). These authors maintain that business model innovation is not a once off process, but something which should be embedded into the company’s lifecycle evolution. In this way, the company or the SME can be in a position to meet the ever changing customer needs. Therefore, business model innovation has been identified as one of the core elements in entrepreneurship.

5.4.1 *Disruptive Innovation*

As demonstrated by various scholars, this term continues to be a buzz word in today’s business. It is centred on new technologies, new ideas, and processes that normally replace the existing ones, changing habits and setting new trends (Thormond, Herzerg & Lettice, 2003; Hamel, 2000). As part of the research problem, this concept was probed in order to determine how disruptive the South African SME innovations are. Findings from the sampled participants indicated a very low level of disruptive innovations. For instance, only 2 out of 14 participants indicated that they had implemented disruptive innovations in their SMEs. These ideas were in the Finance and Medical fields. From these ideas, the market reacted strongly in a positive way, and new trends were set with regards to the macular regeneration reading for the blind in the medical field. This also

resulted in companies having more traction with regards to funding and requests to form partnerships in the finance field.

Thormond et al. (2003) formulated an innovation framework that works in sequence in order to achieve disruptive innovation. This framework is comprised of opportunity recognition, opportunity development, solution development, and exploitation. The following section explains the framework and also gives evidence of the application as per the answers which were derived from SME8, an entrepreneur who came up with disruptive innovation. In this way, the sequential thinking will be demonstrated to show how this disruptive innovation was thought through and implemented successfully.

- **Opportunity recognition:** This is comprised of actions that are meant to generate ideas that will be then translated to action plans. In this way, ideas can then be translated into radical innovation or disruptive innovation (Thormond et al., 2003).

- **Application to SME8:** The business of this SME in the finance field was formed after the realisation of a gap in financial planning and wealth management. Research was then conducted in order to define the market and to discover any customer needs or gaps that needed attention.

- **Opportunity development:** This is derived from opportunity recognition and mainly centred on the refining of an idea in order to create a credible business case with potential to be a disruptive innovation (Thormond et al., 2003).

-**Application to SME8:** The interviewee indicated that they looked at various methods that could be used in order to give online advice to low income earners. This idea was generated after realising that people can buy investments online, do investments online but they could not get any financial advice online.

Solution development: This is subsequent to the opportunity development, focusing on the selection of compelling business cases and the selection of long-term action plans that support disruptive innovation (Thormond et al., 2003).

-**Application to SME8:** The chosen method was the creation and launching of Robo advisors. This is an online advice process which is targeted mainly at low

income earners. This was the first type of such a business in South Africa, and Money Web rated this as one of the 10 biggest innovations in South Africa.

Exploitation: This stage involves the selection of marketing channels, distribution methods as well as making long term investment decisions in order to achieve the required disruption (Thormond et al., 2003).

-Application to SME8: This idea was marketed through various channels such as the media and also made it to Radio 702.

To sum it up, the above framework demonstrates the planning, idea generation and implementation of a disruptive innovation within one of the South African SMEs. This sequential presentation demonstrates and confirms the thinking behind this innovation framework as formulated by Thormond et al. (2003). This framework further aligns with the model devised by Mahemba & De Bruijn (2003) on innovation and its adoption process. As stated earlier in the literature review, this theoretical framework looks at the key innovation activities (the process), the results / impacts of innovation, and “the extent to which innovation is new” as well as the influence of external environment on innovation generation or adoption.

The implementation of disruptive innovation by only 2 SMEs from a sample of 14 respondents is a cause of concern. The rationale for this concern is that this indicates a very low appetite for disruptive innovation. As earlier indicated, this might be linked to the fact that the country’s entrepreneurs are mostly survival / necessity entrepreneurs instead of high opportunity entrepreneurs. In addition, as stated by Robson et.al, (2008) this might also be linked to the fact that disruptive and radical innovations are often high risk initiatives, hence some of the entrepreneurs would rather avoid them and emulate the tried and tested ideas. However, this does not align with the country’s level of development as South Africa is on the top 10 list of the most developed countries in Africa. In other words, one would expect the level of disruptive innovations to be higher than the current state.

5.4.2 Open Innovation

From the findings of this research, there was no evidence which identified the existence of open innovation within the interviewed participants. In other words, no linkages between the SMEs were identified; most of the SMEs are still operating in a silo. This could be attributed to the fear of sharing ideas and the general level of entrepreneurship. It is therefore assumed that some of the factors mentioned by Bianchi et al. (2010) might be hampering the implementation of open innovation. These include; limited market influence, less systematic management influence and high costs associated with open innovation.

5.5 Comparisons of findings with previous studies

To get a balanced analysis of the research findings, it is important for these findings to be compared to previous research done on the same topic. As a recap from the literature review, various studies have been conducted in order to determine the relationship between innovation and entrepreneurship. However, most of these studies looked at the developed countries, and only a few in some African countries. Although there are a few divergent conclusions, most of the studies conducted in the developed countries indicated that entrepreneurs tend to innovate ideas that are linked to their strategic goals (Purcarea, et al., 2013; Kropp, Fredric, Shoham, 2006).

Looking at the African context, studies conducted in Ghana and Tanzania concluded that there was successful implementation of incremental innovation, product innovation and few radical innovations. These findings are similar to this research responses gathered from the SMEs which were sampled. As stated in earlier sections, evidence of incremental, process and product innovation seems to be very high. Yet on the other hand, radical and disruptive innovations still seem to be lagging behind. The prevalence of incremental innovation in South African SMEs is in congruence with other developing countries (as stated above). Such results demonstrate some level of consistency in SME trends across Africa when it comes to innovation. In addition, there is rarity of disruptive and radical innovations (Robson et.al. 2008). These similar authors also maintain that “incremental innovation is a wise and cautious approach to innovation in developing countries as it enables the firm to manage risk by building on the innovations of others”

(p.346). However, as cautioned by Radas and Božić (2009), care must be exercised not to make generalizations when looking at the relationship between entrepreneurs and innovation because of the complexities that are presented by different industry sectors and geographical locations.

Considering the information above, there seem to be some contradictions between the findings of this research, the other findings on similar research undertaken in other African countries as well as the views shared on the Global Entrepreneurship Monitor (2014). As stated earlier in the literature review, the GEM (2014) indicated that South African is still lagging behind in terms of total entrepreneurship activities when compared to other African countries. However, the consistency of the research findings with that of other African countries seems to suggest the contrary. To elaborate, the innovation level within SA entrepreneurs seemed to be at par with those from Ghana and Tanzania. Therefore, such a contradiction might be an indication of misaligned contextual issues, therefore creating a gap for further research exploration.

5.6 Link between innovation and entrepreneurship

It is important to note that a number of South African entrepreneurs are still “survival / necessity based entrepreneurs”, rather than high quality opportunity entrepreneurs. Booyens (2011) shares the same sentiments by stating that the South African SME economy is largely survivalist which is mostly prevalent in the informal economy. The reasons behind this could be attributed to the fact that the unemployment rates are relatively high; therefore, most entrepreneurs would rather embark on activities merely for survival. In this way, there is minimal capacity to come up with breakthrough ideas. From the sample of participants interviewed, results indicated more of self-employment entrepreneurs than high quality opportunity entrepreneurs. Therefore, it's almost inevitable that from such a sample, the levels of innovative ideas implemented are lower when compared to some international standards.

Such findings are consistent with to the views aired by Anokhin and Wincent (2012). From data which was collected from 35 countries (both developing and developed), these authors found that the relationship between innovation and entrepreneurship is dependent on the country's stage of development. In other words, the entrepreneurs in

the developed world frequently pursue high quality innovative ideas as a result of the fact that innovation opportunities differ. On the other hand, the entrepreneurs from the developing world tend to pursue low quality opportunities which are mostly driven by necessity, hence missing the potential to bring innovation advances (Anokhin and Wincent, 2012).

One of the characteristics of entrepreneurs is that they must be able to identify gaps / needs in the market and come up with ideas which are meant to cater for those needs. In an effort to meet this need, entrepreneurs would then come up with innovative ideas (Lichtenthaler, 2007; Pretorius & Millard, 2005). In relation to this point, Morris & Kuratko (2002) add that “creativity is the soul of entrepreneurship because it is required to spot the patterns and trends that define opportunities” (p.104). However, Carayannis, Popescu, Sipp and Stewart (2006) argue that the SMEs in general still lag behind in terms of product innovation as well as technology adoption.

The findings of this research present a totally different picture. The participants presented succinct evidence that shows clear adoption of technology in their quest to achieve their innovation objectives. For instance, the participants from ICT, Medicine and Digital Marketing indicated high levels of technology adoption such as the Key hole technology, systems configuration and web development. On the other hand, there was sufficient evidence given to show the implementation of product innovation such as an introduction of new anchoring support systems in the mining industry as well the creation of a visual aid to assist the partially sighted children to improve their remaining vision. In this way, there ample proof that South African SMEs do have the capability to use the absorptive and desorptive capacities in order to attain innovation. As a re-cap from literature review, absorptive capacities refer to the firm’s ability to sense, apply, and utilise newly acquired knowledge, whilst desorptive capacities refers to firm’s capability to utilise / exploit external knowledge (Lichtenthaler, 2007).

5.7 Determinants of innovation

There are various determinants of innovation that have been discussed in different sources. For instance, according to Crossan and Apaydin (2009) the determinants of innovation can be divided into 3 categories namely: leadership, managerial levers, and business processes. Leadership is mainly comprised of the CEO, top management, and Board of directors. The managerial levers are comprised of organisational culture, mission, goals, structure, systems, organisational learning, and resource allocation. Lastly, the business processes are comprised of initiation, decision making, development, initiation, and commercialisation (Crossan and Apaydin, 2009). Looking at the South African context, Oerlemans and Pretorius (2006) identified the influences of innovations below:

- a) Firm size: the larger companies might have greater propensity to innovate when compared to SMEs because of the better access to resources.
- b) Exporting: SMEs that have international exposure are more inclined to innovate as a result of knowledge flows and higher incentives.
- c) Innovation funds: The availability of funds from government and other funding agencies tend to influence companies to innovate.
- d) Utilisation of internal knowledge sources
- e) Utilization of outside knowledge sources

The findings of this research confirmed some of these factors that were identified in the literature review. There were also some new concepts that were obtained from the findings. There was some consensus with regards to the utilization of outside networks (as previously stated by Oerlemans and Pretorius, 2006). To substantiate, one of the participants indicated that the need for implementation of best practices led their company to innovate. Best practices are acquired by observing industry trends as well as using other external sources in order to get a holistic understanding of the market at which one operates. Some other factors which pointed to the utilisation of outside networks include pricing and unethical business conduct. To elaborate, the evidence pointed that there were some pricing collusions which happened between main suppliers and some of the competitors. On the other hand, in one of the finance sector SMEs, evidence pointed out that there were some unethical business practices which were

practiced, and this led to the implementation of innovation in order to counter these practices. All these aspects show the utilization of external networks for information.

The second point of agreement between the literature and the findings was on disruptive innovation which ties up to research and development (stated in the literature as one of the influences of innovation). The participants indicated that at times the need to offer something totally unique in the market influences an SME to embark on an innovative journey. Same applies to the previous findings which indicated that disruptive innovation and other exploratory analysis often lead to the creation of new products or solutions (Booyens, 2001).

One of the key factors that increases or enhances innovation is technology. According to Audretsch and Feldman (2003), technology plays a vital role in facilitating innovation and also improving new ideas. In addition, technology also drives companies to disruptive innovation within their business models. The research findings are concurrent with these views. For instance, 50 percent of the respondents identified technology as a factor that has largely influenced them to innovate. Additionally, technology was identified as a factor that also has a great influence on the customer preferences and choices.

Creativity, internal determinants, and entrepreneurship

Marcati et al. (2008) maintains that there has been heightened focus on how psychological foundations, skills and knowledge influence innovation. This is supported by Schumpeter's theory which focuses on the individual's internal dynamics which have an influence on their creativity, thereby leading to innovation. Hausman (2005) also confirms that a high level of education is associated with high innovation activity in companies. Conversely, it is surprising that none of the participants pointed out internal skills as influencers of innovation within their SMEs. Most of the factors mentioned attributed innovation to aspects that are mostly linked to the customer needs, customer perceptions and also on business growth. For instance, 80 percent of the participants argued that convenience to customers, the need to meet customer requirements and satisfaction had led them to introduce innovative ways of doing their business. Such a consistent view might be an indication of SA SMEs being customer centric and the prioritization of customer requirements.

On the flip side, one could also question the level of skill set that is available to attain such innovations. In other words, the reasons why the skills were not mentioned as influencers of innovation could be related to the fact that there are skills shortages anyway (a point that is discussed in detail in the next section). This also presents an opportunity for further enquiry in order to close this gap between literature and actual research findings.

Hausman (2005) formulated a model of innovation which shows the small firm innovativeness and adoption. In this model, the factors that were pointed out as innovation influences include industry concentration, manager factors, network effects, and tangibility of products. Industry concentration incorporates the industry competitiveness at which the SME operates. Manager factors are comprised of education, skills, and experience. Network effects include channel partnerships as well as other external innovation linkages. Lastly, tangibility of products includes observability, relative advantage as well as compatibility (Hausman, 2005).

Croissan and Apaydin (2004) support this model by pointing out the influence of managerial levers on innovation. They define these as firm-level variables which support innovation. The five types of these levers are: goals / mission / strategies, the company structure and systems, company culture and knowledge management tools. All these levers each play a role in influencing innovation within an organisation.

Evidence from the research findings reveals a slightly different picture from the above mentioned model. The few points of similarity were centred on technology (an influence which was mentioned in the research findings) which can be matched with tangibility of products. Secondly, the unethical business practices (identified in the research findings) are congruent with the network effects. The rationale for this congruency is based on the fact that if an SME has a good network then it is in a better position to know what is happening in the market, this includes any unethical business conduct.

The differing views on competition as an aspect that increase or enhance innovation is a point that needs further enquiries. Findings from 2 participants indicated that competition did not really influence them to innovate more. On the other hand, the majority of the interviewees all concurred that competition was one of the main drivers which had influenced them to change their ways of operating (by bringing new ideas). This point

might be attributed to the differing industry norms, company specific operations, and industry dynamics. Therefore, it is imperative that these are considered for one to get a full understanding with regards to such influences.

5.8 Obstacles to innovation

There are various limitations of innovation that have been identified in the literature review. Although these vary from country to country, there are some common ones which seem to be consistent to all the markets. A summarized version of the innovation barriers is mostly centred on government regulatory environment, economic and financial factors, as well as human resource constraints. In addition, these could then be subdivided into internal and external barriers. Internal barriers are those that arise from within the company whilst the external barriers are those that are caused by the external environment (Cordeiro and Vieira, 2012; Madrid-Guijarro et al., 2009). Other innovation limitations as posited by Walicka (2014) include lack of government support, lack of accessibility to international markets lack of skills and payback periods which are exceptionally long.

The literature and research findings were both congruent when it comes to finance being a barrier to innovation. It is important to note that this is not only a South African problem but something that is also rampant in international SMEs. For instance, Madrid-Guijarro, Garcia & Van Auken (2009), state that the risk associated with innovation often deters funders from financially supporting SMEs. This was observed through a study done on the Spanish manufacturing SMEs. Hausman (2005) adds that there are often conflicts which arise when deciding to fund innovation versus the risk aversion which is common among the SME owners or entrepreneurs. Looking at the South African context, Booyens (2011) points out that SMEs face a greater barrier in accessing finance for innovation (when compared to the larger companies). This is due to the fact that they often have unsteady cash flow as well as minimal collateral. In relation to the research findings, this point was consistently stated as a major hurdle limiting the SMEs' capability to innovate. Most of the respondents maintained that South African funding institutions often require high levels of collateral as innovation is still considered a risky process (especially when it comes to the implementation of new ideas).

On the contrary, one participant had a slight different view with regards to funding. They indicated that funding is often available if one demonstrates that they are aiming to solve a real need with their idea. Such sentiments might be a great contribution to the body of literature and also an encouragement for SMEs to refine their ideas succinctly before they can apply for funding.

There was a strong sentiment shared by the participants with regards to the lack of adequate policy support for SMEs to innovate. An extension of this point stated that the personnel who are hired to formulate and implement these policies are often not qualified or equipped with the right knowledge for such tasks. Other policies which are often portrayed to support innovation within SMEs at times tend to work the opposite way, hampering technological advances. This is line with previous findings on this phenomenon. For instance, Booyens (2011) previously stated that innovative SMEs received minimal support from the policy framework. A closer analysis of literature within the South African context indicates that this has been a major problem for the past 2 decades. This might be an indication of SMEs and innovation being of less priority to other issues in the country. Even though there has been a ministry set up for small businesses, it is too early to discern whether this has improved policies to support innovation.

Even though there was consensus on policy and regulations being an impediment to innovate, findings from other participants portrayed a slightly different picture. For instance, one participant was of the view that policies and regulations can always be “influenced” if one has the right idea or product. In other words, if one can prove the feasibility and sustainability of an idea, then they have a better chance of convincing regulators to buy in to their idea. This point brought some different kind of thinking and approach with regards to this topic. Such influence can perhaps be possible dependent on the type of industry that one operates in, the number of jobs that might be created by the new idea and other development variables applicable to the country.

The research results pertaining to the challenges which are faced by entrepreneurs indicates that there are various structural / systemic, organisational as well as individual aspects which lead to these challenges. These can also fall under the internal and external challenges in the macro-environment (Wolf, 2006). This incorporates lack of

market access, resistance to innovation, organisational structures, and aspects such as skills shortages. In addition, aspects such as lack of in-depth market understanding and knowledge deficiency all fall under these categories.

Concurrent with the literature review, most of the above-mentioned factors were confirmed in the research findings. To elaborate, talent and skills deficiency was one of the major concerns identified. There are instances where either the required skills are minimally available but coming at a high cost, and instances where there are skills shortages in general. In addition, there are some labour laws which tend to be overprotective of the employees, resulting in difficulties to replace non-performing employees. In this way, SMEs end up missing out on innovations as they do not have the right people with the required skills on board.

Other points of consistency between the literature and the actual findings include fear of risk which ties up with fear of failure. In both instances, this was identified as a major issue when it comes to decisions around innovation. The literature also identified resistance to innovation as a challenge to innovate (Cordeiro and Vieira, 2012). The findings confirmed that a vast number of customers are often resistant to new products and new systems, hence limiting the propensity for innovation. Lastly, according to Herington et al. (2008), the absence of market leadership thinking often impedes innovation strategies. The same sentiment was shared in the findings, presented as the lack of knowledge on effective implementation of viable commercial models. A further explanation was that poor thought processes behind commercial models often leads to failure, resulting in the creation of a hostile environment for innovation to thrive.

From all the obstacles of innovation identified by the respondents and in the literature review, it is quite evident that South Africa needs to re-look at the current policies and the national innovation system on SMEs. Scholars such as Ndabeni (2012) and Booyens (2011) have shared similar views. However, judging from the current situation, there are still huge strides which need to be taken in order to boost innovation within SMEs. This might be achieved through a closer look at the general culture of entrepreneurship and addressing the gaps using current knowledge. Unlike countries such as Ghana where entrepreneurship dates back to the fifteenth century (Robson et.al. 2008), the South African context presents a different picture. Therefore, the country's context needs to be

factored into the decision making so as to ensure that the suggested solutions meet the current needs and deficits in the SME innovation system. Rogerson (2008) also posits that flexible regulations, access to finance and skills training are some of the “key strategic elements” in supporting the national entrepreneurship pillars (p.61).

5.9 Effects of innovation

As stated earlier in the literature review, some of the impacts of innovation which have been identified in previous studies include improved competitive advantage, and improved sales and bottom line (Moses et.al. 2012). The same authors also add that innovation is important for the profitability and viability of SMEs. Additional aspects that were pointed out by other scholars include enhanced global competitiveness, improved labour costs, better provision of quality goods and services, and increased production capacity (Ndabeni, 2012; Moses et.al. 2012; Brem, 2011). Another dimension is that entrepreneurship uses innovation to expand business scope and boost growth (Brem, 2011). Additional points stated by McFadzean et al. (2005) point to value creation, revenue growth, new products, and services as impacts of innovation.

The findings of this research confirm some of the above factors that have been stated in the literature review. Participants’ responses to the impact of innovation can be put into the following categories:

- Improved customer service
- Growth of business
- Efficiency in operations
- Enhanced competitiveness
- Improved value proposition
- Culture improvement
- Process re-designing

Most of the evidence gathered points to an increase in business turnover, which is a result of an increase in the clientele base. Aligned to this point is the cost saving element which also leads to more profitability. A combination of the above factors also contributed to more stable SMEs, with a good reputation in the industry.

The disruptive innovation implemented led to some unique findings, as attested by the participants. The new products which were introduced in the market changed the status quo, created new trends, and also brought an end to some of the unethical business practices especially in the financial sector. In addition, the application of best practices was more detailed as competitors tried to react to the new trends and customer habits that were being created in the market. These findings confirm the sentiments shared by Christensen and Raynor (2003), when they pointed out that the forces of disruptive innovation often work within the industry changing the way things are done, customer mind-sets and consumer preferences.

The similarity between the research findings and the literature review might be a pointer towards consistency in the trends in entrepreneurship. For instance, most of the findings were comparable to the ones which were established from similar studies. However, this is mostly applicable to the studies which were conducted in the developing countries (Ghana and Tanzania). In other words, from the research findings and the literature review, one could not ascertain a direct match between the developed and the developing countries. Hence context and the country's stage of development plays a huge role in the innovation process.

5.10 Conclusion

The findings of this research concurred with some of the literature review on this topic. A few outliers were identified and they could be attributable to the South African context (as a developing country). The first research question probed the extent to which the South African entrepreneurs had implemented innovation within their SMEs. Evidence gathered in response to the questions posed indicates an understanding as well as implementation of various innovative ideas. These varied from incremental, process and product innovation. Disruptive innovation was implemented but to a lesser extent. There was also a level of consensus amongst the literature pertaining to implementation of innovation within other African countries with actual research findings for South African SMEs.

Research findings and the literature also demonstrated a high level of congruence on the second research question which probed the factors that enhance innovation within the

South African SMEs. Most of the evidence pointed to customer factors, internal company dynamics / elements, technology and the competitive environment as some of the main aspects which enhance innovation in SMEs. The findings also further indicated unethical business practices (from other SMEs) as factors that influences and enhances innovation. The differences between research findings and literature were on skills and competition as innovation enhancers.

The factors that inhibit innovation were probed on the third research question. Similarities between the literature and research findings were quite profound. These factors varied from internal and external aspects coupled with structural and systemic challenges. Finance was presented as a major challenge both on the literature and on the findings (although there was one outlier who has a slightly different perspective). Other aspects which were presented were policy inefficiencies, skills or talent shortages, and lack of market leadership. Lastly, a point of agreement on the literature and findings dwelt on risk and resistance to change as some of the impediments to innovate. With regards to regulation, policy and general SME / entrepreneurial support, there are various calls to have a slightly different approach to the current one. This will include factoring the country's current context (with regards to entrepreneurship) and making sustainable decisions in order to change the current status.

The last part of the results analysis probed the impacts of innovation based on what has been presented in the literature as well as the actual research findings. The main impact was identified as growth of business which was the broken down to various aspects which include increased profitability and cost savings. Additional factors included improved SME reputation and enhanced culture. Disruptive innovation resulted in change in customer habits and change of status quo, a sentiment attested by the literature review as and on the research findings.

This section has presented the analysis of the research findings in comparison with other theoretical frameworks and models. Consistency and inconsistencies in relation to the research questions were identified and explained. The next section will present the research conclusion, recommendations as and suggestions for future research.

CHAPTER 6. CONCLUSIONS & RECOMMENDATIONS

6.1 Introduction

South Africa is considered to be lagging behind with regards to innovation and total entrepreneurial activity when compared to other countries. This is at the backdrop of a country which is slightly on a better level of development when compared to other African countries. This presents challenges to the unemployment rate which is quite high. The study explored innovativeness of the South African SMEs. In addition, the study also analysed the innovation barriers faced by SMEs. This chapter will present the conclusions of this research, provide recommendations to industry stakeholders, and propose some areas that could be explored for future research.

6.2 Conclusions of the study

To explore the innovation within the South African SMEs, the following research questions guided this study:

- To what extent have South African SMEs implemented innovation within their businesses?
- What factors enhance innovation in South African SMEs?
- What factors limit innovation in South African SMEs?
- What are the impacts of innovation (or lack of it) on the overall success of the South African SMEs?

Literature indicates that South Africa's entrepreneurial activity is low when compared to the rest of the African countries. When it comes to innovativeness, Booyens (2012) stated that small firms are engines of innovation in the South African context. The findings of this study indicate that South African entrepreneurs have a good understanding of innovation and have implemented it within their Small Medium Enterprises. The types of innovation implemented within these SMEs vary between incremental, process, and product innovation. Very few SMEs implemented disruptive innovation. This aligned to the literature views on the point that some entrepreneurs

would rather emulate an existing idea than implement something totally new in the market. In the South African context, this seems to be linked to the fear of failure as well as minimal support for new products in the market. It is worth mentioning that even though there was evidence of innovation implementation, it was not overwhelming. The rationale is that there were two research participants who did not demonstrate a full understanding of innovation hence lacking implementation as well. The research findings and the literature review showed that South Africa is still mostly a survivalist country; hence most of the innovation implemented is mostly incremental rather than disruptive innovation. These findings were also supported by the literature by Anokhin and Wincent (2012) who stated that entrepreneurs from the developing world tend to pursue low quality opportunities which are mostly driven by necessity, resulting in them missing the potential to bring innovation advances (Anokhin and Wincent, 2012).

With regards to the second research question which probed the influences of innovation, the literature pointed to managerial levers, psychological foundations, technology, skills and knowledge as factors that influence and enhance innovation in SMEs (Marcati, et al. 2008; Audretsch & Fieldman, 2003; Crossan and Apaydin, 2009). In support of this, evidence from the research indicated that most innovation is usually influenced through an array of factors that include organisational, market and business growth dynamics. Factors such as ethics, price collusions were other new aspects identified as influences of innovation. Additionally, there were also some slightly divergent views on competition as an influence of innovation (something that creates a gap for further exploration). Even though skills are identified as one of the main influences of innovation in the literature review, the research findings did not attribute any innovation to the availability of skills within the SMEs.

The third research question probed the limitations of innovation in SMEs. The literature underpinning this research question indicated that there are various issues (from within the SMEs) and some from the external environment, which all are impediments to SMEs' innovative capabilities. The findings of the research confirmed most of the factors that are mentioned in the literature review. The research findings overwhelmingly pointed out that lack of finance, policy deficiencies, and skills shortages as some of the major obstacles to innovation. With regards to the skills, it is costly to hire personnel with the talent for the required innovation capabilities. Slightly divergent views on lack of finance

present an opportunity for further exploration on this view. The same applies to policy and regulations which were portrayed as factors that can be influenced if the entrepreneur has the right idea which answers a need. In other words, contrary to popular arguments, a part of the research findings did not demonstrate these as challenges but rather as factors that could be influenced to produce positive results.

The successful implementation of innovation often leads to positive results within the SMEs. This was demonstrated in the research findings, which also aligned to the literature review on the impact on innovation. Improved business processes, growth in sales and revenue, and enhanced business reputation are some of the major findings resulting from innovation implementation. On the other hand, disruptive innovation often changes the status quo leading to new customer habits and trends. Lastly, it is worth pointing out the consistency in research findings within the South African context as well as those of other African countries (as indicated by Mahemba & Bruijn, 2003). To elaborate, there were quite profound similarities in findings which were done in other African countries with this study conducted in the South African context. For instance, both Tanzania and Ghana SMEs indicated that they implemented product, process, and incremental innovation, which also applies to the South African context. Such consistency in turn poses an opportunity for further exploration so as to understand the role played by context with regards to entrepreneurship and innovation.

6.3 Recommendations

The findings of this study together with the literature review generate some recommendations that can guide stakeholders in the innovation process and implementation in South African SMEs. It is imperative to note that these recommendations might not work in isolation but rather they require a rigorous approach which is underpinned by strong policy support, appropriate implementation measures, and effective monitoring and evaluation.

Academics: Comprehensive research on innovation, coupled with scenario planning needs to be undertaken. This might include comparisons with other successful developing countries so as to get a balanced argument. In this way, gaps in the idea generation process could be identified, as well as deficiencies within the implementation

process. There are factors that need further probing with regards to the country's contextualization, the stage of development as well as the innovation appetite in general. Such information can be achieved through various studies which aim to look at the country specifics as well as an understanding of how future different innovation scenarios might look like. Such an approach has the potential to generate sustainable ideas on how innovation could be nurtured and supported within SMEs.

Funding Institutions & investors: Firstly, an understanding of the reluctance and inadequate SME funding needs to be determined. This has a ripple effect on the failure of innovations within new start-ups. High collateral demands associated with SME funding need to be reviewed. Other mechanisms and qualification criteria need to be devised so as to allow innovative ideas to thrive. For instance, a funding model can be formulated with clear expected outcomes as well as an effective monitoring mechanism, in this way enabling SMEs to access these funds. This same concept could be rolled out for disruptive innovation. Ideas can be heavily tested through a pre-determined pilot program before funds are committed. In this way, funders / investors can identify the key success factors and sustainability of the ideas. Such an approach will counter the current blanket approach and create more opportunities for innovation within the SMEs.

Incubator programs: There are a growing number of business incubator programs which aim to support entrepreneurs and SMEs. The incubators could play a larger supporting role focussed on innovation within the small medium enterprises. This could be achieved through a comprehensive analysis of all the unique and sustainable ideas, ensuring that they are nurtured effectively.

Government Agencies and policy formulators: Current policies need to be reviewed in order to get a holistic understanding of the gaps that deter innovation within the SMEs. An appropriate policy framework needs to be guided by clear objectives of what needs to be achieved in terms of the innovation outcomes. Such an approach may lead to innovation becoming naturally inculcated into the economical ecosystem. In addition, the government could add value to the innovation process by emulating what other developed countries are doing with regards to innovation. Evidence shows that some developed countries have managed to support innovation within their SMEs and hence there are more disruptive ideas when compared to the South African context.

Business schools & academic institutions: There is a need to ensure that innovation becomes part of the academic curriculum. This can be achieved through the utilisation of business schools as a starting point. There are numerous calls for entrepreneurship and innovation to be taught from grass roots level.

6.4 Suggestions for further research

The research findings presented other areas that could be further explored in relation to innovation and entrepreneurship. The below suggested research areas could enhance the current literature on this topic and also add value to the various different stakeholders in the innovation process.

Firstly, there is need to examine innovation within the necessity based entrepreneurs and high opportunity entrepreneurs. In this way, a balanced argument might be presented to demonstrate how these two types of entrepreneurs approach innovation. The rationale for this suggestion is that these types of entrepreneurs tend to be driven by different reasons to embark on the entrepreneurship journey. Therefore, it is imperative to understand how innovation is influenced within these two spheres.

Secondly, a point of further consideration could be determining the return on investment that is achieved through innovation in SMEs. This could be either for the funders, the investors or the SMEs themselves. A quantitative research could be utilised in order to get the actual value of such initiatives. The advantage of such research is that it will contribute to the measurement and evaluation of entrepreneurial activities in the South African context.

Thirdly, research that explores the effects of external factors on innovation in SMEs is highly recommended. These external factors include the market size, competition, changing customer needs and the escalating exchange rates. A deeper understanding of how these factors affect innovation in SMEs will lead to a more holistic approach in policy formulation and the funding decisions.

Fourthly, disruptive innovation needs to be explored within the South African context. Currently, South African SMEs are still lagging behind when it comes to disruptive and

radical innovation. A suggested approach could be to look at antecedents, the intended outcomes, and perceptions associated with disruptive innovation.

Lastly, there is a need to examine best practices in innovation and entrepreneurship from developed countries, and how these could be applied in the South African context. In this way, South African SMEs could be empowered and be in a position to make sustainable and effective decisions when implementing innovation. In addition, such research could improve knowledge transfer on a country to country basis.

REFERENCES

- Adèr, H. J., & Mellenbergh, G. J. (Eds.). (1999). *Research Methodology in the Social, Behavioural and Life Sciences: Designs, Models and Methods*. Sage.
- Amit, R., & Zott, C. (2001). *Value creation in e-business*. INSEAD.
- Andries, P., & Debackere, K. (2007). Adaptation and Performance in New Businesses: Understanding the Moderating Effects of Independence and Industry. *Small Business Economics*, 29(1-2), 81-99.
- Anokhin, S., & Wincent, J. (2012). Start-up rates and innovation: A cross-country examination. *Journal of International Business Studies*, 43(1), 41-60.
- Audretsch, D. B., & Feldman, M. P. (2004). Knowledge spill overs and the geography of innovation. *Handbook of regional and urban economics*, 4, 2713-2739.
- Australian Research Council (ARC), (2011). Definitions glossary. Retrieved 26 June 2015 from <http://www.arc.gov.au/general/glossary.htm>
- Autio, E., Kenney, M., Mustar, P., Siegel, D., & Wright, M. (2014). Entrepreneurial innovation: The importance of context. *Research Policy*, 43(7), 1097-1108.
- Bianchi, M., Campodall'Orto, S., Frattini, F., & Vercesi, P. (2010). Enabling open innovation in small-and medium-sized enterprises: how to find alternative applications for your technologies. *R&D Management*, 40(4), 414-431.
- Bogers, M. (2009). The sources of process innovation in user firms. Eindhoven University of Technology, the Netherlands.
- Booyens, I. (2011). Are small, medium-and micro-sized enterprises engines of innovation? The reality in South Africa. *Science and Public Policy*, 38(1), 67-78.
- Brazeal, D.V. & Herbert, T.T. (1999). The genesis of entrepreneurship, *Entrepreneurship theory and practice*, 23 (3): 29-45.
- Brem, A. (2011). Linking innovation and entrepreneurship—literature overview and introduction of a process-oriented framework. *International Journal of Entrepreneurship and Innovation Management*, 14(1), 6-35.

- Chesbrough, H. (2006). Open innovation: a new paradigm for understanding industrial innovation. *Open innovation: Researching a new paradigm*, 1-12.
- Chesbrough, H. (2010). Business model innovation: opportunities and barriers. *Long range planning*, 43(2), 354-363.
- Chesbrough, H. (2010). Business model innovation: opportunities and barriers. *Long range planning*, 43(2), 354-363.
- Christensen, C., & Raynor, M. (2013). *The innovator's solution: Creating and sustaining successful growth*. Harvard Business Review Press.
- Cordeiro, A., & Vieira, F. D. (2012). Barriers to innovation in SMEs: an international comparison.
- Collis, J., & Hussey, R. (2013). *Business research: A practical guide for undergraduate and postgraduate students*. Palgrave Macmillan.
- Cooper, D. R., & Schindler, P. S. (2011). *Business research methods (12th Edition)*. McGraw Hill Higher Education.
- Creswell, J. W. (2003). Research Design: Qualitative. *Quantitative and Mixed Methods*.
- Crossan, M. M., & Apaydin, M. (2010). A multi-dimensional framework of organizational innovation: A systematic review of the literature. *Journal of management studies*, 47(6), 1154-1191.
- Delmar, F., & Shane, S. (2003). Does Planning Facilitate Product Development in New Ventures. *Strategic Management Journal*. 24 (12), 1165-1185.
- De Vaus, D. A., & de Vaus, D. (2001). *Research design in social research*. Sage.
- Dess, G. G., & Lumpkin, G. T. (2005). The Role of Entrepreneurial Orientation in Stimulating Effective Corporate Entrepreneurship. *Academy Of Management Executive*, 19(1), 147-156. doi:10.5465/AME.2005.15841975.
- Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of advanced nursing*, 62(1), 107-115.
- George, G., & Bock, A. J. (2011). The business model in practice and its implications for entrepreneurship research. *Entrepreneurship theory and practice*, 35(1), 83-111.

- Global Entrepreneur Monitor (2013). 15 years of assessing entrepreneurship across the globe Retrieved 04 March, 2015, from www.gemconsortium.org/docs/download/3106
- Gopalakrishnan, S., & Damanpour, F. (1997). A review of innovation research in economics, sociology and technology management. *Omega*, 25(1), 15-28.
- Hadjimanolis, A., & Dickson, K. (2000). Innovation strategies of SMEs in Cyprus, a small developing country. *International Small Business Journal*, 18(4), 62-79.
- Hamel, G. (2000). *Leading the Revolution* Harvard Business School Press. Boston, MA, USA, 343 - 354.
- Hasan, M., & Harris, E. (2009). Entrepreneurship and innovation in e-commerce. *Journal of Achievements in Materials and Manufacturing Engineering*, 32(1), 92-97.
- Hausman, A. (2005). Innovativeness among small businesses: Theory and propositions for future research. *Industrial Marketing Management*, 34(8), 773-782.
- Hennink, M., Hutter, I., & Bailey, A. (2010). *Qualitative research methods*. Sage.
- Hossain, M. (2015). A review of literature on open innovation in small and medium-sized enterprises. *Journal of Global Entrepreneurship Research*, 5(1), 1-12.
- Innovation Hub (2012). The Innovation hub business incubator. Retrieved 25th June, 2015, from <http://www.theinnovationhub.com/index.php>
- Joppe, M. (2000). The Research Process. Retrieved June 28, 2015, from <http://www.ryerson.ca/~mjoppe/rp.htm>.
- Knox, S., & Burkard, A. W. (2009). Qualitative research interviews. *Psychotherapy Research*, 19(4-5), 566-575.
- Kropp, F., Lindsay, N. J., & Shoham, A. (2006). Entrepreneurial, market, and learning orientations and international entrepreneurial business venture performance in South African firms. *International Marketing Review*, 23(5), 504-523.
- Leedy, P. N., & Ormrod, J. E. (2005).. *Practical research: Planning and design* (8th ed.). Upper Saddle River, NJ: Prentice Hall.
- Liamputtong, P., & Ezzy, D. (2005). *Qualitative research methods*.

- Lichtenthaler, U. (2007). The drivers of technology licensing: An industry comparison. *California management review*, 49(4), 67.
- Madrid-Guijarro, A., Garcia, D., & Van Auken, H. (2009). Barriers to innovation among Spanish manufacturing SMEs. *Journal of Small Business Management*, 47(4), 465-488.
- Mahemba, C. M., & Bruijn, E. J. D. (2003). Innovation Activities by Small and Medium-sized Manufacturing Enterprises in Tanzania. *Creativity and innovation management*, 12(3), 162-173.
- Marcati, A., Guido, G., & Peluso, A. M. (2008). The role of SME entrepreneurs' innovativeness and personality in the adoption of innovations. *Research Policy*, 37(9), 1579-1590.
- Maré, D. C. (2004). What Do Endogenous Growth Models Contribute?. Available at SSRN 805465.
- Markides, C. (2006). Disruptive innovation: In need of better theory*. *Journal of product innovation management*, 23(1), 19-25.
- Massa, S., & Testa, S. (2008). Innovation and SMEs: Misaligned perspectives and goals among entrepreneurs, academics, and policy makers. *Technovation*, 28(7), 393-407.
- McFadzean, E., O'Loughlin, A., & Shaw, E. (2005). Corporate entrepreneurship and innovation part 1: the missing link. *European Journal of Innovation Management*, 8(3), 350-372.
- Merriam, S. B. (1998). *Qualitative Research and Case Study Applications in Education. Revised and Expanded from "Case Study Research in Education."* Jossey-Bass Publishers, 350 Sansome St, San Francisco, CA 94104.
- Morris, M., & Kuratko, F. (2002). Corporate Entrepreneurship: Entrepreneurial Development within Organizations.
- Morse, J. M., Barrett, M., Mayan, M., Olson, K., & Spiers, J. (2008). Verification strategies for establishing reliability and validity in qualitative research. *International journal of qualitative methods*, 1(2), 13-22.
- Moses, C., Sithole, M. M., Blankley, W., Labadarios, D., Makelane, H., & Nkobole, N. (2012). The state of innovation in South Africa: Findings from the South African National Innovation Survey. *South African Journal of Science*, 108(7-8), 15-20.

- Ndabeni, L. L. (2012). Small Medium and Micro Enterprises in South Africa's National System of Innovation. *Preliminary report prepared for the Global Research Network for Learning, Innovation, and Competence Building Systems, Economics Institute of the Federal University of Rio de Janeiro, Brazil.*
- Opdenakker, R. (2006). Advantages and disadvantages of four interview techniques in qualitative research. In *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research* (Vol. 7, No. 4).
- Olsen, C., & St George, D. M. M. (2004). Cross-sectional study design and data analysis. *College Entrance Examination Board.*
- Pérez-Luño, A., Wiklund, J., & Cabrera, R. V. (2011). The dual nature of innovative activity: How entrepreneurial orientation influences innovation generation and adoption. *Journal of Business Venturing*, 26(5), 555-571.
- Pretorius, M. W., & Oerlemans, L. A. (2006). Some views on determinants of innovative outcomes of South African firms: an exploratory analysis using firm-level data. *South African Journal of Science*, 102(11 & 12), 589-593.
- Pretorius, M., Millard, S. M., & Kruger, M. E. (2005). Creativity, innovation, and implementation: Management experience, venture size, life cycle stage, race and gender as moderators. *S. Afr. J. Bus. Management*, 36(4).
- Purcarea, I., del Mar Benavides Espinosa, M., & Apetrei, A. (2013). Innovation and knowledge creation: perspectives on the SMEs sector. *Management Decision*, 51(5), 1096-1107.
- Radas, S., & Božić, L. (2009). The antecedents of SME innovativeness in an emerging transition economy. *Technovation*, 29(6), 438-450.
- Remenyi, D. (2003). *Doing research in business and management: an introduction to process and method*. London, Sage Publications.
- Resnik, D. B. (2011). What is Ethics in Research & Why is it Important?. In *The national*.
- Robson, P. J., Haugh, H. M., & Obeng, B. A. (2009). Entrepreneurship and innovation in Ghana: enterprising Africa. *Small Business Economics*, 32(3), 331-350.
- Rosenbusch, N., Brinckmann, J., & Bausch, A. (2011). Is innovation always beneficial? A Meta - analysis of the relationship between innovation and performance in SMEs. *Journal of business Venturing*, 26(4), 441-457.

- Rogerson, C. M. (2008). Tracking SMME development in South Africa: Issues of finance, training and the regulatory environment. In *Urban forum* (Vol. 19, No. 1, pp. 61-81). Springer Netherlands.
- Saunders, M., Lewis, P. & Thornhill, A. (2009) *Research methods for business students*, 5th ed., Harlow, Pearson Education.
- Shane, S. (2009). Why encouraging more people to become entrepreneurs is bad public policy. *Small Business Economics*, **33** (2): 141-149
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for information*, 22(2), 63-75.
- Śledzik, K. (2013). Schumpeter's view on innovation and entrepreneurship. *Management Trends in Theory and Practice*, (ed.) Stefan Hittmar, Faculty of Management Science and Informatics, University of Zilina & Institute of Management by University of Zilina.
- SME Growth Index (2013). A country at the crossroads – toward better regulatory environment in South Africa. Retrieved 26 June 2015 from <http://smegrowthindex.co.za/wp-content/uploads/2014/11/alert-digital.pdf>
- Strauss, A., & Corbin, J. (1998). Basics of qualitative research techniques.
- Sweezy, P. M. (1943). Professor Schumpeter's theory of innovation. *The review of economic statistics*, 93-96.
- Teddle, C., & Yu, F. (2007). Mixed methods sampling a typology with examples. *Journal of mixed methods research*, 1(1), 77-100.
- Teece, D. J. (2010). Business models, business strategy, and innovation. *Long range planning*, 43(2), 172-194.
- The Entrepreneurial Dialogues (2011). State of Entrepreneurship in South Africa Retrieved 05 March, 2015, from www.gibs.co.za/.../The%20Entrepreneurial%20Dialogues%20-%20State
- Thomond, P., Herzberg, T., & Lettice, F. (2003). Disruptive innovation: Removing the innovators dilemma. In *British Academy of Management Annual Conference: 'Knowledge into Practice*.
- Walicka, M. (2014). Innovation Types at SMEs and External Influencing Factors. *e- Finanse*, 10(3), 73.

- Willig, C. (2013). *Introducing qualitative research in psychology*. McGraw-Hill Education (UK).
- Wolf, S. (2006). Encouraging innovation and productivity growth in Africa to create decent jobs. *DPRU/TIPS Coherence*, 18-20.
- Wong, P. K., Ho, Y. P., & Autio, E. (2005). Entrepreneurship, innovation, and economic growth: Evidence from GEM data. *Small Business Economics*, 24(3), 335-350.
- Zhang, Y., & Wildemuth, B. M. (2009). Qualitative Analysis of Content [w:] Applications of Social Research Methods to Questions in Information and Library Science, red. Barbara M. Wildemuth, (West Port, Connecticut: Libraries Unlimited, 2009), 308.
- Zott, C., & Amit, R. (2007). Business model design and the performance of entrepreneurial firms. *Organization science*, 18(2), 181-199.

APPENDIX A: Interview Schedule/ guide

Sex:

Age group:

Education:

Experience in the current company:

How long has this company been running:.....

Experience over time leaving school:

A. Establishing the type of innovation (if any) implemented by the SME.

- Can you outline any innovations that your company has undertaken (this could be in the past or current).
- Were these new ideas or perhaps you emulated them from other existing models?

B. Determining the factors that influence innovation

- How did you come up with your business idea?
- Has your business model/ service/ product changed within the last 3 years. If so, how were the changes implemented and what were the reasons for the change?
- In relation to the previous questions, are there any other factors that may influence you to change your model/ service/ products in future?

C. Determining factors that limit innovation

- What has mostly impacted or restricted you to change the way you run your business/ service offerings or products?
- What is the biggest current set back that prevents you to improve your service/ product offering?

D. Establishing the impacts of innovation

- Have you ever benefited from a new business idea/ service/ product change that you implemented in your business?
- Briefly describe your most memorable new business idea that you implemented (if any) and what success factors you like about it.

Are there any other aspects that you may want to elaborate or add on??

APPENDIX B: Table of respondents' results on innovation implementation.

SME code	Firm Size/ Number of employees	Type of Industry	Type of innovation implemented
SME 1	4	Mining	☐ Integrated systems to supply offshore mining companies.
SME 2	5	Medical	☐ New payment system which is dissociated with medical Aid ☐ Queuing systems which incorporated selective booking times
SME 3	8	Finance	☐ Bringing a credit marketplace to the financial space allowing ordinary man in the street to directly participate in loans.
SME 4	3	Consulting	☐ Quality checks and monitoring systems as part of the operational model review.
SME 5	6	Retail	☐ Customized/ tailor made safety combo ☐ Centralised tailoring solution for safety and protective clothing
SME 6	7	Digital Marketing	☐ Process improvement - Industrializing the client on boarding process to the solution delivery stage ☐ Process optimization on the company pricing structure
SME 7		ICT	☐ Creation of an in store portal for the consumer, enterprise and employees
SME 8	15	Finance	☐ Creation of an online financial advice process (Robo Adviser) ☐ Launching index tracking investment products for the retirement market.
SME 9	50	Mining	☐ Refinement of the cable anchoring system or supporting the underground mines stopping tunnels from caving in. ☐ Introduction of a world class system of best practices for efficient service delivery
SME 10	35	Medical/ Consulting	☐ Creation of a visual aid to assist the partially sighted children to improve their remaining vision ☐ Registration of a new patent for Macular Degeneration suffers to gain the vision
SME 11	15	Finance	☐ Business development processes and audit practice management process refinement
SME 12	3	Finance	☐ Moved away from industry focus on selling financial products to providing advice at a fee.
SME 13	115	Construction & Logistics	☐ Introduction of a school bus ownership system.
SME 14	11	Auctioneering & Logistics	☐ Setting up on of online auction

APPENDIX C: The impacts of innovation in SMEs

SME code	Type of Industry	Types of innovation implemented	Impacts of Innovation
SME 1	Mining	☐ Integrated systems to supply offshore mining companies.	☐ Reduced transport costs for the clients and ultimately improved profit margins for the SME.
SME 2	Medical	☐ New payment system which is set apart from the medical Aid ☐ Queuing systems which incorporated selective booking times	☐ Growth in client base as well as referrals ☐ Achievement of weekly and monthly revenue targets
SME 3	Finance	☐ Bringing a credit marketplace to the financial space allowing ordinary man in the street to directly participate in loans.	☐ Process improvement leading to a much better reaction time.
SME 4	Consulting	☐ Quality checks and monitoring systems as part of the operational model review.	☐ Client satisfaction & cost saving ☐ Improved brand name and reputation ☐ Enhancement in the operational model and efficiency ☐ Improved the competitive advantage
SME 5	Retail	☐ Customized/ tailor made safety combo ☐ Centralised tailoring solution for safety and protective clothing	☐ Improved networks, leading to more business opportunities ☐ Quality offerings ☐ Quicker turnaround time ☐ Improved customer service
SME 6	Digital Marketing	☐ Process improvement - Industrializing the client on boarding process to the solution delivery stage ☐ Process optimization on the company pricing structure	☐ Consistent customer experience ☐ Quicker delivery of service ☐ Better pricing and quality of service

APPENDIX C (continued) – The impacts of innovation in SMEs

SME code	Type of Industry	Types of innovation implemented	Impacts of Innovation
SME 7	ICT	☐ Creation of an in store portal for the consumer, enterprise and employees	☐ Improved communication to customers ☐ Retailers sells more goods than before
SME 8	Finance	☐ Creation of an online financial advice process (Robo Adviser) ☐ Launching index tracking investment products for the retirement market.	☐ Improved company stability & credibility ☐ 33% growth for the past 6 years ☐ Quicker adoption of best practices ☐ Improved public relations
SME 9	Mining	☐ Refinement of the cable anchoring system or supporting the underground mines stopping tunnels from caving in. ☐ Introduction of a world class system of best practices for efficient service delivery	☐ Increased customer base and turnover ☐ Culture has drastically transitioned to an innovation culture
SME 10	Medical	☐ Creation of a visual aid to assist the partially sighted children to improve their remaining vision ☐ Registration of a new patent for Macular Degeneration sufferers to gain the vision	☐ It challenged the status quo ☐ Enhanced speed of execution in the market
SME 11	Finance	☐ Business development processes and audit practice management process refinement	☐ Assisted in process redesigning and allowed the company to take more risks
SME 12	Finance	☐ Moved away from industry focus on selling financial products to providing advice at a fee, and launching a new service for provision of Wills.	☐ Growth in the customer base, resulting in increased turnover
SME 13	Construction & Logistics	☐ Introduction of a school bus ownership system.	☐ Saved costs ☐ Improved exposure to more customers, growth in revenue
SME 14	Auctioneering & Logistics	☐ Setting up on of an online auction	☐ Improved the company's competitiveness ☐ Improved convenience