A proposed integrated model for innovative business leadership for the attainment of sustainable growth in small and medium manufacturing enterprises in KwaZulu-Natal

By

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ABSTRACT

Globally, small and medium manufacturing enterprises (SMEs) have been identified as a major source of employment and the foundation for successful entrepreneurship. They can also be a catalyst of economic transformation due to their significant contribution to any country's gross domestic product (GDP). They have therefore been identified as key assets for any country with aspirations towards transformation, poverty reduction, employment redistribution, business innovation and strong economic growth. In countries such as Japan, the United States, China, the Czech Republic, Poland and Romania, manufacturing growth attributable to SMEs has strengthened, indicating that any predicted global downturn in industrial production may be mitigated by their input. This indicates beyond reasonable doubt that the role of manufacturing SMEs is central to any country and, it can be argued, more especially to developing countries like South Africa. Thus, their diminishing contribution towards GDP in recent years has been a significant concern of the South African Government, and of investors and policy makers, and has led to additional support being provided for the emergence and sustainable growth of manufacturing SMEs in the country. Statistics reflect that in 2018 manufacturing industry contributed only13.53% to GDP compared with 15.2% in 2013, and around 20% a decade earlier.

This declining contribution has been associated with critical negative factors that affect the innovative leadership skills required to implement business innovation, manage a turbulent business environment, and achieve sustainable growth in the sector. Many researchers have studied the factors that contribute to manufacturing SMEs being successfully established. These factors include management skills, leadership ability, access to finance, the availability of resources, the economic climate, and the availability of necessary infrastructure and raw materials. The role of government regulations and compliance requirements have also been highlighted as critical factors affecting the sustainability and growth of manufacturing SMEs in the country. However, despite extensive research being carried out in the field, there remains a serious gap in studies which provide an in-depth understanding of those innovative business leadership abilities

and business characteristics that critically influence manufacturing SMEs. These abilities are known to instigate, develop and promote business innovation that will subsequently attain sustainable growth. Theoretical models of the factors affecting and influencing innovative business leadership in this field are also lacking. Therefore, it can be argued that this is a critical area of research which has the potential to improve the current position of manufacturing SMEs in South Africa. This study has specific reference to manufacturing SMEs within KwaZulu-Natal (KZN).

Therefore, the study aimed to identify the critical factors affecting innovative business leadership within manufacturing SMEs in KZN and to propose a prototype model for improving such leadership. Justification for the study stems from the high failure rate currently experienced in the sector which is attributable to several significant challenges faced by manufacturing SMEs in South Africa.

The study was conducted within the Province of KZN, employing a quantitative research method. The population of the study consisted of 384 manufacturing SME leaders, owners and managers. A non-probability, convenience, sampling technique was adopted, while a closed-ended questionnaire was used as the primary data collection tool. Inferential and descriptive statistical analysis of the data was undertaken using the SPSS (version 23.0) computer package.

The research findings indicate that manufacturing SMEs are severely affected by a variety of challenges and that they face significant hurdles that negatively affect their performance. These impact on the business leaders' ability to implement the innovations that could promote, support and sustain the growth of their firms. The results of the study identified education and training as major positive contributory factors affecting innovative business leadership. Furthermore, technical abilities, access to financial support, and ICT awareness were also identified as critical catalysts to business success.

The study therefore seeks to provide key insights into both the theoretical and practical implications of innovative leadership for manufacturing SMEs. It further provides an extensive range of recommendations and proposes a theoretical framework for those factors that can be understood by business leaders, government officials and policy makers to effect remedies for the current challenges faced by the sector.

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Deuteronomy 31:8 "*It is the LORD who goes before you". Thank you for those footsteps you took before me Lord….*

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CHAPTER ONE: INTRODUCTION AND OVERVIEW OF THE STUDY

1.1 INTRODUCTION

This research is focused on the role of innovative leadership in attaining the sustainable growth of SMEs. It seeks to identify critical factors affecting leadership and innovation within manufacturing SMEs in KwaZulu-Natal, and it proposes a prototype model for the identification and support of innovative leadership in the sector. In South Africa, the manufacturing sector is heavily dependent on the following industries: agroprocessing, automotive engineering, chemicals, ICT and Electronics, Metals, Textiles, clothing and footwear (Brand South Africa Report, 2017). The major manufacturing sectors are based in the Gauteng Province and in KwaZulu-Natal, with the latter being second in the country. The manufacturing sector is geared for export, with nearly a third of South Africa's manufactured exports being produced in KwaZulu-Natal generating around twenty percent of job employment for the province. The largest and dominant manufacturing industries are the automobile and component sector, pulp and paper products, chemicals and petrochemicals, and food and beverages (KZN Top Business Portfolio, 2019).

The South African share of world manufacturing output decreased from 0.61 percent in 1990 to 0.5 percent in 2010. This highlights the need for an improved domestic economy and for increased manufacturing output (Seda, 2012: 17). However, manufacturing SMEs are confronted with various challenges, which have fundamentally influenced their growth and development, and, as a result, many have been forced to close down in recent years. Manufacturing SMEs that consistently fail to put sufficient resources into their development will be unable to achieve sustainable growth, and will place themselves in imminent danger of failure. Critical success factors include, amongst others, management skills, leadership ability, innovation, financial access, technology adoption, the ability to overcome competition barriers, economic factors, access to raw materials, transformation challenges and an ability to adapt to the ever-changing business world (Irjayanti and Azis, 2012: 03; Maladzhi, 2012: ii; Kamunge, Njeru and Tirimba, 2014: 01; Kinyua, 2014: 91; Nanjundeswaraswamy and Swamy, 2014: 58; Lekhanya, 2015: 215).

1.2 BACKGROUND OF THE STUDY

According to the National Small Business Act of 1996, as amended by the National Small Business Amendments Acts of 2003 and 2004, SMEs are defined as separate and distinct business entity. The term includes co-operative enterprises and nongovernmental organisations, managed by one owner or more, which, including its branches or subsidiaries, employ less than 250 people in all (Trade and Industry Policy Strategies, 2016: 03).

The establishment of SMEs is an indication of the entrepreneurial spirit, the setting up of manufacturing SMEs being one important indicator of entrepreneurial activity (Nicolescu, Nicolescu and Nicolae, 2012: 71). SMEs play a significant function in the economic progression of South Africa, encompassing more than 90 percent of African-owned business operations and contributing to more than 60 percent of employment in Africa, and a similar percentage to South Africa's Growth Domestic Product (GDP) (Cant and Wil, 2013:707; Ramukumba, 2014: 19; Singh, Olugu and Musa, 2016: 609). However, the contribution of manufacturing SMEs to GDP is in decline. Minister of Trade and industry, Mr Rob Davies, has acknowledged the stagnant growth of manufacturing SMEs and has emphasised that, to resuscitate the South African economy, the government needs to work tirelessly to remove the administrative red tape that hinders the work of manufacturing SMEs (South African Government, 2016).

As indicated above, the South African share of world manufacturing output decreased from 0.61 percent in 1990 to 0.5 percent in 2010. In addition, the significant fields of metals and engineering manufacturing experienced a decline of 19.3% by December 2017 (Slater, 2018). This highlights the need for an improved domestic economy and manufacturing output (Seda, 2012: 17). It also illustrates the slow rate of transformation and the lack of a culture of innovation which is needed to meet the challenges of an ever-changing business world (Irjayanti and Azis, 2012: 03). In the current complex business environment, the use of a rigid industrial model in steering an SME can mean a slow decline that is ultimately fatal (Legrand and Weiss, 2011). Most SMEs face difficulties related to acquiring the unfamiliar organisational and cultural knowledge critically needed and necessary to manage and deal with external connections as argued by Van de Vrande, De Jong, Vanhaverbeke and De Rochemont (2009). These external contacts comprise of customer involvement, venturing, external networking, and research and development outsourcing. These are amplified by the fact that SMEs have frail connections with big organizations, making it hard for them to acquire the knowledge needed for adaptations and sustainability (Jorgensen and Ulhoi, 2010; Dodourova and Bevis, 2014; Das, 2015; Chimucheka and Mandipaka, 2015: 313; Kofler and Marcher, 2018).

The lack of a serious focus on sustainability within this sector is generally attributed to the characteristics of SMEs' management who often lack the awareness, expertise, skills, financial knowledge, and qualified personnel required to build the changes required for sustainable growth within an organisation (Chimucheka and Mandipaka, 2015: 309; Eniola and Entebang, 2016: 38; Singh, Olugu and Musa, 2016: 610; Lekhanya and Visser, 2016: 80; OECD, 2018: 06). This has also been reported by the Global Entrepreneurship Monitor (GEM) which reflected that between 2001-2010 South African SMEs suffered from poor management skills which they attributed to a lack of adequate training and education (National Credit Regulator (NCR), 2011). The literature also reveals that South African SME failure rate is regarded as one of the highest failure rate compared to other developing countries (Olawale and Garwe, 2010: 279; Fin24, 2011; Mthabela, 2015: ii; Leboea 2017: 14). Again, the principal reasons given for such high failure rates are poor management skills and lack of structure and infrastructure. Martin and Staines (2008) argue that lack of leadershp experience, skills and a weak entrepreneurial culture, along with high barriers to market entry (NCR, 2011), are the main reasons why new SMEs fail. Similarly, Akinwale, Adu and Seriki (2015: 38) and Rabie, Cant and Wiid (2016: 1020) concluded that manufacturing SMEs battle with financial difficulties, skills development, and poor marketing strategies, among other challenges. Arham, Boucher and Muenjohn (2013: 17); Arham (2014); Mthabela (2015: 33); Zarim and Zaki (2015: 42) and Kimberlee (2019) identify leadership conduct and capabilities of leaders as essential factors that influence manufacturing SMEs' survival and growth. Significantly for this study, growth in modern economies has focused and invested in enhancing productivity through innovation. Such innovation is seen as a necessary requirement for the attainment of technological and structural change, as well as being a contributor to growth and competitiveness (SiMODiSA, 2014: 04). In both developed and developing countries, small business incubators have been recognized as strategic tools for supporting a country's entrepreneurial base, while reducing and curbing the high failure rate of small businesses everywhere (Masutha and Rogers, 2014: 48). Given the above negative factors, the need for well-designed business incubators can be appreciated. These provide a variety of targeted business and technical support services designed at developing and supporting start-up and new businesses into monetarily and operationally self-governing entities (Akcomak, 2009; InfoDev, 2010). However, in turn, poor co-ordination and lack of preparedness of these incubators themselves will have a detrimental, rather than a positive, impact on innovation, leadership and sustainability of those manufacturing SMEs that they are designed to help. In considering the Business Environment Specialist SME Report (2014: 1) it is clear that manufacturing SMEs in South Africa continue to struggle due to a number of negative factors including: unfriendly business environment; burdensome business regulations; shortage of human resources; fluctuating local economic conditions; a lack of capital, and the high costs associated with acquiring skilled human resource.

Also noted were concerns about leadership behaviour, and the skills and qualities of leaders (Arham, 2014). The latter were found to be fundamental problems holding back growth and sustainability of many manufacturing SMEs. Further to this, South African manufacturing SMEs are exposed to various unpredictable macro environmental variables specifically within marketing, management, social, human resources and financially related matters (Cant and Wild, 2013: 707; Fatoki, 2014b: 922). A scarcity of working capital and high rates of income tax, along with restrictive government regulations and external environmental influences were also noted. This research also pointed to a predilection of employees for the job-security offered by larger firms, the need for highly skilled employees who are in scarce supply, the limits in innovation capacity, and the disadvantages experienced by owner-managers in terms of their competitive strategies (Demirbas, Hussain and Matlay, 2011). Owing to these challenges, many SMEs within South Africa do not have the capacity to exist beyond two years of trading, with failure rates (as noted above) as high as 63 percent (Robert, 2010).

Thus, the negative trend has continued with increasing numbers of manufacturing SMEs closing down owing to maladministration, absence of both product and administrative process innovation, poor business management skills, and weak production levels (Irjayanti and Azis, 2012: 03). Lack of access to financial capital and restrictive government regulations have been other contributors to the decline.

Innovation involves proactive strategies, implying a continuous exploration for originality and the introduction of, unique ideas, goods, services, systems, policies, programmes and administrative processes ahead of other firms in the business environment (Montes, Moreno and Morales, 2005:1160). Innovation is also essential for gaining competitive advantage in the twenty-first century when increased competition, ceaseless turbulence, change, and uncertainty have forced organizations to embrace innovation as an integral part of their corporate strategy (Keskin, 2006: 396). Hence, manufacturing SMEs need to be creative and also to be concerned with the creation of valuable and useful new products, services, ideas and methods, and very frequently requiring the creative adoption of ICTs (Ismail, Omar, Soehod, Senin and Akhtar, 2014: 145).

Innovation is necessary and key for developing, revamping, and growth of products, services and markets. It involves the creation of new ways of production or of new demands (Crossan and Apaydin, 2010). Therefore, the need is clear for leaders in the SME field to encourage a culture of innovation in manufacturing SMEs. However, to accomplish that, innovative leadership should prioritize leadership skills and create an organisational culture that allows for improved productivity, growth of market share and effectiveness (Eustace and Martins, 2014: 1).

Many studies (for example, Lee, Park, Yoon and Park, 2010; Shamah and Elssawabi 2013; Ismail, *et al*., 2014) have been conducted on the subject of innovation in SMEs. However, this study critically focuses on the correlation between innovation and leadership in attaining sustainable growth for manufacturing SMEs in South Africa.

The theoretical framework adopted for this study is illustrated below.

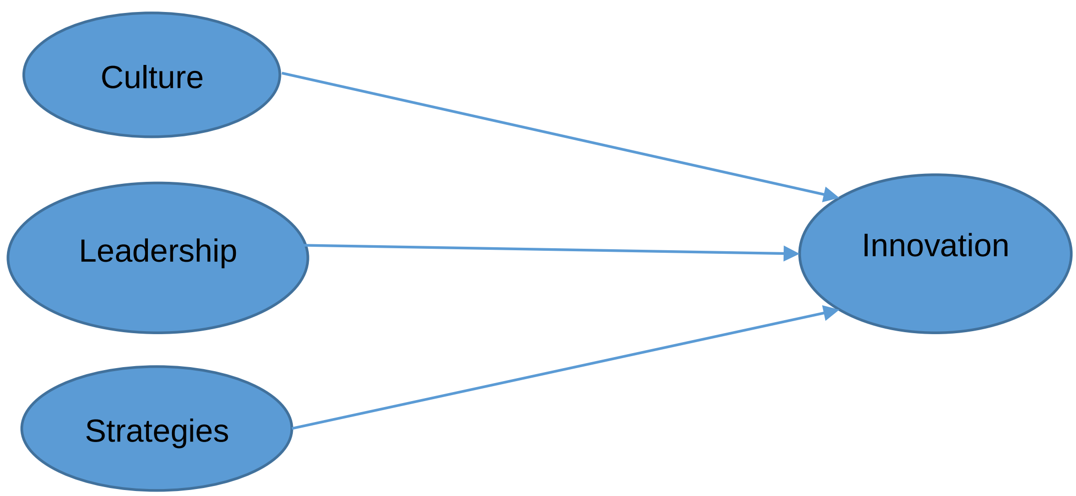


Figure 1-1 Drivers of innovation (O'Rega, Ghobadian and Sims 2006)

Figure 1-1 (drivers of innovation) gives an illustration of factors that contribute to innovation. An SME that has a business strategy that focuses on innovation represents an effective way towards success for a firm in a market economy (Hardie, 2010). This concurs with Kumar, Boesso, Favotto and Mnini (2012:132) who claim that innovation is a key driver of competitiveness and company performance, and with Demirbas, Hussain and Matlay (2011) who find that growth and sustainability of manufacturing SMEs depends upon a propensity towards continuous timely innovation. These findings point to the conclusion that if manufacturing SMEs do not implement innovative processes, their competitive position will be seriously disadvantaged along with their performance levels (Torres, Guzman and Castro, 2015: 1481). Therefore, it appears that, as Ana and Filipa argue (2012:1-2), organisations have to innovate to face the present economic downturn and to continue to exist.

It can therefore be argued that, if these critical factors are not taken into account and addressed (ideally through effective business incubators) the SME manufacturing sector will continue to underperform and will fail to meet the National Development Plan (NDP) goal of creating 90 percent employment opportunities by 2030 (Department: The Presidency, Republic of South Africa, 2012).

While the concept of leadership is complex (Van Niekerk, 2011) traditional perspectives consider leadership as the means of creating obedience, respect and teamwork (Anderson, Ford and Hamilton, 1998). Leadership can also be defined as a process of influencing people and guiding them to achieve organisational goals (Northouse, 2007). The literature indicates that leadership plays a significant role towards the success of entrepreneurial firms and entrepreneurs who are capable of demonstrating effective leadership behaviour are more likely to achieve entrepreneurial success (Arham, Boucher and Muenjohn, 2013). Conversely, studies by Megginson, Byrd and Meginnson (2003); Kuratko and Welsch (2004) and Rwigema and Venter (2004) highlighted that leadership knowhow, management and business related capability are critical factors that contribute to small business failure.

Therefore, given the central role of both innovation and leadership in small business sustainability and success, an in depth investigation of the relationship between leadership and innovation is crucially relevant to this study (See also Den Hartog and Verburg, 1997 and Howell and Avolio, 1993, sited by Ryan and Tipu, 2013: 2116). This is also supported by Argon-Aragón-Correa, García-Morales and Cordón-Pozo (2007: 349) who emphasise that leadership styles have been identified as one of the most essential individual influences on innovation within SMEs.

Twenty years ago no one could have predicted how critical technology would become to running a business. Yet today, technology is the great enabler and, even more so, potentially the great equalizer, making it possible for manufacturing SMEs to transform, innovate, and ultimately compete against their larger rivals (Gilroy 2013; Al Mubaraki and Aruna, 2013: 160). Since 2006 one of the South African Department of Communication's (DOC) key objectives has been to accelerate the usage of ICTs as a tool to facilitate growth and development of manufacturing SMEs (Republic of South Africa, 2006). However, technology adoption in manufacturing SMEs has remained stagnant, thus limiting SMEs' ability to venture into new business spheres (Irjayanti and Azis, 2012). Key technologies that SMEs have identified as enablers for achieving their innovation goals are: mobile technology, business management software (BMS), data analytics, social media and cloud computing (Gilroy 2013). Cardenuto (2016) advises manufacturing SMEs that technology adoption can transform market risk into opportunity, and cost into revenue, with little to no impact on cash flow. However, most manufacturing SMEs have not realised these benefits due to the following constraints: lack of financial resources, poor infrastructure, lack of business and ICT skills, unfavourable policies and legal frameworks, and challenges posed by rapid globalisation in the form of international competition and restricted access to new markets (Mbuyisa and Leonard, 2015: 105). Manufacturing SMEs that fail to invest in innovation place themselves at greater risk of having products and services marginalized by technologically superior competitors (Dibrell, Davis and Craig 2008: 213). There is also a lack of awareness about the benefits of ICT adoption and use, and this is exacerbated by shortage of financial support as well as low employee skills, and security concerns around ICT adoption and use (Ismail, Jeffrey and Belle, 2011; Esselaar, Stork, Ndiwalana and Deen-Swarray, 2007).

Thus, lack of innovation in general is a commonly cited obstacle to manufacturing SMEs' growth, with research from the Department for Business Innovation and Skills (2014) reporting that SMEs are facing significant barriers specifically in technological development (Talegata, 2014; Antoniuk, Gernego, Dyba, Polishchukand Sybirianska, 2017; Madeira, Carvalho, Moreira and Duarte, 2017).

1.3 PROBLEM STATEMENT

Failure to innovate effectively, and weaknesses in leadership, have equally been indicated as major challenges facing SMEs in the spheres of both managerial and technical expertise (Hossain, 2015: 1-12; Sitharam and Hoque, 2016; Yahya, Yang, Hao, and Wah, 2016: 18). These problems are exacerbated by the financial difficulties facing South African innovation incubators (Buys and Mbewana, 2007; Masutha and Rogerson, 2014: 59; Dubihlela and Van Schaikwyk, 2014: 264). Thus, SMEs often cannot acquire the services of highly skilled personnel to improve their products and services (Goldberg, Habberton and Ractiffe 2014: 05) further negatively influencing sustainable growth and leadership performance in South African SMEs (Kongolo, 2010). Management skills (knowledge, competency, behaviour and attitude) are critical factors in the survival and growth of SMEs (Olawale and Garwe, 2010: 279). Overall, according to Maladzhi (2012: ii); and Lekhanya (2015: 215) South African manufacturing SMEs are struggling due to several factors, but including critically, leadership and innovation.

1.4 AIMS AND OBJECTIVES

Primary objectives

The aim of this study is therefore to identify critical factors affecting innovative business leadership amongst manufacturing SMEs in KZN, and to propose a prototype model for supporting such innovative leadership.

To achieve this aim, the following secondary objectives will be addressed:

Sub-objective 1: To identify managerial skills and innovative leadership skills which assist sustainability of manufacturing SMEs in KZN

Sub-objective 2: To explore the impact of technical expertise on innovative leadership for sustainability of manufacturing SMEs in KZN

Sub-objective 3: To establish the relationship between innovative leadership and financial capital for the growth and sustainability of manufacturing SMEs in KZN

Sub-objective 4: To examine the relationship between government incubators and innovative leadership for the sustainability of manufacturing SME in KZN
Sub-objective 5: To identify environmental factors which impact upon innovative leadership for the sustainability of manufacturing SMEs in KZN
Sub-objective 6: To examine government regulations which impact upon innovative leadership for the growth and sustainability of manufacturing SMEs in KZN

This study thus attempts to find answers and solutions through the critical questions listed below:

Research questions

Question 1 What are the critical managerial skills and innovative leadership skills which impact upon sustainability of manufacturing SMEs in KZN?
Question 2: What is the impact of technical expertise on innovative leadership for sustainability of manufacturing SMEs in KZN?
Question 3: What is the relationship between innovative leadership and access to financial capital for the growth and sustainability of manufacturing SMEs in KZN?
Question 4: What is the influence of government incubators on innovative leadership for sustainability of manufacturing SMEs in KZN?
Question 5: Which environmental factors impact upon innovative leadership for sustainability of manufacturing SMEs in KZN?
Question 6: Which government regulations impact upon innovative leadership for growth and sustainability of manufacturing SMEs in KZN?

Hypotheses for this study

The main hypotheses for this study are as follows:
Ho1: There is no relationship between managerial skills and innovative leadership and the sustainability of manufacturing SMEs in KZN
Ha1: There is a relationship between managerial skills and innovative leadership and sustainability of manufacturing SMEs in KZN

Ho2: There is no relationship between technical expertise and innovative leadership and sustainability of manufacturing SMEs in KZN

Ha2: There is a relationship between technical expertise and innovative leadership and the sustainability of manufacturing SMEs in KZN

H03: There is no relationship between innovative leadership and access to financial capital and the growth and sustainability of manufacturing SMEs in KZN

Ha3: There is a relationship between innovative leadership and access to financial capital and the growth and sustainability of manufacturing SMEs in KZN

H04: There is no relationship between government incubators and innovative leadership and the sustainability of manufacturing SMEs in KZN

Ha4: There is a relationship between government incubators and innovative leadership and the sustainability of manufacturing SMEs in KZN

H05: There is no relationship between environmental factors and innovative leadership and the sustainability of manufacturing SMEs in KZN

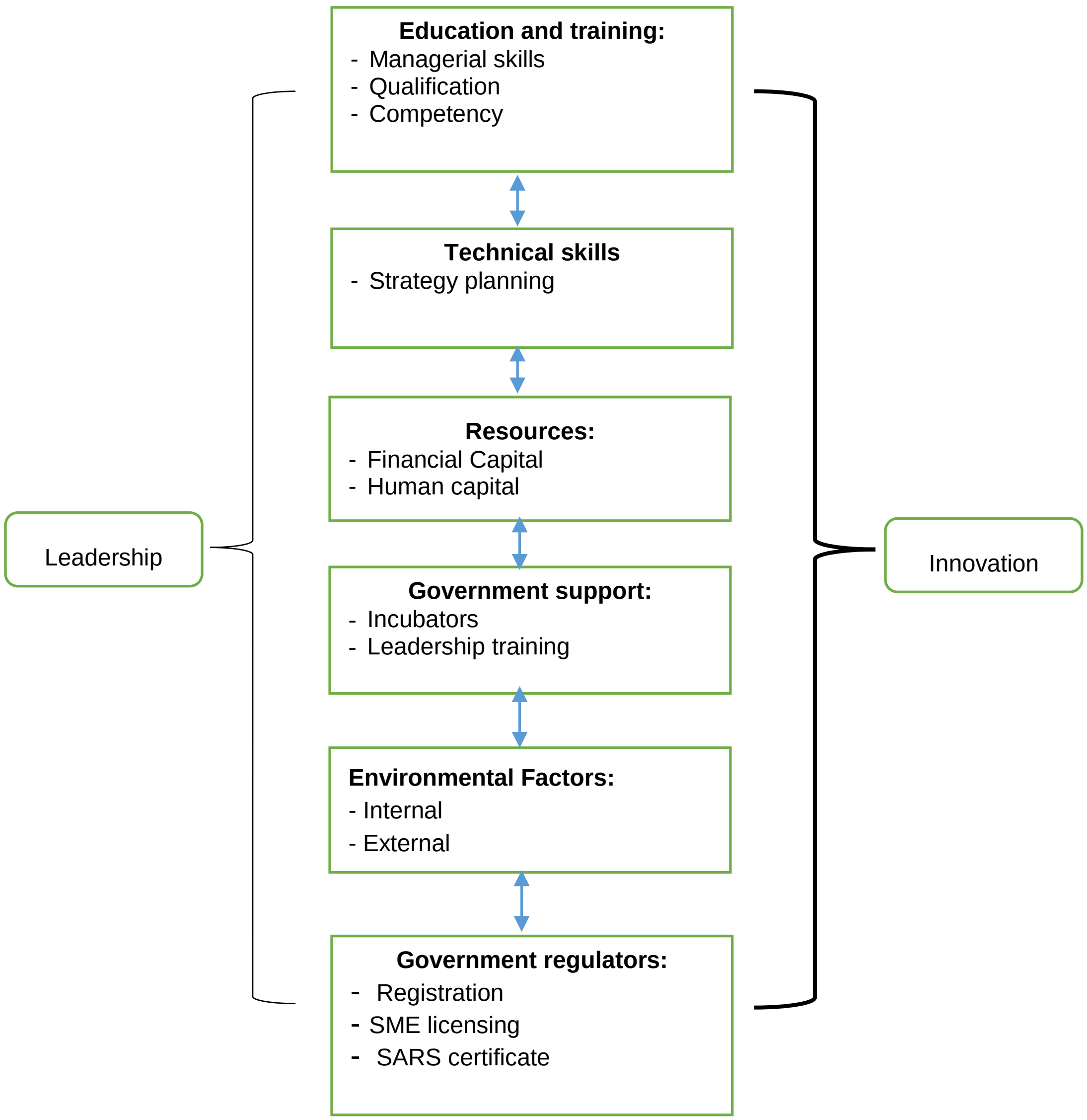
Ha5: There is a relationship between environment factors and innovative leadership and the sustainability of manufacturing SMEs in KZN.

H06: There is no relationship between government regulations and innovative leadership and the growth and sustainability of manufacturing SMEs in KZN

Ha6: There is a relationship between government regulations and innovative leadership and the growth and sustainability of manufacturing SMEs in KZN.

The figure 1.2 below reflects variables for the proposed framework of the study.

Characteristics of the proposed research



Source: Developed by researcher from the literature review

Figure 1-2: Characteristics of the proposed research model

1.5 SIGNIFICANCE OF THE STUDY

The reason for conducting this study is to determine and comprehend the challenges affecting innovative leadership of manufacturing SMEs and to develop a business model to regulate and support leadership and innovation for sustainable growth, with specific reference to KwaZulu-Natal. This study seeks to provide insights into those critical components that are key to business leadership and innovation of manufacturing SMEs and their survival in the competitive current industrial environment. There are several studies on innovation within SMEs (for example: Vrande, de Jong, Vanhaverbeke and de Rochemont; 2009; Cordeiro and Vieira, 2012; Ejim-Eze and Amadi-Echendu, 2015; Torres, Guzman and Castro 2015; Mustafa and Yaakub, 2018). However, no work has been done specifically on innovative business leadership and its links to attaining sustainable growth of manufacturing SMEs in KwaZulu-Natal. This study further intends to determine leadership characteristics that are influential to business innovation and are determinants of sustainable growth of manufacturing SMEs. It is therefore envisaged that this study will contribute to new knowledge and sustainability of manufacturing SMEs with special reference to KwaZulu-Natal.

The South African economy continues its downward spiral as indicated by the rand's decline against major currencies such as the US dollar, and the impact of this on a number of manufacturing SMEs is noticeable. Many are being forced to close down due to various related challenges and barriers, involving an increase in unemployment. Many studies have highlighted the impact SMEs have on a country's economy. Therefore, this study is positively related to the stability of the South African economy as the findings of the study aspire to provide manufacturing SMEs with an increased understanding of the influence of innovative business leadership on success, and also to provide them with informed strategies as to how to encompass innovation and transformation and other characteristics that are critical to innovative leadership.

1.6 RESEARCH DESIGN

A research design provides a framework or blueprint for conducting the research project by specifying the procedures necessary for obtaining the information required to solve the research problem (Khan, 2008: 69; Malhotra, 2011; Nylander and Renbergy, 2014). A quantitative approach was adopted for this study using closed ended questionnaires. This method enabled the researcher to obtain detailed quantitative data for the purpose of understanding critical factors affecting leadership and innovation in manufacturing SMEs in breadth and depth (Creswell and Clark 2011:4). Data was gathered from executive management of manufacturing SMEs in KwaZulu-Natal.

1.6.1 POPULATION\TARGET POPULATION

The target population consisted of registered manufacturing SMEs in KwaZulu-Natal. This population clearly possesses the information the research project is designed to collect (Hair Jr, Wolfinbarger, Money, Samoul and Page, 2011:165). This is also the group of people to whom the results of this research can be generalised (Whitley Jr and Kite 2013: 458). For this study, 384 respondents were targeted. This number is determined by the Small Enterprise Develop Agency (Seda) Report (2016), which shows that there are 74976 registered manufacturing SMEs located in KwaZulu-Natal. As stated by Sekaran and Bougie (2010) a population size of 74976 may be represented by a sample size of 384.

1.6.2 SAMPLING METHOD AND SIZE

A non-probability, convenience, quota, sampling method was used to select managers or executives of manufacturing SMEs as key participants for data gathering. These individuals were ideal for providing in-depth information relating to the variables of the study, these being: education and training, technical skills, resources, government support, environmental factors, and government regulators, all of which have been shown to influence leadership and innovation.

As defined by Rubin and Babbie (2010:148) quota sampling begins with a matrix that describes the target population's characteristics; how many registered manufacturing SMEs there are per province, the number of employees, age of existence of the firm, turnover/income and ownership. Authors warn against using quota-sampling on account of the difficulty often encountered in obtaining accurate and up-to-date information (for example, Babbie, 2014: 201). However, the sample size for this study derives from a recent Seda report (2016). Also Zikmund, Babin, Carr and Griffin (2013: 395) justify the use of quota sampling, and its advantages over probability sampling, on the grounds of speed of data collection, lower costs, and convenience. Furthermore, this technique is appropriate where a certain demographic group is underrepresented in the population, or less likely to cooperate in completing a survey. Quota sampling is administratively convenient and the labour of selecting a random sample can be avoided (Beri, 2013: 197). The use of convenience sampling method was also pivotal to this study, as the participants were also selected based on their availability and willingness to participate in the study.

1.6.3 DATA COLLECTION INSTRUMENT

Data collection instruments play a significant role in the design and development of research projects. Therefore, it was important to select suitable instruments or tools for the study (Richey and Klein, 2007: 106; Hall, 2008: 146). Data was collected from the target population using a 5-point likert scale questionnaire. The questionnaire was used to collect quantitative data relating to the objectives of the study and also to address the hypotheses of the research (Velentgas, Dreyer, Nourjah, Smith and Torchia, 2013: 109).

1.7 DATA ANALYSIS

Data analysis is a stage that incorporates several elements and is initiated through the application of statistical techniques to the data that have been collected (Bryman, 2016: 11). The data collected were analysed using SPSS (version 23.0). This software enables the researcher to generate different tests in the form of descriptive analysis, frequency analysis, correlation, tabulation, and t-tests analysis. The analysed data are presented in the form of graphs, pie charts and tables.

1.8 PILOT TESTING

According to Hall (2008: 79), a pilot study is a smaller scale version of the main study and is designed to check that the questionnaire gathers the information that it intends, or is designed, to collect. The main study will resemble as closely as possible the flow of the pilot study or piloted questionnaire (Offredy and Vickers, 2010: 85). Ten percent of the respondents from the main study were selected for the pilot study (Grove, Gray and Burns 2015: 45), these participants were excluded from the main study. The purpose of conducting a pilot test is to try out the research method in order to identify potential problems that might affect the quality and validity of the results before the final questionnaire is administered (Blessing and Chakrabarti, 2009:114).

1.9 VALIDITY

Validity is defined as the degree to which a questionnaire measures what it is intended to measure (Bryman, 2016: 159). Cottrell and McKenzie (2010) add that validity in measurement addresses the degree to which the concept or concepts under study are accurately represented by the particular items on the questionnaire, test, self-report form or other measuring device. To ensure validity of the data collection instrument, content validity was carried out, where the researcher used recognised experts in the area to give their opinions on the validity of the tool. Validity was also ensured by piloting the questionnaire to the target population. The pilot study ensures that challenges are dealt with early, to avoid limitations in the main study and to allow the researcher to evaluate the appropriateness of the research method and its suitability – thereby improving the questionnaire's validity (Hussain, 2016: 107).

1.10 RELIABILITY

Reliability refers to consistency over time, that is, will a questionnaire yield the same results in the same situation when administered twice over a short period such as days or a week? (Leedy and Ormrod, 2010; Gerrish and Lathlean, 2015: 415). To improve reliability of the instrument, internal consistency was measured using Cronbach coefficient alpha at 0.70. Internal consistency estimates reliability by grouping questions in a questionnaire that measure the same concept (Nirmala, Edison and Suni

2011: 122). A high degree of internal consistency indicates that items meant to assess the same construct yield similar scores.

1.11 ANONYMITY AND CONFIDENTIALITY

Anonymity in research ensures that readers cannot identify the respondents' responses (Babbie, 2009: 71). All participants were assured of their anonymity and of confidentiality and that the data they provided would not be used in any platform other than for research purposes. A covering letter and letter of information also detailed the terms and conditions of participation in this study.

1.12 ETHICAL CONSIDERATIONS

Miller, Mauthner and Jessop (2012: 14) define ethics as moral deliberation, choice and accountability on the part of the researcher(s) throughout the research process. In accordance with this, ethical approval was sought from the Faculty Research Ethics Committee at the Durban University of Technology (DUT). Participants were fully informed about the study and an informed consent form was obtained from them (Klenke, 2016: 148). The letter of information covered the following aspects: the purpose of the study; outline of the procedures; risks or discomforts to the participants; benefits; remuneration; and confidentiality of participants.

1.13 STUDY LIMITATIONS

Due to the large number of different kinds of SMEs, it was agreed to limit this study to focus only on the characteristics of, and influences affecting, leadership and innovation within manufacturing SMEs and only with specific reference to KwaZulu-Natal. The outcome of this study may therefore not be generalised to other kinds of SMEs, or to SMEs in other countries. However, the results can be used to enhance growth and sustainability of SMEs in South Africa as many of the variables show similarities within other provinces.

1.14 OVERVIEW OF CHAPTERS

This research study consists of six chapters.

Chapter One: Introduction and overview of the study

Chapter one provides a detailed introduction and background to the study. Research aim, objectives, problem statement, hypotheses and the significance of the study are presented. The chapter further presents and illustrates the framework within which the research was undertaken.

Chapter Two. Literature Review: background and introduction

Chapter two provides a comprehensive overview of relevant recent literature pertaining to the South African SME sector with specific reference to manufacturing SMEs. The chapter further provides a detailed theoretical framework in support of the study. Manufacturing SMEs' contribution to South African GDP and their potential influence on radical economic transformation are presented. The challenges and hindrances confronting the managers of manufacturing SMEs in seeking the innovation and good leadership practices required to attain sustainable growth, have also been addressed. Empirical evidence in this regard is also presented.

Chapter Three. Literature review: the internal/external environment and manufacturing SMEs' innovation and growth

Chapter three provides a review of the literature in which the internal and external environmental factors are discussed as factors that may serve to help or, more often, hinder the processes of innovation in manufacturing SMEs, and the drive for innovative leadership to attain sustainable growth. These challenges have been critically evaluated and identified in line with the objectives of the study.

Chapter Four: Research Methodology

This chapter provides and discusses the research design and methodology used for the study. It discusses and justifies the methods used in conducting this research. The research method, population, sampling, and data collection instrument are addressed in conjunction with the aims and objectives of the study. The chapter also includes a discussion of the ethical underpinnings of the research.

Chapter Five: findings and interpretation

This chapter presents a full spectrum of the findings gathered and interprets and discusses these findings in relation to the aims and objectives of the study. The findings are further assessed in conjunction with the secondary data and are tested in relation to the generated hypotheses

Chapter Six: Conclusions and recommendations

This chapter provides a comprehensive overview of the conclusions of the study and also discusses in depth the recommendations for practise which can be supportive and beneficial to innovative leadership in maintaining sustainable growth amongst manufacturing SMEs. The recommendations are also intended to be of assistance to policy makers, government officials and to manufacturing entrepreneurs in general. . This chapter further propose and discusses an integrated model.

CHAPTER TWO. LITERATURE REVIEW: BACKGROUND AND INTRODUCTION

2.1 INTRODUCTION

According to the National Small Business Act of 1996, as amended by the National Small Business Amendment Acts of 2003 and 2004, an SME is a separate and distinct business entity. SMEs include co-operative enterprises and nongovernmental organisations, managed by one owner or more which, including its branches or subsidiaries, have less than 250 employees. This commonly distinguishes registered SMEs from other small businesses (Trade and Industry Policy Strategies, 2016: 03; Ardic, Mylenko and Saltane 2011: 08; W&RSETA 2014: 06; Berish and Pula, 2015: 18; Srinivas, 2019). In addition, the operational definition of SMEs, according to Henschel (2008: 10) and Tewari, Skilling Kumar and Wu (2013: 06), takes into consideration quantitative criteria such as the annual turnover, the number of employees and capital expenditure. Most SMEs result from their founders' implementation of the entrepreneurial spirit, through which this entrepreneurial initiative is expressed in different ways to develop a range of different businesses. Therefore, there is no universal definition of an SMEs, but its nature also implies aspects of innovation and the innovation expressed within manufacturing SMEs is seen as an indicator of the entrepreneurial spirit (Nicolescu, Nicolescu and Nicolae, 2012: 71; Berisha and Pula, 2015: 26; Charoenrat and Harvie, 2017). As pointed out by innovation theorists (Joseph Schumpeter, 1934; Peter Drucker 1986) and entrepreneurship theorist, Richard Centillon (1697-1735), business innovation is a fundamental concept for entrepreneurs to maintain competitiveness and sustainable growth of a firm. The role that innovation and entrepreneurship play in achieving manufacturing SMEs' stability and growth is also recognised (Zsuzsanna and Herman, 2012: 269).

A well-established and supported SME sector in any country has been identified as a major source of employment creation, creating job opportunities, often including work for unskilled personnel in local authorities (Kakwambi, 2012: 01; Love and Roper, 2013; Muriithi, 2017: 36). In the context of increasing social, environmental and economic challenges, which have put pressure on the economy, manufacturing SMEs have been identified as a potential mitigator of such economic conditions. They are understood therefore to be in a position to play a key role in shifting society towards a more sustainable future (Madanchian, Hussein, Noordin and Taherdoost, 2016: 4).

In this regard, manufacturing SMEs have been shown to play a significant function in the South African economy as they account for 13% of national GDP, with their total output activity accounted for more than 21% of national output in 2017 (Seda, 2018:09). They also contribute over 50% to African employment and Growth Domestic Product (GDP) (Ramukumba, 2014: 19). Thus, they contribute about half of South Africa's GDP and they provide employment to about 60% of South Africa's labour force and are instrumental in the growth of any economy (Cant and Wiid, 2013:707; Singh, Olugu and Musa, 2016: 609). Accordingly, economists believe that the wealth of nations heavily depends on the performance of their SMEs (Myslimi and Kaçani, 2016: 158). However, SMEs are confronted by internal and external challenges (Ribarić, 2014) often pushing them towards closure. Not only the external economic climate, including government policies and production challenges, but also internal factors such as mismanagement, lack of innovation and poor business management skills, contribute to their poor survival rates (Irjayanti and Azis, 2012: 03; Mbizi, Hove, Thondhlana and Kakava, 2013; Muriithi, 2017: 44).

In order to ensure that there is significant improvement and recognition of manufacturing SMEs as potential drivers of the economy, Madanchian, Hussein, Noordin and Taherdoost (2016: 4) argue that there needs to be a substantial amount of time, resources, skills and effort invested by government and the private sector on incubating SMEs – this necessarily involving innovative leadership. However, the South African Reserve Bank (2015:7) also highlights that to incubate entrepreneurship requires bold improvements in the South African education and school systems. To provide the background skills required to enhance SMEs' prospects of contributing substantially to long-term economic growth and development, a well-educated and skilled population may be essential.

In addition, the ability to innovate is seen as crucial and studies conducted by Wennekers and Thurik (1999); Audretsch and Thurik (2001); Lai, Natha, Tan and Chan (2010); and Petuskiene and Glinskiene (2011) have established that the foundation of sustainability and growth of manufacturing SMEs involves innovative leadership. SMEs have been recognised as micro drivers of innovation (Zsuzsanna and Herman, 2012: 269). This is linked to their contribution towards tackling economic challenges, and relieving job scarcity and poverty in developing countries (Szczepanska-Woszczyna and Kurowska-Pysz, 2016). Additionally, Tonis (2015: 41); the OECD (2017); and Khera (2018) find that, across countries at all levels of development, SMEs can be shown as responsible for promoting sustainable economic growth, fostering innovation, and reducing income inequalities. However, this will only be possible in an accommodating business environment (Yusuf and Dansu, 2016: 76).

2.2 A CONCEPTUAL VIEW OF THE PURPOSE OF MANUFACTURING SMES

The purpose of manufacturing SMEs can be described as efficient and fertile job creation, providing the seeds of big businesses and the fuel of national economic engines (Abor and Quartey, 2010: 218; Atristain and Rajagopal, 2012:181; Charles, Amankwaa and Owusu 2015; Kisseih, 2017: 44). With high unemployment and an unsatisfactorily high level of poverty in many countries, the creation of manufacturing SMEs plays a critical role in economic growth (Vuuren and Groenewald, 2007:269). The South Durban Basin (SDB) in South Africa is a key manufacturing and industrial zone in the city, contributing some 25% of the city's GDP. It is the most industrialized heartland in South Africa and provides about 10% of the county's manufacturing jobs (EThekwini Municipality, 2009).

It is estimated that SMEs employ 22% of the adult population in developing countries (National Credit Regular, 2011: 7) and that they contribute to employment growth at a higher rate than larger firms (Farouk and Saleh, 2011). According to the President of South Africa, Cyril Ramaphosa when Deputy President, (as quoted by Khumalo, 2019) SMEs are key drivers of growth and the creation of employment for the youth and, most importantly, Ramaphosa supports the creation of new SMEs. New SMEs introduce new products and develop new technologies and as an important source of innovation, new firms bring competitive pressure to bear on established firms (Olawale and Garwe, 2010: 72; Abor, 2017: 12). In ideal circumstances, SMEs are flexible and have significant capacity to adjust, and their relative closeness to the market makes it easy for them to adapt to consumers' requirements and demands making them highly competitive (Cravo, Gourlay and Becker, 2012). However, their growth is currently very slow in South Africa where there is a dearth of innovative leadership, as discussed above.

SMEs have become the focus of attention for developing stakeholders interested in market-driven solutions to poverty and economic development. As discussed above, they are considered to be important drivers of economic growth and development throughout the world, but to deliver true economic benefits, they need to grow into sustainable, profitable businesses (Matthee and Heymans, 2013: 391; OECD, 2018: 5). Eniola and Entebang (2015: 334) and Charoenrat and Harvie (2017: 1194) agree that manufacturing SMEs have performed an unparalleled role in advancing economic growth and have served as the breeding ground for entrepreneurs and a provider of solutions to some of the problems of unemployment. Hence, SMEs' performance is linked to the strengthening and enhancement of the development of a country. Again, Eniola and Ekteban (2014:75) agree that SME performance and growth in manufacturing, agriculture and services has often been considered as the engine required to drive the economy. However, recent research by Ndlovu and Makgetla (2017: 02) confirms that manufacturing SMEs in South Africa currently lack the innovation needed for rapid growth and sustainability.

In Malaysia, SMEs account for 99.2% of total business establishments and 96.5% of all enterprises are in the manufacturing sector (Ang, Morad and Ismail, 2014: 337). In essence therefore, in this highly successful country, manufacturing SMEs are the major contributor to economic growth and stability. This may be an indication that the survival of manufacturing SMEs is in fact essential for economic wellbeing throughout the world (Matthee and Heymans, 2013: 391). It is clear therefore that prioritising the innovative leadership required to drive this development may be necessary to sustain manufacturing SMEs and enabling them to remain the drivers of radical change and the nation's economy developers.

2.3 RELEVANT THEORIES CONSIDERED FOR THIS STUDY

The following sections identify different theories relevant to the study.

2.3.1 Conceptual theories on innovative leadership

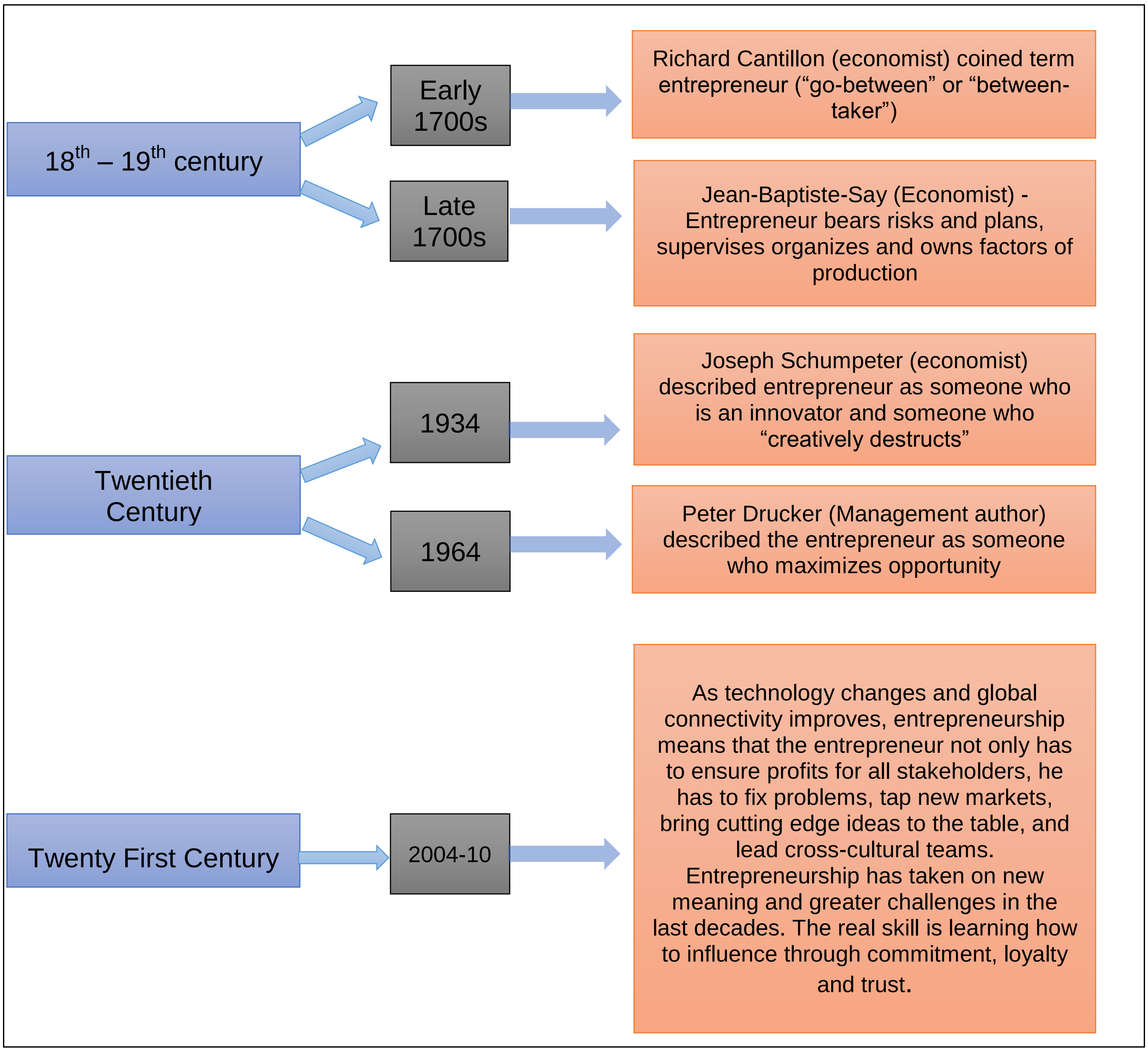


Table 2-1 Conceptual theories on innovative leadership cited in Centillon (1697-1735) and Baptiste (1767-1823)

The table illustrates that authors and thinkers have been concerned with the concept of entrepreneurship since the eighteenth century. Richard Centillon (1697-1735) who established the entrepreneurship theory saw that entrepreneurs were the people who brought equilibrium in supply and demand into the economic sector. However, Jean Baptiste-Say's (1767-1823) theory, says that entrepreneurs are the people who bring production and that they are the risk takers in the economic cycle. His theory, just as later Schumpeter's, insists on entrepreneurs' capacity for innovation. Spescha and Woerter (2019: 343) supported the theory and further maintained that innovation plays a major role in the economic cycle closing the gap between entrepreneurs and the normal business cycle. This implies that innovation is critical for the success of business enterprises. Therefore, to be an innovator in any business environment is perceived to be important. However, all these theories leave a gap as to how innovation can contribute to closing the economic gap through the application of innovative leadership skills to enhance the sustainable development and growth of SMEs

2.3.1.1 Joseph Schumpeter (1934) and Peter Drucker's (1986) theories of innovation

According to Schumpeter (1934) a person is an entrepreneur if he performs new combinations, even if he is not the creator of the materials of the new combinations. This means that an entrepreneur could be either a founder or an employee and should be able to demonstrate a willingness to impose a novelty – to break the routine. Therefore, an entrepreneur is the disruptive force that dislodges the market from the somnolence of equilibrium. In principle, it is safe to say that entrepreneurs are the "game changers", the catalysts of economic change, innovators and transformers of SMEs.

Schumpeter's (1949) theory of innovation of entrepreneurship, identified innovation as the key factor in entrepreneurship in assuming risks and organising factors of production. His theory focuses, and is actually more centred on, the individual as a catalyst of innovation. However, the theory fails to dissect and express how innovative leadership can sustain growth through entrepreneurship development in order to be sustainable in a competitive environment. According to this theory, innovation is a process of industrial mutation that continuously revolutionizes the economic structure from within, destroying the old one, while creating a new one. Furthermore, according to Drucker's (1986) innovation theory, successful innovation is considered and based on systematic hard work and needs to be constantly monitored in order to provide the desired outcome. This means that in order for SMEs to attain sustainable growth, innovative leaders need to work not only hard but consistently, and they need to put innovation first. As stated by Schumpeter (1934) cited by Munier (2013), innovation is the main source of economic development, and the entrepreneur is the initial catalyst of the innovation process. These theories however, do not provide an indication of the critical elements, tools, methods, procedures, and/or processes that may be needed for innovative leadership to succeed in initiating innovation that will sustain the growth of a business. This study seeks to identify such tools and processes.

2.3.1.2 Rogers's diffusion of innovation theory

Rogers's diffusion of innovation theory was developed in 1962 and is considered as one of the critical older theories still relevant in social science and innovation in information technology today. This theory is closely linked to the objectives of this research study. The diffusion of innovation theory has been widely applied in various fields and industries (Gao, Li and Tan, 2013: 262). It is focused on the conditions in which a new idea, product, practice, philosophy or process is likely to be adopted by members of a given culture (Rogers, 1995; Kaminski, 2011). Adkins (2018) points out that diffusion of innovation theory also helps innovative leadership to understand the social forces they should anticipate when they introduce novel products (Sahin, 2016).

Diffusion is the broad communication of the adopted innovation through internal channels over time among the members of a social system (Rogers, 2003). This enables the potential adopters of innovation to consider, adopt, implement and maintain the use of useful innovations (Dearing, 2010: 05). These authors highlight that communication is key in sharing information, and accumulating knowledge and expertise which are influential in accelerating the application of the innovations to be adopted. Even though innovation is perceived as essential in providing the adopters with novel ways of improving their production and tackling day-to-day challenges, the uncertainty as to whether the new ways will be superior to existing ones presents a considerable obstacle to the adoption process.

The researcher is of the opinion that this theory allows South African manufacturing SMEs to significantly improve their innovation adoption approaches and strategies, moving them towards attaining sustainable growth. As explained by Sahin (2006) and Kaminski (2011) Rogers' diffusion of innovation theory is key to IT adoption, which allows the acceleration of implementation. Studies by Barba-Sánchez, Martínez-Ruiz and Jiménez-Zarco (2007: 111); Apulu, Latham and Moreton (2013: 72); Garg (2016: 08); Issa, Lucke and Bauernhansl (2017: 670) have all shown the importance and strength of IT adoption in improving production processes, transactions, reducing business costs and gaining competitive edge. However, manufacturing SMEs in South Africa seem to struggle with ICT adoption at different levels. Accordingly, this theory can be of great support to manufacturing SMEs when diffusing technology because it dissects, interrogates and explains the variables that influence how and why users opt to adopt a new system (University of Twente, 2017). The theory will further help understand different patterns and approaches to innovation adoption. Rogers (1983) specifically pinpointed the following five characteristics of innovations that consistently influence the adoption of new technologies:

Relative Advantage - The degree to which an innovation is seen as better than the idea, program, or product it replaces.

Compatibility - How consistent the innovation is with the values, experiences, and needs of the potential adopters.

Complexity - How difficult the innovation is to understand and/or use.

Trialability - The extent to which the innovation can be tested or experimented with before a commitment to adopt is made.

Observability - The extent to which the innovation provides tangible results.

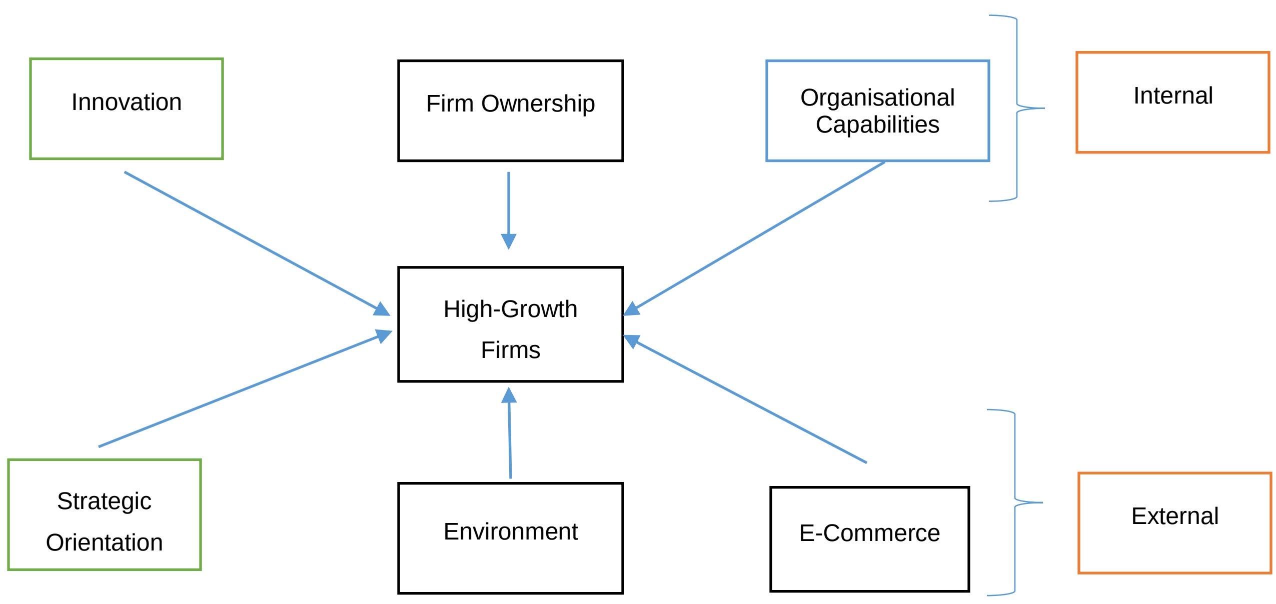
Accordingly, diffusion of innovation in manufacturing SMEs is essential not only in improving internal operations but also in influencing and attracting consumers to accept, adopt and use any new products that have been introduced by the enterprise. Since the innovation process incorporates a series of stages such as collation of innovative ideas, development of a new product idea, cost effectiveness analysis of a new product, developing a new product, testing a new product on the market, and taking a decision to launch its production (Morozov and Taskaeva, 2016). The adoption of this theory can help support innovative leadership by establishing innovations that are beneficial to the firm in order to generate accumulated profits that would subsequently help achieve the sustainability and growth of the enterprise.

2.4 CHALLENGES FOR ENTREPRENEURSHIP THEORY DEVELOPMENT

The study of Amit, Glosten and Muller (1993) identified major challenges for entrepreneurship theory development and offered insights into promising directions for future research. However, they did not articulate how innovation can add strongly to value within the context of business leadership and how, further, it can improve entrepreneurial abilities to achieve and sustain entrepreneurial development. Chepurenko (2015) added that the challenge of entrepreneurship theory development is its limited adjustments, and lack of refocusing on new areas such as social and institutional entrepreneurship as well as innovative leadership styles.

2.5 INNOVATION MODEL AS THE DRIVER OF MANUFACTURING SME GROWTH

Growth models have been studied by researchers for many years (Schamitt-Degenhardt, Stamm and Zehdnicker, 2002; Li and Tan, 2004; Jones, 2009).



Conceptual model of the drivers of high growth: O'Regan and Gallear (2006)

Figure 2-1 Conceptual model of the drivers of growth (O'Regan, Ghobadian and Gallear 2006)

Based on the above theoretical framework, it is clear that high firm growth is influenced by many elements. However, for the basis of this study, the researcher is interested in innovation's ability to influence sustainable growth of manufacturing SMEs. Ismail, Omar, Soehod, Senin and Akhtar (2014: 145), and also Akis (2015: 1312), assert that innovation is the most significant factor towards maintaining a firm's position in a globalized and competitive environment and is subsequently key to SME growth. Dereli (2015: 1366) advises that in order for any enterprise to survive in global competition, maintain competitiveness, be sustainable, and contribute to GDP, it should regard innovation as the driving tool. As discussed above, this is due to innovation providing opportunities for new inventions and the building of new markets (Kuhn and Marisck, 2010). However, achieving innovation is a tricky and intricate activity that needs careful monitoring (O'Regan and Gallear, 2006).

The framework designed by O'Regan and Gallear (2006) indicates that no organisation can thrive without innovation, more especially if the enterprise intends to grow (Goldschmid, 2016). Additionally, without an innovation strategy and capacity, Pisano (2015: 02) believes that an enterprise will not be able to reap the benefits of innovation as different sections within it might start pulling in different directions, resulting in wastage of resources and time. Akis (2015: 1314) views SMEs that shy away from innovation as lacking the vision to find ways to decrease their costs, increase their profit margins and establish the growth that every business strives to achieve and sustain.

2.6 FAST TRACKING INNOVATION FOR MANUFACTURING SMES

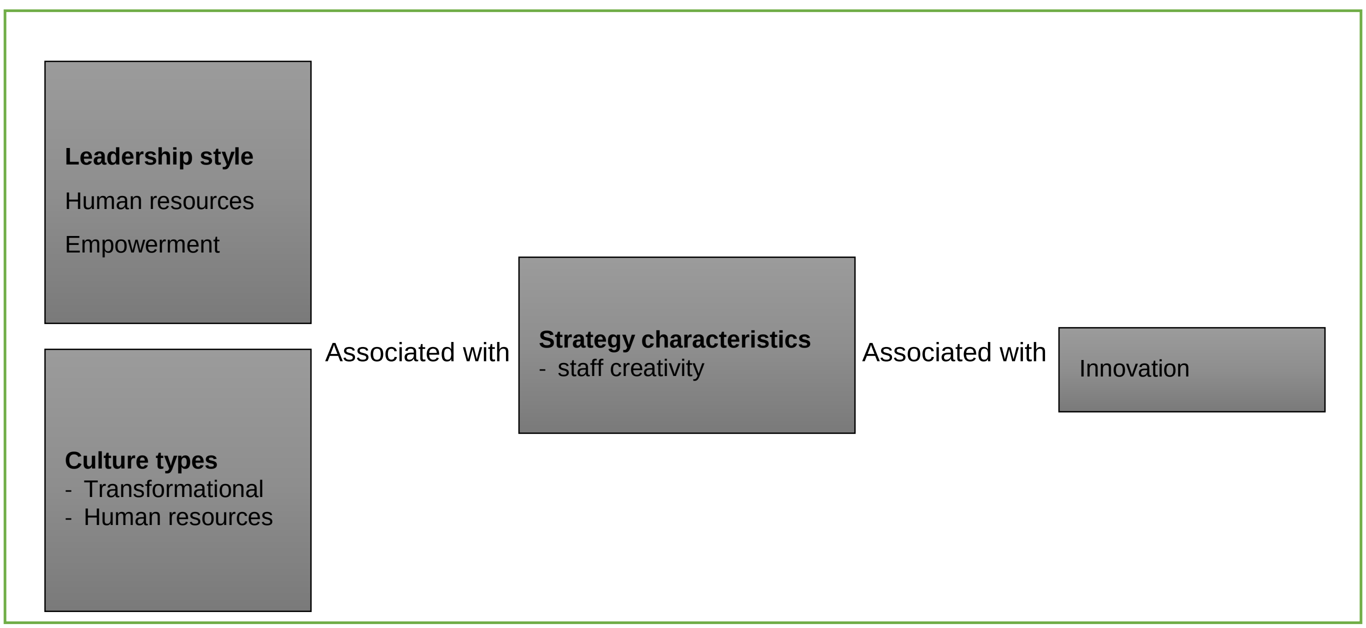


Figure 2-2 Fast tracking innovation - step-by-step guide. Source: O'Regan, Ghobadian and Sims (2006)

Innovation is a proactive strategy, which implies the constant search for, and introduction of, new ideas, products, services, systems, policies, programs and processes before other firms in the environment (Montes, Moreno and Morales, 2005:1160). It is basically an attempt to try out new or improved ways of conducting business to help improve organisational processes (Fagerberg, Srholec and Verspagen, 2010: 02) and Henderson 2017). Linder, Jarvenpa and Davenport (2003) describe innovation as implementing new ideas that create value. Innovation enables companies to produce high added-value products (Genis-Gruber and Öğüt, 2014). Thus, innovation and ability to innovate become vital for firms in order to sustain their competitive advantage (Genis-Gruber and Öğüt, 2014).

Innovation is creation or acceptance, adaptation and utilization of a value-added novelty in trade and industry spheres, regeneration and expansion of a product, services and markets, making of new ways of product development and establishing new demands (Crossan and Apaydin, 2010) and as a result, it is the effectiveness of innovation that is the key to success and a major contributor for SMEs to remain competitive (O'Regan, Ghobadian and Sims, 2006: 251: Mbizi, Hove, Thondhlana and Kakava, 2013: 370). A culture of innovation must therefore be fostered in manufacturing SMEs (Halim, Ahmad, Ramayah, Hanifah, Taghizadeh and Mohamad 2015: 85) as it allows organizations to better meet consumer needs, stay ahead of the competition, capitalize on strategic market opportunities, and align organizational strengths with market opportunities (Rujirawanich Addison and Smallman, 2011). However, prior to innovation, it is important to improve leadership and the organisational climate that is necessary for improved productivity, market share growth and profitability (Eustace and Martins, 2014: 1).

O'Regan, Ghobadian and Sims (2006) found that strong leadership and cultural styles (irrespective of the style itself) as well as strong strategy characteristics, resulted in greater emphasis being placed on innovation. Also transformational and human resources leadership, an empowerment culture and creative staff strategy characteristics are all associated with innovation.

2.7 TWO COMPONENTS OF INNOVATIVE LEADERSHIP

Innovative leaders will exchange “the comfort of complacency with the hunger of ambition” (Sloane, 2007:10). They will use limited resources to overcome whatever obstacles that stands in their way (Sheffer, 1993: 12). Horth and Buchner (2014: 05) consider that innovative leadership has two components, namely: an innovative approach to leadership and leadership for innovation. An innovative approach to leadership simply means to bring new thinking and different actions to the questions of how you lead, manage, and go about your work. Whereas leadership for innovation means to learn how to create an organisational climate where others apply innovative thinking to solve problems and develop new products and services (Horth and Buchner, 2014: 05).

2.8 LEADERSHIP THEORY

According to Phoosawad, Fongsuwan and Trimetsoontorn (2013:04) leadership traits can be divided into several categories including transformational and transactional styles. These authors identify four factors of transformational leadership: idealized influence, inspirational motivation, intellectual stimulation and individual consideration. Transformational leadership is one of the main processes for influencing followers, focuses on developmental needs of individuals and improving their loyalty, excitement and enthusiasm and it is acknowledged as a basic condition required for the development of successful, radical entrepreneurial approaches (Eyal and Kark, 2004: 214; Odumeru and Ifeanyi, 2013: 356; Kabeyi, 2018: 191). Organisationally, Germano (2010); Odumeru and Ifeany (2013) and Northouse (2016) asserts that this leadership approach achieves the best leadership outcome due to its fundamental approach towards the development of staff and in a recent study conducted by Khajeh (2018: 08) the findings revealed that transformational leadership style had a positive relationship towards organisational performance. According to Odumeru and Ogbonna (2013: 358) transactional leadership prioritises managerial leadership where the emphasis and focus is placed on supervision, group performance and the operations of the organisation. The authors further emphasise that transactional leaders use rewards and punishments in order to promote compliance amongst his followers. The rewards can be in a form of a positive performance appraisal, pay raise, promotion, and/or new responsibilities (Ojokuku, 2012). Transformational leadership is significantly different from transactional leadership but in reality, most leaders adopt both styles at different times and in different situations (Northous 2007).

2.9 CATEGORIES OF DEFINITIONS

The following sections will discuss the definitions found to be most appropriate for the study.

Entrepreneur

An entrepreneur is generally understood as any person who has the vision to start a business that can achieve the goal of operating at a profit (Stokes, Wilson and Mador, 2010). However, Zibluk (2017) argues that this definition fails to capture the true essence and originality of what it means to be a risk-taker, innovator, and an individual willing to carve out his or her own path in a world that is not always welcoming of innovation. According to the French economist, theorist and businessman Jean-Baptiste Say (1800), an entrepreneur shifts economic resources out of an area of lower and into an area of higher productivity and greater yield, thus contributing to development levels of a society (Duman, Bedükb, Köylüoğluc and Ay, 2015: 92). Drucker (1986) maintained that entrepreneurship is not a personality trait, it is rather a feature to be observed in the actions of people or institutions. Essentially, entrepreneurs do not just do something better, but do it differently. Schumpeter, (1934) sited by Munier (2013) concluded that entrepreneurs are a rare species or calibre of people with qualities such as intelligence, intuition, and ability to envision the future. They need to have specialized knowledge and skills that enable them to launch and develop a business and, most importantly, they will have to have the capacity to formulate effective and attractive targets for others, along with the ability to establish effective ways of attracting and persuading others to get involved in carrying out the work processes needed to fulfil their objectives (Marchis 2011: 131; Sarwoko, Armanu and Hadiwidjojo, 2013). Based on the definitions and arguments, an entrepreneur is someone who possesses strong transformational leadership characteristics.

Entrepreneurship

Entrepreneurship, as stated by Schumpeter (sited by Göcmen, 2007: 5); and Armeanu, Istudor and Lache (2015: 196) is, as opposed to the entrepreneur as a person, a process where markets are continuously developed through innovation and recombination of resources, maximizing benefits of technological advancements, focusing on innovation and representing a cornerstone of the market economy. Shan and Venkataraman (2000) cited by Mason and Harvey (2013: 06) provide a definition which focuses upon discovery and innovation: “entrepreneurship is an activity that involves discovery, evaluation, and exploitation of opportunities to introduce new goods and services, ways of organizing, markets, processes, and/or raw materials through organizing efforts that previously have not existed”. This means that entrepreneurship involves individuals’ mental processes, choices and actions in the initiation, acquisition or operation of a business or involvement in strategic decision making within a firm (Marchis 2011; Hisrich, Peters and Shepherd, 2013).

However, in South Africa there is currently a shortage of entrepreneurs and a lack of entrepreneurial initiative. As discussed above, deficiencies in human resources, financing and government policies have not allowed SMEs to fully unlock their growth potential, thus limiting their contribution to GDP (Lafuente and Driga, 2009; Marchis, 2011; Ciucan-Rusu and Szabo, 2013). The level of innovation within SMEs is also limited by financial bottlenecks and the limited internal know-how required for managing the innovation process (Tiwari and Buse, 2007:07). Consequently, the momentum from manufacturing SMEs to innovate has declined (Zimmermann and Thomä, 2016: 01). Significantly, Koellinger (2008:21) highlights that innovation is heavily affected by educational attainment, and requires a degree of self-confidence. South Africa's lack of sustained transformation and poor education system mitigate against these attributes.

Innovation

One of the keys to any successful business is being able to come up with new ideas to keep operations, products and services fresh. The process of bringing those ideas to reality is called "innovation" (Brooks, 2013; Schmieder, 2014: xix). Innovation represents a strong growth engine for almost all SMEs (Sarialtin 2012:02). Scholars frequently emphasize the interrelationship between company structure and the ability to either encourage or resist innovation. Innovation can further be seen as a key driver in enhancing global economic competitiveness (Brichfield 2000; Priede and Pereira, 2013: 212) and is in fact essential to the survival and performance of SMEs (Talegeta, 2014: 84; Demirciouglu, 2017: 800). It is a key factor in success within increasingly knowledge-based and hyper-competitive environments (Johannessen, Olsen and Lumpkin 2001) and, as claimed by Bigliardi (2013:245), innovation is a prime source of competitive edge in the market for all companies. It provides the leverage that influences SMEs to establish novel or enhanced services/products, as well as their success in delivering these services/products to the market (Gumusluoglu and Ilsev, 2009, cited by Shafique and Kalyar, 2019: 03). Therefore, innovation is about doing things differently, better, more quickly and more cost efficiently (Tunney, 2014).

Innovation is now driving private sector growth in general as companies realise they must innovate to remain competitive in today's global market (Ratam and Mazzarol, 2003). For small businesses, the key advantages relating to innovation are their entrepreneurial dynamism, their internal flexibility and responsiveness to changing circumstances. Without a doubt, innovation plays a significant role in sustaining an organisation (Braunerhjelm, 2010) and the majority of business professionals attest that innovation is critical to their success. A study conducted by Accenture (2016:01) found that more than 90 percent of leaders believed the long-term success of their organisation's strategy depends on their ability to develop new ideas. This is a clear indication that South African SMEs need to realise that in order for them to remain competitive in today's global market, they need to be innovative (Ratam and Mazzarol, 2003).

While innovation is a key driver in today's global market and a spur to internationalisation (Hölzl, Janger, Reinstaller, Stadler, Unterlass, Daimer and Stehnken 2010: v; Itunga, Ngugi, Katuse and Waititu 2013:267), it is also a key factor in the growth, opportunities and sustainability of many organisations (Ratam and Mazzarol, 2003). However, it seems that South African manufacturing SMEs often fail to grow and attain sustainable economic competitiveness through innovative strategies. According to Ratam and Mazzarol (2003) one of the issues that significantly affect innovation of SMEs is the lack of interrelationship between company structure and the ability to either encourage or resist innovation. At one time, the understanding of innovation was largely connected with technology adoption and that could cause a major obstacle for SMEs who were making marginal profits. However, innovation is not purely about technological integration. It can take various forms including new business models, business organisational forms, and innovative marketing and project solutions (Directorate General for Enterprise, 2004: 05). Innovation may also take the form of purposeful new thinking to improve the quality of products or the efficiency of processes, or an improved organisation of work, or the promotion of creative new relations between suppliers and consumers (Ciemleja and Lace, 2008: 31). According to Quinn (2007) innovative processes of small enterprises depend on accessible information about innovative solutions. However, complex innovative solutions are often beyond the scope of small enterprises, not only because of lack of financial resources, but also lack of the skills necessary for implementation (OECD, 2018:12). Ciemleja and Lace (2008: 31) found that 90 to 99 percent of innovations are unsuccessful due to lack of proper innovation process knowledge and understating. This indicates that while innovation is a key factor in manufacturing SMEs' long-term success, sustainability and growth, there remain serious barriers to its implementation.

Innovation that is worthy of funding and contributes to sustainable economic activity includes new technologies, new technical processes, innovative product or service strategies and new forms of organisation and cooperation strategies (Federal Ministry of Education and Research, 2015). This is an indication that South African manufacturing SMEs need to identify innovation components that will attract the interest of funders. As pointed out by Lesáková, Gundova, Král' and Ondrušová (2017: 325) in order for manufacturing SMEs to grow, innovative leaders need to identify key factors determining their innovation activities and eliminate, where possible, the innovation barriers.

Small and Medium Enterprise (SME)

As indicated above, a review of the literature on SMEs shows that there is no single explanation or definition of an SME – it varies from country to country and depends on different factors which may include the number of employees, leadership, production capacity, resources, profits, and contribution to GDP (Van Scheers, 2011: 50480). Pansiri (2008) and Harabi (2005) agree giving a slightly different list: number of employees, the value of fixed assets, production capacity, basic characteristics of the inputs, level of technology used, capital employed, management characteristics, income generation, economic development and the particular problems experienced by SMEs. According to Cronje, Du Toit and Motlatla (2004: 5) medium enterprises constitute between 100 and 200 formal employees. Abor and Quartey (2010: 220); and Modimogale and Kroeze (2011: 2) add that SMEs can be identified by the number of employees, sales and gross profit or turnover. Therefore, there are no universally accepted definitions of a small business (Bowler, Dawood and Page, 2007; Phakisa, 2009).

The Department of Trade and Industry (2008: 02) gives the official definition of small businesses in South Africa, in accordance with the National Small Business Act of 1996, as "a separate and distinct business entity, including one owner or more, which, including its branches or subsidiaries, if any, is predominantly carried on in any sector or subsector of the economy. These businesses can be classified as micro, very small, small or medium enterprises, following a complex set of thresholds." The definitions provide for ‘micro enterprises’ to have fewer than 5 employees, ‘very small businesses’ to have 6 to 20, ‘small businesses’ to have 21 to 50, and ‘medium businesses’ to have fewer than 200 employees.

International definitions of SMEs

Evidence from the literature also shows that there is no universally agreed meaning of an SME across all academic disciplines and across all countries. According to Storey (1994) and Maseko and Manyani (2011: 172) there is no single definition that can capture all the dimensions of an SME entity, nor can it be expected to reflect the differences between entities in different industrial sectors. However, most definitions are based on the size of an SME and use the fundamental bases such as number of employees, financial position or annual turnover (Beck, Demirguc-Kunt and Levine, 2005). According to Berisha and Pula (2015: 17) medium enterprises constitute between 100 and 200 formal employees, but this definition when applied to one sector might lead to all firms being classified as small, while the same size definition when applied to a different sector might lead to a different conclusion (NCR, 2011: 22).

The European Commission (EC) (2016) defines SMEs largely in terms of the number of employees as follows:
Firms with 0 to 9 employees – micro enterprises;
10 to 99 – small enterprises;
100 to 499 employees – medium enterprises**.**

The Pakistanian Small and Medium Enterprise Development Authority (SMED) also distinguishes a small business based on its number of employees and productive assets (Hafeez, Shariff and Lazim, 2012: 154). According to Ang, Morad and Ismail (2014: 337) Malaysian SMEs are defined into three broad categories based on the National Small and Medium Enterprises Development Council (2005) namely: primary agriculture, manufacturing (including agro-base) and manufacturing-related services; and the services sectors (including information and communications technology). Therefore, it can be seen that a standard international definition of SMEs does not exist as they are defined differently within the legislation of different countries, in particular because the dimension “small” and “medium” of a firm are relative to the size of the domestic economy (OECD, 2017).

2.10 SMES’ CONTRIBUTION TO THE SOUTH AFRICAN ECONOMY

2.10.1 The contribution of manufacturing SMEs to the South African economy

According to a recent report by the OECD (2018:05) SMEs are key to strengthening productivity; delivering more inclusive growth and adapting to megatrends. They contribute substantially to income, output and employment (Business Environment Specialist, 2012; Berrios and Pilgrim, 2013; Susman, 2017; Zainol, Daud, Abubakar, Shaari and Halim, 2018: 107; Harduth, 2018). They are the “lifeblood of modern economies” (Rao, Metts and Monge, 2003:13) as they account for 13% of South African national GDP, with its total output activities accounted for more than 21% of national output in 2017 (Seda, 2018:09). They also contribute over 50% to African employment and Growth Domestic Product (GDP) (Fin24, 2010; Ramukumba, 2014 and Marais, 2018: 19). In the first quarter of 2018 the sector provided employment to nearly 8.9 million people (Seda, 2018: 12). This is an indication that SMEs in South Africa should be regarded as offering the means through which poverty can be substantially reduced through job creation and other linked economic benefits (Matthee and Heymans, 2013: 391; Coetzee and Buys, 2017: 52). However, in order for SMEs to deliver these benefits, it is vitally important that they grow into sustainable, successful businesses (Matthee and Heymans, 2013: 391; Business Environment Specialist, 2015: 2).

According to a Brand South Africa Report (2017), manufacturing SMEs provide a locus for stimulating growth, employment and economic empowerment (Zalk, 2014). In an ideal economic climate this has a strong multiplier effect on value addition, job creation, export earnings and revenue generation, and is the one sector in the economy that has the potential to create these jobs (Odendaal, 2017). Thus, manufacturing SMEs provide an opportunity to significantly accelerate the country’s growth and development (Brand South Africa Report, 2018). The South African manufacturing sector contributed 15.2%

to South Africa's GDP in 2013, making it the third-largest contributor to the nation's economy (Brand South Africa, 2014). However, the sector has been struggling to record positive growth since 2016, with only a marginal increase of 0.8% (ProductivitySA, 2016). This is a worrying trend as it indicates that the manufacturing sector is still stuck in a rut, with growth near zero and not gaining any traction as local production is stagnating (South African Market Insights, 2018). Where in KZN province alone, the manufacturing sector expected contributing is approximately 17.1% which present the significant share of national economy (Botha, 2014)

2.10.2 SMEs contribution to the international economy

In many emerging markets, the SME sector is one of the principal driving forces for economic growth and job creation, and in many countries in Africa the informal sector represents over 90% of businesses, contributing to over 50% of GDP, and accounting for about 63% of employment (Micheal, Kassahvirginia and Andah, 2017: 58). Without doubt, SMEs have become highly significant in the powerful growth shown by the Nigerian economy in recent years (Eniola and Entebang, 2015: 334). SMEs contribute to the evolution of economic structure, reduction in poverty, increase in employment, innovation in technology and the lifting of social standards within many African countries (Eniola and Entebang, 2015: 334); (Armeanu, Istudor and Lache, 2015: 197).

In a study by Maskeo and Manyani (2011) in Zimbabwe, the authors argue that development and sustainable growth of SMEs could be of great assistance in curbing that country's severe economic difficulties as they have low start-up costs, and low risks, and can venture into new fields and new product development through the creativity in the population. By growing and sustaining SMEs, Zimbabwe could contribute to that country's low employment rates. As highlighted by the World Bank statistics (2019) SMEs in developing economies contribute to more than 60% of gross domestic products (GDP) and more than 70% of total employment. In Turkey, SMEs constitute 99.9% of total number of enterprises, 76% of employment, 53% of wages and salaries, 63% of turnover, 53.3% of value added at factor cost, and 53.7% of gross investment in tangible goods (Turkstat, 2016). In Japan, one of the most admired economies, SMEs account for 99.7% of all enterprises, 70% of employees, and more than 50% of the amount of value-added in the manufacturing industry (Izumi, 2015; Wang and Yang, 2013). According to Kashalaba (2017) in Tanzania, 95 percent of business there are SMEs contributing to 35 percent of the country's GDP and generating up to 40 percent of total employment.

This means that SMEs are the largest contributors to total job creation across developing (and some developed) countries and have the largest share of employment (Myslimi and Kaçani, 2016: 158. In addition, they do not only employ the largest number of people, they also generate the most jobs (Ayyagari, Demirguc-Kunt and Maksimovic 2011). Therefore, SMEs are acknowledged globally for their unique contribution to economic development and creating employment opportunities and their contribution to the GDP cannot be overlooked (Bouazza, 2015:1; Szczepańska-Woszczyna and Kurowska-Pysz, 2016: 58).

2.11 INNOVATION BARRIERS FACING MANUFACTURING SMES IN SOUTH AFRICA

As noted above, according to the Business Environment Specialist SME Report (2014:1) South African manufacturing SMEs continue to struggle due to a hostile business environment, lack of skilled staff, burdensome regulations, tough local economic conditions, lack of finance and the high costs associated with employing skilled staff. A lack of skilled and trained leadership, (Arham, 2014) is also considered as a common problem holding back growth and sustainability of manufacturing SMEs. Manufacturing SMEs are also exposed to various macro environmental variables specifically: marketing, management, social, human resources and financially related matters (Cant and Wild, 2013: 707). Owing to these critical factors and challenges as stated previously, many SMEs within South Africa do not have the endurance to survive past the second year of trading with failure rates as high as 63% (Robert, 2010). This is also due to a lack of working capital, high rates of income tax and social insurance, and a predilection amongst potential employees for the job security available in larger firms.

A dearth of highly skilled employees, burdensome government regulations and external environmental influences, therefore all limit their innovative capacity, and disadvantage owner-managers in terms of their competitive strategies (Gough, 2017).

According to Tiwari and Buse (2007) SMEs find themselves confronted by a number of barriers to innovation such as resource constraints, which hinder their capacity to invent and successfully commercialize new products, services or processes. Dlodlo and Dhurup (2013: 62) add that SMEs are faced with barriers to e-marketing adoption as there are costs involved, such as training of employees or hiring knowledgeable staff members, which may be beyond the resources available to small businesses.

The cost of doing business with banks in Africa is another of the critical challenges faced by SMEs. Firms depend on a variety of sources of financing and this has been highlighted as one of the major constraints affecting the performance, development and innovation of SMEs in Africa (Terungwa, 2012; Eniola and Entebang, 2015: 335). Lacking adequate finance, SMEs find it hard to innovate, while Bigliardi (2013: 252) agrees that SMEs' capacity to innovate is among the most important factors that impact on financial performance. Any enterprise that does not innovate inevitably ages and declines according to Robson and Obeng (2007: 387) and Torres, Guzman and Castro (2015: 1481). This therefore represents something of a 'catch 22 situation'. South African Reserve Bank (2015: 06) adds that innovation is not the exclusive domain of small business as in fact larger companies have the advantage over SMEs in some respects, since many kinds of innovation require economies of scale, large investments in research and development, and the ability to sit out long periods of gestation while waiting for regulatory approval.

2.12 LEADERSHIP TYPES IN SMES

As discussed above, leadership in SMEs has been recognised as an important determinant of a firm's competitive advantage. Many researchers (Gumusluoglu and Ilsev, 2007; Jung, Wu and Chow, 2008; Asiimwe, 2015) have studied the impact of transformational and transactional leadership on small business. According to Saad and Mazzarol (2010) conceptually a transformational leadership style displays behaviour that creates an environment conducive for innovation to prosper, while a transactional leadership style prefers the status-quo where stability and minimal changes are the hallmark. Dougherty and Hardy (1996) add that the transformational leadership style is more open to the facilitation of unconventional and innovative thinking and working processes that might lead to new knowledge and technological advances.

Chelladurai (2001) states that transformational leadership styles create the need for major changes by developing the followers'/employees' attitude towards the future and building their commitment to the organization to achieve greater results than could normally be expected. Gumusluoglu and Ilsev (2007) argue that transformational leaders are however more influential and likely to emerge in a collectivist business culture than in an individualistic business culture.

Therefore, in SMEs, the leadership behaviours of the top management can have a strong impact on the innovativeness and the performance of the firm (Matzler, Schwarz, Deutinger and Harms, 2008; Soomro, Shah and Mangi, 2019) particularly if the business becomes globally competitive – but SMEs' improvement requires another vision and set of targets to help them to end up more aggressively competitive with the ability to manage and sustain their businesses into the future. In order to accomplish this, the leadership behaviours of the CEO/owner will play an important role in ensuring the direction and clear vision is shared among employees (Asiimwe, 2015).

It is therefore clear from the literature that the success and innovation achieved by SMEs can largely be attributed to the leadership style of the manager and the strategies he/she chooses to implement. Also, implementation of the strategic plan shapes the performance of core business activities in a strategy-supportive manner (Chege, Wachira and Mwenda 2015: 594). This also suggests that transformational entrepreneurial leaders have a positive influence on SME innovation and also that they are able to promote innovative activity within the business and also promote the market success of the innovation (Saad and Mazzarol, 2010).

As one would expect, the literature shows that leadership is important in the success of entrepreneurial firms and that entrepreneurs who are capable of demonstrating effective leadership behaviour are more likely to enhance their firms' success (Arham, Boucher and Muenjohn, 2013). Studies by Megginson, Byrd and Meginnson (2003) Kuratko and Welsch (2004), Rwigema and Venter (2004), have all reported that lack of management ability is the most common reason for small business failure. Therefore, examination of the relation between leadership and innovation is pertinent as leaders positively influence outcomes of innovation processes (Den Hartog and Verburg, 1997; Howell and Avolio, 1993 sited by Ryan and Tipu 2013: 2116). This is supported by Argon-Correa, Garcia-Morales and Cordon-Pozo (2005: 349) who confirm that a positive leadership style can be seen as one of the most important individual influences on manufacturing SMEs' ability to innovate.

2.13 LEVEL OF EDUCATION OF LEADERSHIP IN SMES

The word 'education' originated from the Latin word 'exducere' which means 'to lead out' (Lobler, 2006). Education is ideally about, or leads a person towards, personal development, creativity, self-reliance, initiative taking, and action orientation, thus becoming entrepreneurial (Lackeurs, 2015:09). It supports the creation of knowledge, competencies and experiences that make it possible for entrepreneurs to improve their capabilities for the sustainability of their businesses (Moberg, 2012). According to Lekhanya (2015: 411) the level of education is important for innovative leadership as it enables a greater involvement with the firm's functional areas. The GEM report (2013) also finds that the higher the level of education of a manager/ leader, the greater the competitiveness, productivity, and growth achievable. Education can significantly improve the entrepreneurial climate. This report also indicates that in South Africa there is a strong correlation between opportunity-driven SME leadership and level of education and the report also indicated that the majority of the early-stage entrepreneurs have a secondary degree. This is further supported by the Trade and Industrial Policy Strategies' (2017: 17) statistics that around 50% of formal SME leadership have relatively high levels of formal education with very few having only secondary schooling. This provides universities and the government with the opportunity to address various entrepreneurship education value chain factors by assessing entrepreneurial degree content and delivery strategies and by enhancing the practical orientation of the subject (Ndofirepi and Rambe, 2018: 02). This will enrich the innovative leadership potential of future entrepreneurs.

On the other hand, Business Capital (2016) found that often new SMEs last for only five years due to lack of a sufficiently broad range of business skills mainly attributed to inadequate aspects of their education (Business Report, 2017). This means that in order for entrepreneurs to have a good grip on the operations of the organisation, they need not only to know how to manufacture and sell a product, but also to be able to market it and control the financial side of the business and in doing that (Schwartzkopff, 2017) the entrepreneur must be generally skilled in business.

If the development of good leadership is one of the driving forces for achieving success within manufacturing SMEs, the evidence suggests that inadequate leadership and management skills are significant factors contributing towards failure (Abdul Rakaz, 2010; Arham, *at al.*, 2013; Seda, 2016: 09). Education is therefore emerging again as a key factor.

2.14 LEADERSHIP SKILLS NEEDED BY SME ENTREPRENEURS

Leadership in small organisations has been identified as the central element in influencing the firm's competitive advantage, and the role of the entrepreneurial leader has long been recognised as an important determinant of innovation (for example, West, Borrill, Dawson, Brodback, Shapiro and Haward, 2003). This clearly puts pressure on leaders to acquire the necessary skills in order to maintain and sustain the operations of the organisation. In a study conducted by Chimucheka and Mandipaka

(2015) their findings identified that inadequate management skills, lack of leadership experience, and absence of technical knowledge were major challenges that promoted instability in SMEs while Leg-Tero (2016) claimed that about 65% of SMEs are losing time and money due to lack of technical skills specifically.

Besides the skills identified above, Van Scheers (2010) and Cant and Wiid (2013) noted marketing skills as important for South African SME leadership to acquire. As explained by Michaluk (2007) general marketing is all about information and knowledge, and using that information to publicise and market your organisation to the society or community, to reach out to prospective customers, customers, investors (*networking*) and this is also a driver of competitive advantage (Walsh and Lipinski, 2009). Mulupi (2012) concurs that SME owners and managers often lack fundamental skills, these involving simple business skills and business experience, and because of that their business growth is limited.

2.15 CHALLENGES FACED BY MANUFACTURING SMES IN TERMS OF GROWTH

Although South African economic growth has increased in recent years it remains insufficient to reduce unemployment substantially, especially when compared with other middle-income African countries. Stats SA (2019) revealed the unemployment rate in South Africa increased by 62 thousand to 6.20 million in the past few years.

The Department of Economic and Social Affairs (2019: 03) reported that youth unemployment rates remained stubbornly at 40% in 2018. With the pace in which small businesses fail in South Africa, the creation of good jobs for the youth will increasingly be difficult if strategic measures are not put in place by policy makers, government institutions and innovative leadership.

However, it is apparent that manufacturing SMEs fail not only on account of poor management but also due to a lack of appropriate structure and infrastructure (Obokoh and Goldman 2016: 01; Muriithi, 2017: 44) lack of financial management skills and financial funding was the principal reason given for their high failure rate (Fin24, 2010; Mudzviti and Mawanza, 2014; Kambwale, Chisoro and Karodia, 2015: 102; 2015; Mthabela, 2015: ii). Pansiri and Temtime (2006: 252) argue that it is not only access to finance, or the availability of capital that leads to growth and competitiveness, it is how SMEs manage their scarce resources (financial, human and material) as well as market complexities and changes. According to a study conducted by Sesep (2016: iv); Steenkamp and Bhorat (2016) and Thulo (2019) South African manufacturing SMEs need urgent support in respect to financial assistance, support to develop industry-specific skills and knowledge, assistance with compliance as to industry standards, regulations and accreditation requirements; training and technical skills development; support to access raw materials; and support to strengthen supplier relationships with large enterprises as well as industry-specific incubation. More recent reports suggest that the same problems pertain (Mamabolo, Kerrin and Kele, 2017; Rungani and Potgieter, 2018; Seda, 2018).

2.16 THE IMPORTANCE OF EDUCATION AND TRAINING FOR MANUFACTURING SME INNOVATION

As has become apparent throughout this thesis, education and training form the foundation for manufacturing SMEs' leaders to develop themselves, to learn new skills and to stay relevant to their niche markets (Foley, 2015). Almost all policy analysts have noted appropriate education as among the most important policy instruments in promoting successful entrepreneurship (Cassim, Soni and Karodia, 2014: 36). This is endorsed by Isaacs, Visser, Friedrich and Brijal (2007: 614) who argue that the key to establishing a culture of entrepreneurship in South Africa is education, since it contributes substantially towards an entrepreneur's social capital, and to his/her innovation and networking abilities (Dudla, 2014). Education can provide the self-confidence which enhances an individual's determination and perseverance, increasing the innovative and active dimensions of entrepreneurship (Chimucheka and Mandipaka, 2015: 313; Kalyoncuoglu, Aydintan and Gooksel, 2017: 84). Bbenkele and Ndedi (2010: 5) add that education in entrepreneurship is designed to develop innovative individuals who are able and willing to take risks, to manage results, and to learn from the outcomes. Furthermore, entrepreneurship education, viewed from a wider national perspective, can fast-track an improvement in the economy and ultimately help solve socio-economic challenges, especially unemployment and low economic growth (Matlay, 2008: 382; Steenkamp and Bhorat, 2016: 28), while also increasing the number and the quality of entrepreneurs entering the economy (Chimucheka, 2014: 403).

Entrepreneurship education is important for strengthening the capacity to create ideas (Vakilli, Tahmasebi, Tahmasebi and Tahmasebi, 2016: 89). It enables innovation that puts an emphasis on imagination, creativity, and risk acceptance in manufacturing SMEs (Neneh, 2014: 47). It also assists in maintaining levels of entrepreneurial competence (OECD, 2015: 12) and can help broaden the thinking capacity of entrepreneurs in establishing innovative ways to achieve sustainable growth. The development of entrepreneurship across cultures, economies and continents is an essential feature of economic change (Wright and Marlow, 2012). Most significantly, continuous training and education is about developing attitudes, behaviours and capacities at the individual level (Byer, Seeling, Sheppard and Weilerstein, 2013; Zukic, 2013: 95) but more than that, it has a positive influence on manufacturing SMEs' competitiveness, performance and innovation. Education and training create and sustain the accumulated human resources that the entrepreneur is able to contribute to the sustainable growth of the organisation (Tomy and Pardede, 2018: 11). Dumas and Hanchane (2010) and Collier, Green, Kim and Peirson (2011) argue that it is imperative that the leadership within manufacturing SMEs understands that skills and development training are seen as a continuous phenomenon that should be accepted and considered as part of organisational operations. Education and training commitment improve entrepreneurial vision and open-mindedness, leading towards the improvement of the firm's performance (Sitharam, 2014: 15). Moreover, academic improvement and professional training is essential due to the complexity and dynamic nature of the current business environment (Slipicevic and Maic 2012: 106). This is supported by a study conducted by the (OECD, 2015).

Thus, overall, the literature finds entrepreneurship education and training to be essential for achieving higher levels of economic growth. It is also essential for growth to be sustained and is a critical success factor for achieving optimum organisational performance (Oosterbeek, van Praag and Ijsselstein, 2009: 442; Cooney, 2012; van Sheers, Adesonga and Johan, 2015: 86). Furthermore, the International Labour Office argues that it can fuel innovation, investments, technological change, enterprise development, economic diversification and competitiveness in South African manufacturing SMEs (International Labour Office, 2010: 07).

However, Florin, Karri, and Rossiter (2007) claim that entrepreneurship education and training is not enough in itself since it teaches necessary skills but the most significant aspect is to develop and enhance an “entrepreneurial drive’. According to Neneh (2011: 3365) entrepreneurial drive is the ability of the entrepreneur to pursue the innovative and energetic search for opportunities, sustain the competitiveness of an economic organisation, and ultimately to support the life of a nation through value and job creation. This additional drive seems currently to be lacking in South African manufacturing SMEs. However, the knowledge and skills acquired from training can be seen as its essential foundation, enabling innovative leadership to recognize and exploit new opportunities, and new technical know-how (Haber and Reichel, 2005; Littlewood and Holt, 2018: 544).

According to Varis and Littunen (2010) and Pihie, Asimiran and Bagheri (2014: 1) the innovation occurring within manufacturing SMEs is typically driven by an innovative leadership style. Therefore, it is important for leaders and managers to understand the central need for education and training for an organization to acquire and understand the basic language of business (UCT Graduate School of Business, 2018). According to Mthabela (2015: 34) good business knowledge and training also allows the innovative leader to remain motivated. He further sees the need for leaders to have sufficient control over the inclusion of education and training within their organisations to prevent business failure. Evidence gathered by Jones, Pickernell, Beynon and Packham (2013: 101) finds that SME owners believe that training and education significantly benefit business performance in the form of enhanced productivity and profitability. However, Farrukh, Athanassopoulou, Phaal and Tietze (2015: 02) also point to the importance of the training, education and support given to manufacturing SMEs being specifically configured to the needs of each individual firm. The fact that manufacturing SMEs often have weak training provision and management skills in contrast to larger businesses (Jayawarna, Macpherson and Wison, 2007; Kitching, 2008) is of major concern.

2.17 EFFECTS OF TECHNICAL SKILLS ON SME MANUFACTURING INNOVATION

According to Adendorff, Emuze, and Vilakazi (2013) in South Africa, there is a research gap on entrepreneurial skills suitable for manufacturing SME entrepreneurs. This issue is echoed by Loué and Baronet (2012); Deakins, Bensemann and Battisti (2016); Shabbir, Shariff and Shahzad (2016) who have deliberated the issue at length. Mamabolo, Kerrin and Kele (2017: 02) believe that empirical research is urgently needed in a South African context.

In knowledge-based economies, firm-level investment in the upgrading of training and skills has long been seen to be one of the keys to growth (OECD, 2002: 06). In South Africa, a lack of managerial skills (which can be linked to a lack of adequate business training) has been identified as a key contributor to business failure (Radipere and van Scheers, 2005: 410; Nemaenzhe 2010; Odendaal 2013; Kambwale, Chisoro and Korodia, 2015). Slipicevic and Masic (2012: 106) show how investing in entrepreneurial training and skills development improves the ability of these enterprises to take initiative, seek out and use opportunities, enhance risk decision making skills in uncertain conditions, and build the capacity to succeed. Therefore, there is clear connection between innovative leadership skills and the ability of SMEs to survive and thrive (Chartered Management Institute (CMI), 2015:13).

In the present age technical skills are probably the most urgently required. Those needed by manufacturing SMEs include proficiency in specific activities involving methods, processes and techniques in the business's own line of operation (Mamabolo, Kerrin and Kele 2017: 8). Industry-specific skills, IT professional skills, production development, management of operations and quality-monitoring skills, are all fundamental to handling and operating business-related tasks (Mmbengwa, Ramukumba, Groenewald, van Schalkwyk, Gundidza and Maiwashe, 2011; OECD, 2011: 29; Panigrahi, 2016: 239). These technical skills are clearly relevant to manufacturing SME operations in their role as a fulcrum for growth (Ikupolati Adeyeye, Olatunle and Obafunmi, 2017: 06). Rasool and Botha (2011) argue that, entrepreneurs with technical skills have many advantages over those that lack these skills, as the possession of IT knowledge and skills allows them to handle the challenges and opportunities of globalization. Vijay and Ajay (2011: 09) see technical industry-related skills as an essential source of expert power needed to support the implementation of entrepreneurs' vision and planning. It is therefore clear that without technical skills, innovative leaders will find their jobs increasingly difficult (Professional Development Centre, 2016). As argued by Jane (2017) having technical skills eliminates the pressure created by being dependent on outside expertise, and, most importantly, it saves money and time. A study conducted by Nkosi, Bounds and Goldman in 2013, found that in South Africa, the possession of technical skills was the primary contributing factor to the successful development of SMEs. These findings are echoed by Turyahikayo (2015: 25) who found that business innovation and growth is affected by technical and managerial skills which determine the amount of social and financial capital generated for the SMEs.

Consequently, policy makers and various leading business institutions have all recognized skills development and training as a key aspect of innovative leadership's ability to establish sustainable growth of SMEs, including of manufacturing SMEs (Smale, 2015; South African Institute for Entrepreneurship, 2011). These institutions and policy initiatives include the British Council, Founders Card, Young Entrepreneurs' Council, the South African Institute for Entrepreneurships, the Skills Development Act of South Africa, and the National Business Act of 1996.

This implies that innovative leaders possessing technical skills and business knowledge can be a solution to identifying and implementing innovative ideas and approaches to grow manufacturing SMEs (Mmbengwa, *et al.* 2011) as innovative leaders who are technically competent are able to orchestrate new innovative ideas throughout the organization. This was also noted by Jordan, Hage and Mote as early as 2004. Thus, in view of the above, without obtaining technical skills, it is clear that even innovative leadership will find it difficult to cope with dynamic business turbulences.

Again however, it must be highlighted that technical skills alone will not have an immediate positive effect on manufacturing SMEs (Chatterjee and Das, 2016: 235) as the longer-term survival and success of manufacturing SMEs depends on a wide range of management skills (Mbizi, 2013: 372).

In conclusion it appears that innovative leadership would need to build managerial and technical skills systematically, aggressively and coherently if they are to device a winning strategy able effectively to support superior organisational performance over time (Hecker and Ganter, 2013; Populova and Papuliva, 2006).

2.18 THE INFLUENCE OF TECHNICAL SKILLS ON STRATEGIC PLANNING IN MANUFACTURING SMES

According to Petersen (2018) technical skills do not only involve skills specifically related to IT, but they also encompass the understanding and execution of specific tasks in the workplace. However, Ikupolati Adeyeye, Olatunle and Obafunmi (2017: 06) assert that an entrepreneur with technical skills can greatly support the effectiveness of business's strategic planning and business competitiveness (Carreras, Arroyo and Blanco, 2018: 01). A study conducted by Ochola (2015) highlighted that strategic planning failed to be successful due to the combination of a lack of technical skills and of leadership skills.

2.18.1 The importance of strategic planning in manufacturing SMEs

Strategic planning is a process of coordinating activities to achieve the organisation's long term goals (Steiner, 2010; Majam and Magang, 2017: 75). Olse (2007:12) and Arasa and K'Obonyo (2012) define strategic planning as a formalized roadmap that provides a comprehensive view of a chosen strategy and how this will be executed. It is simply a tool that can be described as a guide to the attainment of the business vision (Bryson, 2011). It seeks to focus on the best and most effective means to reach organisational goals (Donkor, Donkor and Kwarteng, 2017: 63). The important aspect about strategic planning is that it requires innovative leadership to be able to take into account both external and internal factors, and to assess what, where and when to innovate (Simerson, 2011: 16). As agreed by Kraus (2007: 03) strategic planning is an attempt to prepare for future contingencies and thus to be prepared for unpredictable environmental dynamics and complexities. Strategic planning must therefore involve creative effort to imagine futures that are structurally different, in order to bring about sustainable innovative change within the organisation (Albrechts, Balducci and Hillier, 2017: 17). As noted by Stonehouse and Pemberton (2002), cited in Vijay and Ajay (2011: 07) strategic planning involves strategic thinking which reflects the ability of the organization's leader to develop a future vision and take appropriate action beyond day-to-day operations and to have the necessary skills to achieve this.

Comprehensive reviews of extant studies into SMEs (Lurie, 1987; Schwenk and Shrader, 1993; Miller and Cardinal, 1994; Hormozi, Sutton, McMinn and Lucio, 2002) suggest that a key determinant of business success lies in the absence or presence of strategic planning. However, as revealed in an exploratory study by Wentzel, Smallwood and Emuze (2016: 1485) manufacturing SMEs are often strategically myopic and lack any long-term vision as to where the firm is heading. This is also reflected in a South African study conducted by Thompson, Bounds and Goldman in 2012 which revealed that manufacturing SMEs' consideration of strategic planning is generally minimal to non-existent. This brings us back to the issues of skills shortages, particularly with respect to technical skills and business management skills within manufacturing SMEs (Seda report, 2012: ii). Without strategic planning, manufacturing SMEs will face an uncertain future as management may fail to update the plans required to withstand challenges posed by imminent adverse market conditions, and competition from better prepared rival firms (Hill, Jones and schilling, 2014). Additionally, by neglecting strategic planning, SMEs may not achieve their full performance and growth potential, and their sustainability and growth could be placed at risk (Wang, Walker and Redmond, 2011).

Therefore, the need for manufacturing SMEs to have technical skills to support strategic planning may be the key to sustainable growth of manufacturing SMEs. The identification of expert, industry-related technical skills training is key and manufacturing SMEs that engage in strategic planning are more likely to be those enterprises that are more innovative (Wang, Walker and Redmond, 2011: 03).

2.19 INNOVATIVE LEADERSHIP TRAINING

According to Hayton (2015: 12), in order to keep up with the needs of any organisation and its employees, innovative leadership training is required. Bolden (2007: 09) claims that leadership training is able to develop innovation skills, and strategic thinking, as well as the adaptability required to cope with business change. O'Regan, Stainer and Sims (2018: 18) have shown that innovative leadership training can have a durable impact on manufacturing SMEs' performance and sustainability. Such innovative leadership skills are required to handle such difficult issues as redundancy processes and the rebranding of set goals in order to maximize the opportunities that arise (Gachina 2016: 10; Szczepaǹska-Woszczyna and Kurowska-Pysz, 2016: 66). Perks and Smith (2008: 145) also show that lack of leadership skills inhibits manufacturing SMEs' ability to innovate and be sustainable. Therefore, it is important that innovative leadership training and development become a 'culture' that is embedded within manufacturing SMEs and that this training should be specifically moulded to the demands of inculcating innovation skills (Leitch, McMullan and Harrison, 2009: 245). Additionally, a consciously innovative orientation stimulates the proactive thinking that is key to innovation and sustainable growth within manufacturing SMEs.

2.20 GOVERNMENT INCUBATORS TO SUPPORT SME INNOVATION

Most small enterprises experience difficulty in finding the capital required to maintain and sustain their businesses. Grant assistance from government institutes can therefore be a key factor in acquiring start-up finance and the additional capital required for expanding an enterprise (Crampton, 2016). Crampton maintains that this government support enables businesses to become sustainable. Despite this understanding, South Africa lags behind other developing countries in promoting the growth and sustainability of small businesses. According to the GEM Report (2011) there is a high failure rate particularly among start-ups, with South Africa ranking 29th out of 54 countries in the failure rate of established business owner-managers.

Given their sheer number and tendency to fail, one may argue that focusing on the need for SMEs to be self-sustaining would be an important step towards ensuring economic sustainability in any economy (Lose and Tengeh, 2015: 14345). Although support from government is available, along with their setting up business incubators to assist new and upcoming businesses, these support agencies have been less successful than envisaged (Business environment specialist, 2009; Kavhumbura, 2014). This really puts SMEs in an unstable situation taking into consideration that 91% of business entities in South Africa are SMEs, of which 61% contribute to the country's employment statistics. Of the 91%, 52-57% contributes to the country's GDP (SAICA, 2014).

Al Mubaraki and Busler (2011: 99) and Riggins (2019) define business incubators as organisations that aim to accelerate the development of entrepreneurial enterprises through the provision of business support in the form of resources, services and business network contacts. The concept of business incubation was originated in the United States of America (USA) in the 1960s as an initiative to support new SMEs in establishing and developing networks, management skills and markets for their products and services in a creative and innovative manner (Dubihlela and Van Schaikwyk, 2011: 265).

The concept of ‘incubator’ is often used as an overall value term for organisations that provide or create a supportive environment conducive to the “hatching” and development of new firms (Chan and Lau, 2015: 12 cited by Esfandabadi and Pisheh, 2017: 169). Business incubators have proved effective in providing a platform for nurturing businesses (Lose and Tengeh, 2015: 14345). According to studies conducted by Mas-Verdù, Ribeiro-Soriano and Roig-Tierno (2015); Berge and Norman (2008); and Chan and Lau (2015: 12) incubators play a function in stimulating and supporting future entrepreneurs as they initiate their business activities. In essence, incubators are designed, or their primary objective is, to produce successful firms. However, in order for manufacturing SMEs to benefit significantly, an incubator’s services should be tailored and customised based to the needs of each business’s needs (Mas-Verdù, Ribeiro-Soriano and Roig-Tierno, 2015: 796). They should also be carefully monitored to establish whether there is significant improvement to SMEs sustainability after graduation of the business through incubation. Schwartz and Hornych (2008) advise that the incubation period should not be too lengthy because the longer the firm’s incubation, the higher the risk of it failing to stand on its own feet and to acquire full independence from incubator support.

Government support agencies that can help new SMEs with finance and training, such as Seda and other forums, should also be rigorously marketed to create awareness of their services (Olawale and Garwe, 2010: 736). According to Jassiem, Damane, Dlamini, Swartz, Bortaar, Mabuthile, Mali, Mahote and Bruwer (2012: 6911) Seda is an agency of the Department of Trade and Industry (DTI) that was set up with a sole mandate to develop, support and promote small business in South Africa and to guarantee their growth and sustainability. Unfortunately these agencies also face several deficiencies and problematic factors that diminish their relevance and hamper the effectiveness of the programmes and services offered (Seda, 2012). The most prominent of these deficiencies are:

- Insufficient marketing of Seda’s various support offerings to SMEs.
- A lack of staff capacity within Seda to support SMEs effectively.
- The work of Seda’s business practitioners is constrained by insufficient resources.

- Concerns about the extent to which Seda's business plans are implementable in practice.
- A lack of follow-up support and mentorship after initial support has been provided.
- Too much focus within Seda on targets in terms of the numbers of SMEs supported rather than on the quality of support.
- The long time that Seda takes to respond to applications for support.

Nichter and Goldmark (2009: 1460) further discovered that enterprise development programs do not have clearly predetermined objectives, and that they often have unrealistic objectives. Studies by Abor and Quartey (2010); Kavhumbura (2014); Lose and Tengeh (2015) and others clearly show concern with the unsustainable growth of SMEs and they highlight the challenges faced by SMEs which result in them being prone to high failure rates. If such weaknesses are not eradicated, they will have a detrimental effect on the economy of the country and the socioeconomic conditions of the South African population. As SMEs are considered necessary drivers of economic growth and development throughout the world, they need to be provided with the opportunity to grow into sustainable, profitable businesses (Matthee and Heymans, 2013: 391).

2.21 SOUTH AFRICAN GOVERNMENT AGENCIES THAT SUPPORT MANUFACTURING SME INNOVATION

The Government's agencies and funds are distributed across five departments, namely the Department of Trade and Industry (the DTI); the Department of Economic Development (DED); the Department of Science and Technology (DST); the Presidency; and the Department of Agriculture (NCR 2011: 27). According to NCR (2011: 28) small business falls under the Minister of Trade and Industry and specifically under two of the Department's units – the Enterprise Organisation and the Empowerment, and Enterprise Development Division. The department has various entities under it, namely: Small Enterprise Development Agency (Seda), National Empowerment Fund (NEF) and National Small Business Advisory Council (NSBAC).

These entities were established purely to support the development of SMEs through different funding schemes and various incubators, in order to boost the South African economy, accelerate the growth and success of small businesses, and to create employment. However, due to mismanagement, and their working in isolation from one another, outcomes have been poorly coordinated, thus hindering, rather than advancing, the progress and sustainable development of SMEs in the country (NCR, 2011).

2.22 FINANCING OF SMES IN SOUTH AFRICA

For the past decade, the South African Government has been on a quest to create and develop various initiatives targeted at supporting and growing the SME sector (NCR 2011: 27). They have prioritised SMEs and informal sector development for their potential social and economic growth prospects (The Banking Association South Africa, 2017). This was evident when the government formulated a South African Small Business Policy which was principally informed by the 1995 White Paper on national strategy for the development and promotion of small businesses in South Africa (Timms, 2011:20).

Subsequently, a Broad-Based Black Economic Empowerment (BBBEE) Act (Act 52 of 2003) was implemented through what was known as Black Economic Empowerment (BEE) (Cargill 2010) to contribute to the establishment of an equitable society by providing accessible financial services to black people (The Banking Association South Africa, 2017). The BEE phase started from 1993 and lasted until 2003 (Cargill 2010; Chabane, Goldstein and Roberts 2006). The establishment of BBBEE outlined different strategies to uplift SMEs especially for transformation, making funding provisions with various adjuncts (Irene, 2017) which were meant to serve as the cornerstone of the South African Government's efforts to educate and train the large sector of the population that was disadvantaged under apartheid rule (Standard Bank, 2017). Small businesses needed to qualify and be compliant with BBBEE regulations and codes in order to qualify for support (Crampton, 2016).

A "qualifying small enterprise" meant a business that qualifies when measured against the qualifying small enterprise scorecard. This includes having a turnover of between R5 million and R35 Million (Jack, 2007: 73; Standard Bank, 2017). The codes are aimed at rectifying certain shortcomings in the old codes under BEE, in general intensifying the transformation of the economy through priority elements, empowering supplier status, and providing automatic BEE recognition levels designed to reduce the scorecard verification procedure (Mophethe, 2015). This meant that having a positive BBBEE scorecard should propel a business into new levels of opportunity, gaining competitive advantage and reaping the rewards (Web Governance, Risk and Compliance, 2016).

Although the intentions were good and were aligned with the strategic objectives, the BBBEE initiative has faced a number of challenges and shortcomings. In a study providing a critical review of the effect of the BBBEE program on the success of female SME operators, the findings indicated that the majority of the beneficiaries perceived the impact of the programme on business success (using the ten dimensions of business performance measures) were largely adversarial (Irene, 2017). This finding is also supported by the Skills Portal (2013) which found that the stringency of the BBBEE Codes could lead to some businesses abandoning all attempts to comply.

2.23 FOREIGN FINANCIAL SUPPORT AGENCIES

In the United States, there has been a positive initiative to support SMEs and funding is made accessible through a wide range of free or low-cost services from federal and state agencies, including grant funds, insured loans, advisory services and even tax breaks (Ingram, 2017). Conversely, manufacturing SMEs in South Korea are facing tremendous challenges in attempting to promote and sustain innovation. Financial constraints have been the barrier to reaching long-term sustainable survival. (Choi and Lim, 2017: 3; and Berends, Jelinek, Reymen and Stultiens, 2014).

2.24 FACTORS INFLUENCING FINANCING OF MANUFACTURING SMES

The financing of manufacturing SMEs has been debated by policy makers, researchers and stakeholders. This discussion is propelled by the realization, already discussed, of the major contribution of these entities to economic development across the globe (Ayyagari, Juarros, Martinez-Peria and Singh 2016; Naude and Chiweshe, 2017). However, despite manufacturing SMEs being regarded as one of the major contributors towards an economy's GDP and formal sector employment (Malepe, 2014) they find themselves, in South Africa and elsewhere, continuously obstructed and oppressed by financial difficulties in any attempt to innovate and grow (Pillay, 2006: 35; Abor and Quartey, 2010: 225; Bernad, Stabilito and Yoo, 2010; Jafarnejad, Abbaszadeh, Ebrahimi and Abtahi 2013: 214; Cassim, Soni and Karodia, 2014: 36; The Banking Association South Africa, 2017). Seda (2016: 02) and Sibanda, Hove-Sibanda and Shava (2018) concur and further indicate that manufacturing SMEs face daunting hurdles when accessing finance and credit mainly because the financial institutions are reluctant to invest in them. This puts them under a lot of pressure as lack of funding and bank credit have an adverse impact on overall performance and on any attempts at innovation. Their own funding and retained earnings are seldom enough to initiate the innovation that will give them a competitive advantage over larger entities (Gombarume, 2014; Ombongi and Long, 2018: 43).

According to Fatoki and Odeyemi (2010); Pandula (2011: 257); Ezeoha and Both (2012); Nizaeva and Coskan (2017: 93) a firm's demographic factors, its size, ownership type, age and sector all influence their access to finance. Furthermore, any inability to declare assets, provide accounting records, or ensure creditworthiness and financial performance will adversely influence financial institutions' readiness to commit to medium, or long term, investments (Zarook, Rahman and Khanam, 2013: 55; Ryan, O'toole and McCann, 2014; Mutoko and Kapunda, 2017). This lack of access to credit is a major constraint for those manufacturing SMEs that wish to expand their activities (Seda Report, 2012: ii). It is clear that SMEs present a high risk to the lender, as many of them have insufficient assets that can be used as collateral, and they suffer from low capitalization (Abraham and Schmukler, 2017; Growing Micro and Small Enterprises in

LCDs, 2018: 8). Over and above this, Peprah (2016: 29) and Snijders, van der Horst, Isusi and Lindeboom (2016: 08) claim that lack of financial support is also due to entrepreneurs' incapacity to draft a well-planned and researched loan proposal for the bank.

These challenges severely affect the innovativeness and subsequent sustainable growth of South African manufacturing SMEs (Afande, 2015; Eniola and Entebang, 2015; Albuquerque, Quirós and Justino, 2017). As shown in a study conducted by Bellone, Musso, Nesta and Schiavo (2014) manufacturing SMEs with better access to finance are better able to innovate, grow and venture into international markets than those facing financial constraints. Therefore, difficulties in accessing finance severely limits the ability of owners and managers of manufacturing SMEs to initiate the innovation which can support their firms' sustainable growth. This is exacerbated by issues of licensing.

2.25 SME BUSINESS REGISTRATION AND LICENSING

According to Sitharam (2014: 29) the issue of licensing has provided entrepreneurs with sleepless nights as SMEs need to have a range of licences and permits in order for them to operate legally. He explains that without these permits, and unless firms comply with health and safety regulations, the enterprise will not be deemed as legally fit to operate. A World Economic Forum (2014/2015) report found that manufacturing SMEs growth was severely hampered by government bureaucracy involving permits and licences. According to the Licensing of Businesses Bill released in March 2013 (Department of Trade and Industry, South Africa, 2013: 11) an enterprise can only be permitted by certification to operate when all complying business warranties have been obtained and then the operating license is only valid for five years. This means that, once the operating license expires, manufacturing SMEs will have to reapply and provide proof of compliance again with all the requirements which could be time-consuming and costly. As reflected by the Western Cape Economic Development and Tourism (2018: 21) businesses need to comply with statutory requirements and register for Income tax, Value Add Tax (VAT), Unemployment Insurance Fund (UIF), Compensation for Occupational Injuries and Diseases (COID), Pay As You Earn (PAYE) and other industry-related permits. This compliance burden is often too heavy, compelling managers to shift their time, energy and resources away from the business's main priorities (Magwegwe, 2013). Morris (2013) claims that the registration and Licensing of Businesses Act adds an unwarranted administrative pressure on owners who are faced with a shortage of skills. Therefore, the complexity of regulatory and administrative procedures in licensing and permits of businesses is one of the critical obstacles to their flourishing across the globe, and South African manufacturing SMEs are no exception (OECD, 2018: 03). This finding is further supported by a study conducted by the World Bank from 2006-2017 which identifies business licensing and permit requirements as the biggest obstacle to small business growth and innovation (The World Bank, 2018). Vargas (2015: 27) also points out that business licensing is not a major challenge for operating businesses, but that it is a huge challenge for small start-up manufacturing businesses.

2.26 THE EFFECT OF SARS AND COMPLIANCE CERTIFICATE ON THE INNOVOATION OF MANUFACTURING SMES

Tax compliance is defined as accurately declaring profits and claiming expenses in line with the stipulated tax regulations (Alm, 1991; OECD, 2016). Andreoni, Erard and Feinstein (1998) explain that tax compliance is the ability of the taxpayer to maintain and meet the reporting requirements as per government standards. The South African Revenue Services (SARS) (2017: 01) maintains that being tax compliant contributes towards economic development which improves the state and wealth of the nation. However, the complex administrative burden and compliance costs of taxation weighs on the ability of the manufacturing SMEs to be innovative and competitive (Sephapo, Cant and Wiid, 2016: 350); Ngwanya, Sibanda and Chitate, 2014: 03). These costs involve monetary costs for employing tax professionals, time costs for record-keeping for tax purposes, and the psychological costs involved in the anxiety of handling complex tax matters (Pope and Abdul-Jabbar, 2008: 04). Olla (2016: 20) argues that not all manufacturing SMEs have the necessary resources and awareness of the requirements to allow them to comply with these tax regulations.

SARS compliance certificate guidelines provide an explanation of the process to be followed for compliance. However, the ability and tax knowledge of the entrepreneurs in meeting these SARS regulations is often absent. This is indicated in a study conducted by Amanamah (2016) that proves that tax knowledge increases tax compliance. Again, Koranteng, Osei-Bonsu, Ameyaw, Ameyaw, Agyeman and Dankwa (2017: 233) assert that complexities in tax regulatory systems pose a serious hindrance to the innovation and growth of manufacturing SMEs. This is also reflected in a survey conducted by OECD (2017) vat compliance was identified as the tax that is most challenging to business owners and impacted on business growth. Sephapo *et. al* (2016: 350) found that tax service registration a burden to SMEs.

Inasius (2018: 10) maintains that dealing with taxation matters still poses a significant challenge to manufacturing SMEs because of limited knowhow and lack of administrative abilities. Elly (2015: 70) concurs that poor skills and knowledge about tax are the most significant factors in slowing down innovation in manufacturing SMEs. In a survey conducted by the South African Institute of Chartered Accountants (SAICA) into SMEs, the participants considered registering for PAYE and UIF, compliance with legislation, registering for tax and registering for VAT, as onerous entry challenges to new businesses (SAICA, 2008). This suggests that the attainment of a SARS certificate will continue to be a thorn in the flesh of new entrants to the market and of existing manufacturing SMEs, hindering their growth and innovation, and thus their competitive edge, in this dynamic sector. And yet, these are the very same enterprises who are major contributors to the GDP of South Africa and according to Davis Tax Committee (2014: 11) a total of R999 billion was projected for the financial year of 2015/2015. If this is the case, then it would appear that South African policy makers need to find better ways in dealing with tax compliance in order to alleviate the pressure from manufacturing SMEs and to allow them to continue stimulating the economic growth of South Africa.

CHAPTER THREE: THE INTERNAL/EXTERNAL ENVIRONMENT AND MANUFACTURING SMES' INNOVATION AND GROWTH

3.1 INTRODUCTION

The environment in which business operates is a fundamental factor that has a considerable influence on manufacturing SMEs. According to Eruemegbe (2015: 478) in management, the word "environment" does not necessarily mean physical surroundings, but is used to describe all those influences that bear upon the individual organisation exerting a direct influence upon it (Akpoviroro and Owotutu, 2018: 500). "Environment" and "business environment" have been used interchangeably by researchers and Orginni and Adesanya (2013: 147) simply define "business environment" as the summation of all exterior and interior conditions and influences that impinge upon the presence, development and advancement of business. Environmental factors are things over which manufacturing SMEs have little or limited control, other than to consider them within their strategic planning (Kokemuller, 2018). These influences affect their production planning and manufacturing (Ibrahim and Primiana, 2015: 289). Brașoveanu and Bălu (2014) claim that not only do they influence the processes and operations of manufacturing SMEs, but they also affect their market performance (Almanae, 2006: 09; Olarewaju and Folarin, 2012: 198). In fact, they influence the continued and successful existence of manufacturing SMEs (Slitharam and Hoque, 2016: 278). The business environment has important repercussions on the gross margins of the enterprise (Nguimkeu, 2013: 19).

The internal environment involves factors within the control, and subject to the manipulation, of the firm while the external environment encompasses factors that are outside of its control (Adebayo, Ogunyomi and Ojodu, 2005). Many factors can be included in "environmental factors", including social, economic, cultural, geographical, technological, political, legal and ecological factors (Saleem 2010: 03; Litavnience and Znotina, 2015). These have been found to affect small businesses in ways that are different from their larger competitors (Kokemuller, 2018). As innovation has become pervasive and identified as a requirement for achieving sustainability and growth of any entity (Martin and Namusonge, 2014: 10; Noreen and Junaid, 2015: 188; Xuhua, Addai, Spio-Kwofie, Ampimah and Ada, 2016: 40) adverse environmental factors can often be a barrier to its achievement and thus to the subsequent growth of these companies (Guo and Shi 2012: 1214; Božić and Rajh, 2016: 315). Their innovation and growth are either negatively or positively influenced by changes in the business environment (Genç, 2014; Zhang, van Doorn and Leeflang, Janeska-Iliev and Debarliev, 2015). Therefore, manufacturing SMEs will have to seek positive aspects within both the internal and external environment to enable innovation to succeed (Xuhua, Addai, Spio-Kwofie, Ampimah and Ada, 2016: 40). Ibigun and Ogundele (2013) advise that internal and external environmental factors have to be integrated in a way that allows the firm to build a strategy that can lead to competitive advantage and sufficient earnings to enable them to improve their performance and maintain innovation (Ibrahim and Primiana, 2015: 289). It is thus important for innovative leaders to have an adequate understanding of both internal and external environmental factors for the business to thrive (Sherman, 2018). The environmental factors affecting innovative leadership are discussed below.

3.2 INTERNAL FACTORS INFLUENCING MANUFACTURING SMES

The internal factors exist within the operational base of an organisation and directly affect the different aspect of business (Obasan, 2014: 165). These are events, factors, human resources, systems, organisational material, structures and conditions inside the organisation that are generally under the control of the company (Hartzell, 2018; Alshura and Al Assuli, 2017: 46). Hitt, Hoskisson, and Ireland (2007: 71) and Abukhames (2015) agree that the company's internal environment encompasses the firm's resources which determine its strengths and weaknesses. These factors influence the manufacturing SME's ability to achieve its objectives and around which firms need to develop viable performance plans (Oluwadare and Oni, 2015: 120). Consequently, by determining and analysing a firm's strengths, it can strategize to take advantage of existing opportunities while avoiding existing threats (Indris and Primiana, 2015: 190). This means that in order for manufacturing SMEs to achieve their operational objectives, they would need to continually be aware of the strengths and weaknesses of their internal operations (Abukhames, 2015; Rizal and Kholid, 2017: 54).

3.2.1 Management competence

Research into management competencies seeks to understand and analyse the capabilities required of managers if they are to bring the objectives of the organisation to fruition. Yahya and Elsayed (2012: 123); and Veliu and Manzhari (2017: 59) define managerial competencies as the knowledge, abilities, skills and behaviours required for effective job performance in managerial occupations. Choi and Shepherd (2004: 381) agree that these competencies are pivotal to manufacturing SMEs' performance and are also instrumental in enabling the handling of the more complex tasks in management and production. Fatoki (2014a: 143) adds that management competency involves the capabilities, skills and knowledge that enable owner/managers to innovate and that are therefore key to creating sustained competitive advantage. Lopa and Bose's (2014: 11) study confirmed that management competencies affect the long-term performance of the firm, while a subsequent study by Veliu and Manzhari (2017: 64) found that the linkages between various independent managerial competencies were positively significant for business performance.

Management competence thus plays a fundamental role in business performance (Yahya and Elsayed, 2012: 132) and it is important for entrepreneurs to understand that when the business environment changes, the competencies required are liable to change as well (Taipale-Erävala, 2015: 20). This implies that entrepreneurs need to identify the competencies that will enable them to achieve business survival in any business climate. Sánchez (2011: 250) shows that entrepreneurs who have field-related skills and capabilities are more likely to pursue innovation and display needed competencies. Wijaya and Irianto (2017: 07) identify specifically technical and strategic competence as management competencies that need to continuously change to keep up with the dynamic business environment, while Lopa and Bose (2014: 11) advice that manufacturing SMEs need to take advantage of all the competencies of their entrepreneurs if they want to enhance their long-term performance. Therefore, manufacturing SMEs' entrepreneurs need to be aware of the significance of management competencies as contributors to business growth and success, and to understand the nature, role and impact such competencies will have on innovation and subsequent sustainable growth (Sánchez, 2011: 241). This can create avenues for product innovations and areas for continuous business process improvement (Abaho, Sylvia, Ntayi and Kisubi, 12016: 88).

3.2.2 Resources impact on SMEs manufacturing innovation

Although known for their enormous growth potential and significance to the economy (Choi, and Lim, 2017) manufacturing SMEs have often failed to harness this potential (Gary and Kumar De, 2013). According to Naidoo and Urban (2010: 234); Ghobakhloo, Hong, Sabouri and Zulkifli (2012) and Beynon, Jones, Pickernell and Packham (2014:85) manufacturing SMEs require resources, knowledge and skills to grow and improve efficiency and operational effectiveness, and they are plagued with a number of obstacles in accessing these resources, as discussed above (Snyman, Kennon, Schutte and von Leipzig, 2014: 167; Chikozore, 2017). Added pressure has resulted from the globalization of markets which creates tougher competition, often associated with more rapid technological changes (Dadfar, Dahlgaard, Brege and Alamirhoor, 2013). Specific barriers can prevent manufacturing SMEs from accessing these strategic resources, in turn hindering competitiveness in a globalized and digitalized economy (OECD, 2017: 15).

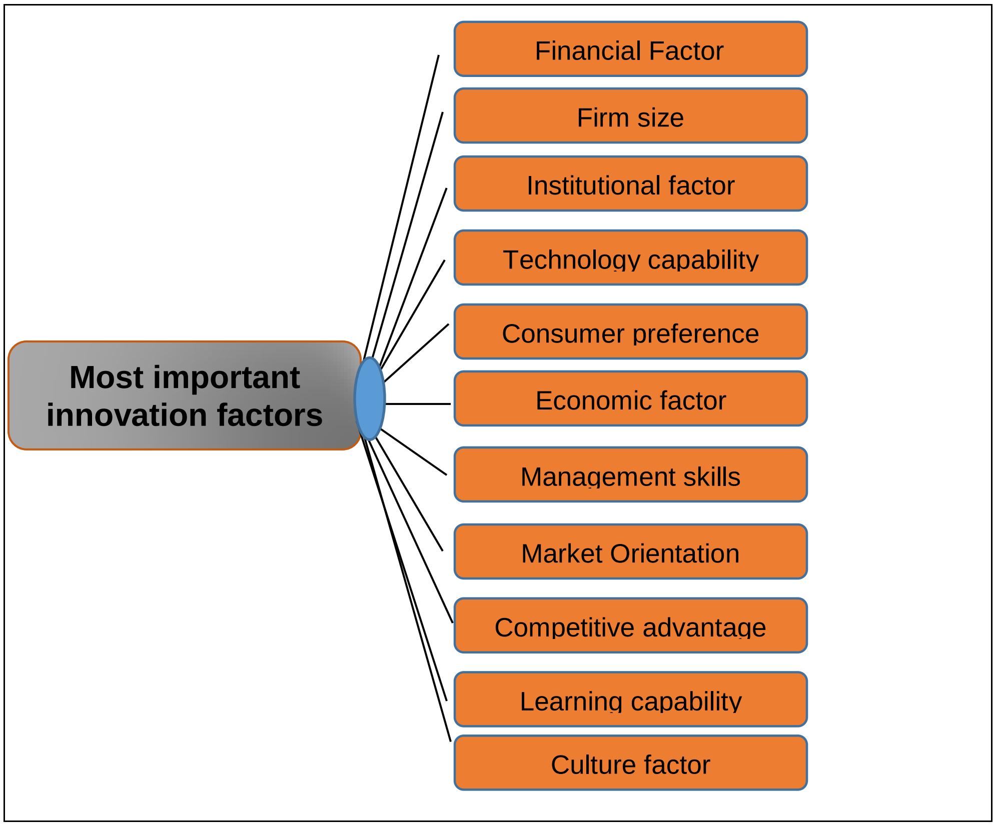


Figure 3-1 Innovation factors by Bayarcelic, Tasel and Apak (2014)

As reflected in the model above, in order for manufacturing SMEs to carry out innovation, they will need to address these factors and find strategic ways to acquire the resources needed for innovation (Woschke, Haase and Kratzer, 2017) and to maintain competitiveness (Zhang and Chen, 2009; Haron, Said, Jayaraman and Ismail, 2013). Andrae and Beckma (2013) and Mutambi (2013) maintain that these factors, if not addressed, will continue to hinder manufacturing SMEs from tapping into the available business opportunities or to achieve progressive innovation (Shemi, 2013).

As discussed above the decisions of business leaders to pursue innovation is a key determinant of the economic performance of the enterprise (Bayarçelic, Taşel and Apak, 2014: 209). However, innovation only becomes possible when leaders are given access to the appropriate resources including funds, materials, facilities, human resources and access to skills development (Horth, 2014: 15).

3.2.2.1 Lack of skilled labour affects innovation of manufacturing SMEs

As the employment rate plunged in recent years in South Africa, recruiting labour should have become easier. However, skilled labour has remained in short supply and has become a big issue for many manufacturing SMEs. Even although manufacturing SMEs are such important contributors to the economy, and therefore can be regarded as long-term potential employers (de Kok, Vroonhof, Verhoeven, Timmermans, Kwaak, Snijders and Westhof, 2011: 06), manufacturing SMEs are faced with severe labour challenges (Nasr and Rostom, 2013: 09; Moore, Petty, Palich and Longenecker, 2010). Doh and Kim (2014) and Lee and Sahu (2017:05) identify skills shortages as a critical challenge and a labour market crisis that influences performance, development and growth of business as well as the quality of local production. Zimmermann and Thoma (2016: 03) agree that the issue of skilled labour is a serious concern as it adversely affects the innovation and development of manufacturing SMEs. This is again highlighted by Zimmermann (2017: 03) where he claims that the second biggest barrier to innovation after funding difficulties is a shortage of skilled workers (Healy, Mavromaras and Sloane, 2015: 01).

This extreme talent gap also puts a firm’s productivity at risk (Nash-Hoff, 2016). Seda (2016: 09) acknowledges the shortage of skilled labour and advises that drastic measures need to be in place to develop and capacitate workers (Mutoko and Kapunda, 2017: 08). Kunz (2015) agrees that without aggressive action, the next decade is expected to bring an increasing shortfall of skilled labour. Donnelly (2018) also cautions that this lack acts as a barrier to entrepreneurs taking advantage of such internal and external opportunities as may be available to them to expand and grow their firms. Thus, skills shortages may be seen as yet another significant factor which deprives South African manufacturing SMEs of economic growth and global competitiveness (Rasool and Botha, 2011: 299). Fouad (2013: 163) identifies financial management, marketing management, uneven IT awareness and inadequate knowledge of the market as skills shortages commonly experienced by manufacturing SMEs, resulting in a failure to attract and retain customers (Karedza, Sikwila, Mpufu and Makurumidze, 2014: 39). Consequently, production skills at the required international standards have also been found lacking (Zindiye, Chiliya and Masocha, 2012: 661). This leads to poor quality products and consequent re-working and delays (Das, 2016: 235).

Therefore, skilled labour performance is another critical aspect in production which requires proper attention in order to achieve effective operation and acceptable productivity levels (Purwidianti, 2015: 103; Zannah, Latiffi, Raji, Waziri and Mohammed, 2017: 01). Any increase in skilled labour will sharpen competition and promote innovation which could attract customers and lure them away from international competitors (Liptáková, 2016). Turyahikayo (2015: 28) and Rasmulia (2016) also argues that improving the quality of human resources is essential, more especially in the field of competencies such as knowledge, skills, ability and attitude to entrepreneurship.

3.2.2.2 Capital effects on innovation and the growth of firms

Generally, studies on barriers or factors affecting SMEs have singled out a lack of access to capital as one of the most significant inhibitors of success. As discussed above the majority of SMEs face difficulties in obtaining credit or equity (Hlatshwako, 2012: 21) to help them establish themselves and to develop and innovate. Difficulties in accessing capital are also linked to SMEs' limited market power, often accompanied by a lack of management skills, insufficient assets and a lack of collateral for repayment of credit and loans (Wang and Yang, 2013: 4; Vasilescu, 2014: 35; Baleseng, 2015: 24; Turyahikay, 2015: 24). Abor and Quartey (2010) add that the limitation of capital resources also affects the variety of operations and activities the firm is able to undertake – that is, it limits the scope of innovation.

Difficulties in obtaining finance have not been resolved despite financial resources often determining the rate of development and sustainable growth of SMEs (Banerjee 2014: 01; Torres, Guzmanand Castro, 2015) and the acceptance amongst all stakeholders that access to such resources has a significant enabling effect on the ability of manufacturing SMEs to transform themselves into thresholds where they will adopt more efficient production techniques that assure profitability and employment generation (Quartey, Turkson, Abor and Iddrisu, 2017: 19). Thus, innovation is closely linked to securing finance.

3.2.3 Stakeholder influence on innovation

The role of shareholders and directors of company boards in the operations of a firm is termed “corporate governance”. Corporate governance has not been widely studied in respect to SMEs although the relationship between a company and its directors is often stressed within the context of large companies (Hamad and Karoui, 2011: 216). While manufacturing SMEs might apply similar governance codes to those adopted by large businesses, several elements which have a remarkable impact on affecting governance structure must be taken into account (OECD, 2004). A number of definitions have been advanced since the conception of corporate governance. The OECD (2004: 11) defines corporate governance as the rights and responsibilities of a company’s management, its boards, shareholders and various stakeholders who oversee the firm’s market confidence as well as its performance. According to Khan (2011: 01) corporate governance is a broad term that describes the processes, customs, policies, laws and institutions that direct organisations and corporations in the way they act, administer and control their operations. Oman (2001: 13) explains further that corporate governance refers to the governance of both private and public institutions and that it includes the laws, regulations and the business practices which govern the relationship between the corporate managers and the shareholders. Therefore, corporate governance is a professional system designed to direct and manage the firm based on good corporate governance principles which are transparency, accountability, responsibility, independence and fairness (Naimah and Hamidah, 2017: 02). With sound corporate governance, the rights and responsibilities are distributed amongst management, a board of directors, shareholders and stakeholders of the firm, and decisions, procedures and operations concerning the affairs of the firm are clarified (Feleaga, Feleaga, Dragomir and Bigio, 2011: 06).

Abor and Adjasi (2007: 117) advice manufacturing SMEs to consider adopting sound corporate governance structures as the existence of a non-executive director or shareholders could help attract better resources and introduce creativity and innovation during decision-making. Duca (2012: 54) maintains that good corporate governance enhances the performance of the firm through ensuring more efficient management, better asset allocation, better labour practices and more efficient innovation. The OECD (2004: 11) argues that good corporate governance should provide proper incentives for the boards and management to pursue objectives relating to innovation, competitive edge, market share and sustainable growth that are in the interests of the firm. This reflects the significance of shareholders as they play an important role in the financing, operations, governance and control aspects of a business (Rachagan and Satkunasingam, 2009: 473; Hamad and Karoui, 2011: 216; Basu, 2018). Henceforth, for manufacturing SMEs, who are innovative knowledge-based firms that intend to expand, it will be valuable to find shareholders that fit with the company's distinctive strategy and business model (Guberna, 2016: 13). This means that the organisation needs to find shareholders that are going to be investors with the intention of investing funds that will support business innovation and growth.

3.2.4 The effect of a mission statement on innovation

The introduction of a mission statement as an organisational tool was first recorded in Drucker's (1974) handbook of management, and the use of these statements has escalated since then (Braun, Wesche, Frey, Weisweiler and Peus, 2012: 431). According to Bartkus, Glassman and McAfee (2000) these serve four purposes, namely: to facilitate coherence within the organisation by providing direction and purpose; to serve as a control mechanism; to constitute a guide for organisational decision-making; and to give meaning to work that inspires and motivates an organisation's members. Genç (2014: 107) claims that a mission statement should be regarded as a framework that demonstrates how a firm should operate. Duygulu, Ozeren, Işildar and Appolloni (2016: 02) suggest that a mission statement should answer such basic questions as: what is the purpose or aim of the firm? Why does the organisation exist? And, what is the organisation trying to accomplish?

In terms of the importance and practicality of a mission statement towards manufacturing SMEs' performance, innovation and growth, the literature is inconclusive, and lacks supporting evidence. For instance, studies by Bart and Baetz (1998); Bart and Hupfer (2004); Desmidit, Prinzie and Decramer (2011) and Alawneh (2015: 83) fail to demonstrate any evidence that confirms a significant relationship between its mission statement and the performance of a firm. However, according to Sherman (2017) this is due to a disconnection between the mission statement and the actual operations of the firm or its impact on actual strategic decision-making. Also, some firms do not have mission statements and are unclear about their role in influencing the performance of the firm (Populova, 2014: 15). On the other hand, in studies by Dermol (2012: 334); Mosoma (2014: 99); Taiwo, Lawal and Agwu (2016: 12) the findings show a strong relationship between mission statements and the influence they have on the organisation's performance – but the authors claim that only a well-crafted and implemented statement can influence business success. Mosoma (2014: 99) further emphasises that mission statements that are improved continuously to meet and address the needs of the market have higher performance indicators at both the employee and company levels. This is supported by Zhang, Garrett and Liang (2015:157) who claim that a mission statement has a positive influence on the performance of a firm, especially when words specifically related to innovation are presented in these statements. However, simply having a mission statement that is included in a planning document, posted on a plaque on the wall, or provided to employees on business cards, certainly does not, in itself, ensure business performance and success (Robinson, 2002).

The research therefore implies that manufacturing SMEs will benefit from having a well-crafted mission statement that is highly practical, and that is continuously adjusted or developed by the company's leadership in line with the business climate to ensure that it continues to have real meaning for employees.

3.2.5 Lack of marketing skills in manufacturing SMEs

Marketing is a critical task for manufacturing SMEs – marketing skills involving a range of activities from sales promotions, to the introduction of new products and other strategies aimed at building relationships with customers and increasing market share (Van Scheers, 2011: 5050). According to Moghaddan and Foroughi (2012: 19) marketing is a key management function involving pinpointing, anticipating and satisfying consumers' needs while retaining profitability. Sithole, Sithole and Chirimuta (2018: 04) believe that there are two fundamental goals of marketing and they are based on attracting new customers while retaining the existing customers in the process of developing market share and profits. Kotler and Armstrong (2010) add that one of the significant aims of an enterprise is to improve its market share to establish greater scale in their operations and improve profitability. Ressel (2012) and Lekhanya (2013: 01) identify social media and social networks as among the viable marketing tools currently available to promote sustainable growth and future development of manufacturing SMEs.

On the other hand, Mthabela (2015: 33) identifies 'fruitless' marketing, which refers to inefficient and uninformed marketing strategies, as one of the factors that negatively affects these enterprises. This is supported by Seeletse (2012) who argues that lack of effective marketing strategies and tools is one of the major reasons manufacturing SMEs fail. Many in fact lack marketing knowhow and support (Malepe, 2014: 03). This is also highlighted in the Seda Report (2012). Research therefore indicates that innovative leadership needs to be proactive in implementing good marketing strategies (Drucker, 2008). Van Scheers (2011) advises that whenever there is a new product being introduced, the firm should put marketing strategies in place to ensure that they create and retain demand for that product (Sheetal, Sangeeta and Kumar, 2012: 60). This awareness will enable innovative leadership to keep up with the marketing environment which changes all the time (Strydom, 2011: 32).

3.2.6 Marketing intermediaries

Spulber (1999: 03) defines intermediaries as economic players who assist buyers and sellers to meet and transact. They assist by transporting, storing, repackaging, assembling, preparing for final use, and adding information and guarantees. Peng, Lee and Hong (2013: 02) extend this definition of intermediation to include individuals and/or organisations that position themselves somewhere on the value chain endeavouring to create entrepreneurial opportunities by risking uncertainties that their potential buyers and sellers would be neither willing nor able to bear. Marketing intermediaries are therefore firms hired by the product manufacturer to promote, sell and distribute the products to the final consumer (Jensen, 2009: 46; Anderson, 2018). They play a significant role in developing customer demand due to their intense involvement in distributing and promoting a product (Anderson, 2018). Marketing intermediaries are equipped with up-to-date knowledge, the ability to sense the pulse of the market, and selling expertise for implementation of marketing strategies (Stewart, 2017). Weedmark (2019) claims that their role does not only entail giving customers easier access to products, but also streamlining a manufacturer's marketing process and enhancing customer demand. The author notes the four types of traditional intermediaries which are: agents and brokers, wholesalers, distributors and retailers. The additional input of marketing intermediaries involves improvising the functioning of markets, adding value to products, providing information, and thus potentially increasing the utility of goods and/or increasing their availability (Bessy and Chauvin, 2013: 111).

Although Intermediaries may be relatively cheaper for manufacturing SMEs to employ than trying to manage the entire marketing process themselves, delays in delivery may occur and these have a negative effect on production and sales (Stewart, 2017). Battisti and Wilson (2012) therefore caution firms that they need to be vigilant when choosing to collaborate with intermediaries because unskilled intermediaries also exist.

3.2.7 Limited/shortage of space affects innovation and growth of manufacturing SMEs

Ahmed, Rahman and Haque (2011: 91) identify a range of disparate factors that negatively affect manufacturing SMEs including a lack of utility facilities such as electricity; frequent changes in prices of raw materials; high interest rates, and transportation costs. Dube (2013: 455) adds that lack of finance, high production costs, and severe competition from imports, shortages of raw material and inadequate space to carry out production is a persistent hindrance to the growth of South African manufacturing SMEs. This is further emphasised by Charman (2017: 01) and Kanali (2018) who argue that location and access to land, and business infrastructure are fundamental for growth and innovation of manufacturing SMEs. Furthermore, Kamunge, Njeru and Tirimba (2014: 07) add that inadequate allocation of suitable land to manufacturing SMEs impinges on their success rate and that puts an additional strain on the development of this sector of the economy. That the majority of manufacturing SMEs had been subjected to losses in the previous five years owing to shortage of space for production and difficulties in finding appropriate premises, was reported in the National Credit Regulator Report, 2011: 36; and similar problems are noted by Lee (2014). On the other hand, Doern and Goss (2012: 12) note that the expansion of premises also comes with its challenges, such as health and safety inspections leading to additional requirements from state departments, which are costly. This limits expansion plans and future growth of firms (Kenny Allan, Director of Industrial Agency at Birmingham, quoted by Hardy, (2017). Some entrepreneurs are therefore forced to rent premises and that affects profit margins (Citizen Entrepreneurship Development Agency Report (CEDA), 2014). Recently this has been seen to have serious repercussions for innovation and sustainable growth of manufacturing SMEs (Glackin, 2016).

Similar issues have been reported in Kenya where almost two-thirds of companies' growth and economic development needs have been found to be affected by shortage of space for expansion (Ngunjiri, 2017). The Queensland Government in Australia also advises (2018) that innovative entrepreneurs should research and plan the growth of their businesses to avoid outgrowing their premises.

This issue of space is therefore an international predicament for SMEs which also calls for urgent intervention from the South African government.

3.2.8 Business networking a key concept for manufacturing SMEs innovation

As early as 1934 the theorist Schumpeter pointed out that the innovative activities of a firm promote competitive advantage which is key to growth and sustainability. One of the key elements that can promote innovation within small businesses is business networking. Hallen and Johanson (2004: 158) define networking as any sustained association between a business firm and an individual which is beneficial to both parties. Ludmila and Stanisava (2015: 62) and Schøtt (2018: 01) say that networks are strategic approaches created for expanding new ideas that promote innovation and growth initiatives. Kero, Sogbossi and Amoussouga (2017: 15) add that direct and indirect networking ties are formal sub-unit structures that larger firm are able to institute because of their greater capacity and resources, while small businesses have to be constantly alert to windows of opportunities in this regard, due to their more limited resources (Gunawan, 2015: 144).

Networking is seen to have an important positive influence on innovation and growth for manufacturing SMEs (Ueasangkomsate and Jangkot, 2017: 01; Loanid, Deselnicu and Militaru 2018: 936; Oberg, 2018: 01). Behncke (2015: 05) demonstrated that networks and networking provide access to complementary knowledge that strengthens intangible knowledge and grants access, as well as contributing to, innovation initiatives. It may also allow manufacturing SMEs to gain access to other organisations' resources (Partanen, Möller, Westerlund, Rajala and Rajala 2008; Garg and Kumar De, 2014: 314; Snyman, Kennon, Schutte and von Leipzig, 2014: 171). These resources can enable innovation (Oskam, Bossink and de Man, 2018: 564). Ludmila and Stanisava (2015: 62) add that business networks are also useful in building a strong relationship with customers and suppliers and thus they help to provide competitive advantage. Farace and Mazzotta (2015: 66) believe that networks expand the ability of the firm to seize opportunities, and to integrate knowledge use to exploit opportunities including the exchange of resources (Hallen and Johanson, 2004: 160). However, there is a challenge facing manufacturing SMEs in using these networks in a profitable manner (Širec and Bradač 2009: 59) as they often lack effective knowledge management structures needed to filter, process and use the knowledge gained for production and innovation (Boly, Morel, Assielou and Camargo, 2014: 610). Overall, however, having a weak business network system, can constrain manufacturing SMEs' ability to be innovative.

3.2.9 Supplier's involvement in innovation of manufacturing SMEs

Manufacturing SMEs currently operate in an uncertain and complex environment which includes changing customer preferences and constantly changing technologies (Rodriguez-Ferradas and Alfaro-Tanco, 2016: 142). One of the key strategies that they can adopt in order to maintain their relevance, is to shift from a closed, individual, innovation approach to an open approach, where external collaboration is identified and used (Rodriguez-Ferradas and Alfaro-Tanco, 2016: 142; Okinwale, 2018: 01). Bothof and van Weele (2018: 01) identify suppliers as crucial external collaborators as they are clearly essential in new product development and process innovation. The inclusion of suppliers in a company's networks was seen by Wagner and Hoegl (2006: 942) and Reiss (2010) as a useful strategy given the suppliers' specific expertise and resources. Beckma, Haunschild and Philips (2004); Yan (2011); Raassens and Wuyts and Geyskens (2012) also find that the inclusion of suppliers allows for the expansion of manufacturing networks and an opening up to new innovative ideas. Sayed and Sunjka (2016: 127) add that the benefits of supplier involvement include negotiation of prices, clearer product specification and better delivery networks.

The research therefore concurs with Okinwale (2018: 08) who sees that manufacturing SMEs need to consider collaborations with prominent suppliers, especially since they do not independently possess all the skills necessary for successful innovation. Adelowo, Akinwale and Olaopa (2017) find that a firm that fails to innovate within its sector of the market will subsequently be eliminated, but that collaboration assists in meeting customer preferences, improving the quality of products and maintaining a competitive edge. A strong relationship between the buyer and supplier is an important factor in business growth (Mafini and Loury-Okoumba, 2016: 625).

3.3 EXTERNAL FACTORS AFFECTING INNOVATION IN MANUFACTURING SMES

According to Wahyuni, Setyadi and Hariyadi (2016: 46) and Ayandibu and Houghton (2017: 58) the external environment encompasses all the events over which a company has no control as they happen outside of the organisation (such as competition, economic, training, financing and technology) – and yet they have the potential to affect the operations, productivity, and innovation of the company. As stated by Fagerberg, Mowery and Nelson (2006) innovation heavily depends on external resources whose existence influences the behaviour and performance of manufacturing SMEs (Voiculet, Belu, Parpandel and Rizea 2010: 02). These resources include not only financial or human resources but also connections with other firms and institutions, public resources and foreign behaviour (Shi and Wu, 2016: 04). External factors contain situational variables which may either propel the company's productivity forward or inhibit entrepreneurship at start-up and during the manufacturing SME lifecycle (Kunene 2009: 29). These can be, according to Yachmeneva and Vol's'ka (2014: 133) political factors, legal factors, economic factors, social factors and natural and climate factors which indirectly affect the activities related to enterprise innovation. Khan (2014: 89) agrees that the success of the entrepreneur depends on environmental factors such as social, economic, legal, political and technological aspects which influence their activities thus leading to, or inhibiting, successful entrepreneurship. Rujirawanich, Addison and Smallman (2011) found that innovation is usually driven either by changes in the external environment or by pre-emptive action taken to influence the environment, since external environments are frequently dynamic, making it hard for companies and entrepreneurs to control the changing situation (Yu and Zhang, 2010: 06). Therefore, a careful and accurate analysis of the external environment can benefit the organisation by providing greater understanding and an appreciation of the context in which the organisation operates (Chitechi, 2014: 15). External factors can create opportunities (or threats) for a firm which can enhance or diminish the value of internal resources and turn these into competitive advantage, or it's opposite (Pakkanen, 2012: 14).

3.3.1 Political factors

A stable political situation increases the investment attractiveness for domestic industry and especially for foreign investors (Yachmeneva and Vol's'ka, 2014: 133). The stability of the political situation also influences a company's choice of where and how they will compete in the market (Indris and Primiana, 2015). Companies therefore need to take cognisance of political trends as changes in policies can affect the legal framework within which small businesses operate. As stated by Ingram (2017) any political instability affects market conditions which then affects consumer behaviour and also the amount of assistance and support that can be offered to small businesses by the government (Stimpson and Smith, 2015: 71). This is evident in a political climate such as Zimbabwe's as small businesses find it extremely difficult and challenging to survive due to conflicting government policies which make the business community nervous, thus stalling the economic recovery process (Chanakira, 2011). Countries such as Congo and Zimbabwe have moved some of their businesses to South Africa due to the unpredictability of their markets in the unstable political situations there.

3.3.2 Regulation/Legal factors

The political and legal climates are fundamentally related. According to Stimpson and Smith (2015: 71) legal factors encompass any law influencing companies' activities such as competition laws, legislation on health and safety at work, employee protection, consumer protection regulations, and export controls. The government of any country is responsible for instituting policies, legal frameworks and procedures that govern how business is conducted within its borders (Mupemhi, Duve and Mupemhi, 2013: 22).

These laws govern the compliance conditions under which manufacturing SMEs operate. They therefore have serious implications for the running of the organisation and, if not adhered to, severe sanctions can be imposed.

Cateora, Graham and Weerawardena (2011) discuss how fluctuations in marketing laws will affect manufacturing SMEs' product development, labelling, pricing, promotion and channels of distribution. Issues that are covered under "product development" include health and safety, local content requirements, quantity limits, "buy-national" restrictions, packaging requirements, administrative policies, anti-dumping policies, tariff barriers, promotion policies and protection of intellectual property. Product and process standards for health, welfare, safety, size and measurements can also create trade barriers by excluding products that do not meet the standards (Rugman and Hodgets, 2005). Therefore, it is necessary for manufacturing SMEs to be constantly up-to-date with Government regulations/laws and amendments. Mupemhi, Duve and Mupemhi (2013) agree that in order for manufacturing SMEs to be progressive and well-informed, government regulations and laws should be widely disseminated to both new and old SMEs. Reliable information is urgently needed and government and industry associations should facilitate quality advisory services for manufacturing SMEs.

One of the key factors inhibiting SMEs' development is taxation (Smed and Robertson, 2003). Benjamin Franklin's famous statement in 1706 that "in this world nothing can be said to be certain, except death and taxes" indicates that it will be impossible for SMEs to be exempt from taxation. However, Longernecker, Moore and Petty (1994) see complex tax administration and high tax rates as a significant inhibiting factor in SMEs' operation and growth. In broad terms, there are four categories of tax compliant behaviour, namely: timely and correct registration, timely filling or lodgement of requisite taxation information; reporting of complete and accurate information; and payment of the right amount of tax on time (OECD, 2014).

Thus, a complex tax system negatively affects innovative leadership and investment (Pillay, 2006). As an example, *The Sunday Mail* (2014) reported that Zimbabwean

SMEs are all subjected to presumptive tax, often described as “unrealistic taxes” by entrepreneurs there, as it severely inhibits the development and growth of their small businesses. Indeed, heavy taxation can lead to the premature failure of SMEs. A *Herald* article (2014) argued that these presumptive taxes were too high for most of the new SMEs and a significant number had collapsed as a result, with many more expected to follow suit.

According to Kashalaba (2017) most SMEs lack experience with regards to tax matters making the cost of tax compliance high and, as a result, much of their profits go into complying with tax regulations. Bozdoğanoğlu (2016:179) also finds that tax compliance imposes heavy demands in terms of the procedures which must be followed, such as knowledge around registration or payment rules.

3.3.3 Technology

The adoption of information technology (IT) by manufacturing SMEs nationally and worldwide has to be regarded as fundamental to any firm’s successful operation. Its adoption is one of the key elements for remaining competitive (Jabar, Soosay and Santa 2010; Tarute and Gatautis 2013: 1224; Cuevas-Vergas, Enriquez and Adame, 2015: 305; Agwu, 2018). Ghobakhloo, Hong, Sabouri and Zulkifli (2012: 58) concur that there is a need for manufacturing SMEs to invest significant amounts of their financial resources in IT if they wish to strengthen their competitive position and maintain the firm’s sustainable growth (see also Premkumar, 2003 and Clibanu and Neamtu, 2017). Comin and Hobijn (2008) argue that the rapid growth of Japan after World War II, and of the East Asian “Tigers”, Singapore, Hong Kong, Taiwan, and South Korea in the 1990s, was largely a function of their ability quickly to adopt, and adapt to, new technologies such as the internet. Choi and Lim (2017: 11) maintain that the various forms of technological innovation are significant drivers of manufacturing SMEs towards achieving ever higher production levels (see also: Moghavvemi, Hakimian and Feissal, 2012: 35; Rahab and Hartono, 2012: 60; Stratopoulos, 2015; Al Bakri, 2017).

However, (as discussed above) many manufacturing SMEs face severe challenges in their attempts to pursue technological innovation (Gnyawali and Park, 2009: 308; Farsi and Toghraee, 2014: 01). This is also stressed by Sayed and Sunjka (2016: 125) who found that South African SMEs in particular were slow to adopt the latest technologies and this was confirmed in a study conducted in South Africa by Leboea (2017: 54). This puts a strain on the production process and ultimately results in SMEs being uncompetitive in relation to larger firms. This situation has been put down to a range of factors such as limited financial resources, entrepreneurs' limited technical skills capacity, and age and lack of training opportunities (Kumar, Rose and D'Silva, 2008; Elbeltagi, Al Sharji and Hardaker, 2013; Jafarnejad, Abbaszadeh, Ebrahimi and Abtahi, 2013; Kusumaningtyas and Suwarto, 2015). Ungan (2007) found that problems regarding planning, installation, and implementation stages of the adopted machinery and equipment can prevent the manufacturing SMEs from enjoying the benefits of technologies. Steyn (2012: 29) also noted the lack of technical skills and knowledge amongst entrepreneurs is a contributory factor when taking decisions relating to an IT adoption approach.

While the need to overcome these critical factors poses major obstacles to manufacturing SMEs' innovation abilities, Migiro (2006: 35); Alam and Noor (2009) and Xero Report (2017) argue that despite technology adoption being expensive, its benefits and significance in innovation and sustainable growth are of paramount importance. Rapid technology adoption has been found to enhance the success of manufacturing SMEs significantly (Eke, Aigbavboa and Thwala, 2015: 08). Kapurubandara (2009: 20) suggests that manufacturing SMEs need awareness in terms of strategy, processes, technology, applications, and the skills required to plan and coordinate their eTransformation processes in a strategic manner.

Thus, it can be argued that manufacturing SMEs need to adopt IT successfully to stay ahead of their competitors and to strengthen their market position (Tiwari and Buse, 2007; Atalay, Anafarta and Sarvan, 2013; Rosli and Sidek, 2013: 10). Therefore, in order for manufacturing SMEs to compete in today's global economy, they must learn quickly how to leverage new technologies in order to ensure that they remain competitive (Comin and Hobijn, 2008; Talegeta, 2014: 103). Currently lack of technological advancement, especially the use of information and communications technologies (ICTs) critically affects SMEs' competitive advantage and growth. As cautioned by Mustafa and Yaakub (2018: 63) manufacturing SMEs who fail to innovate and adopt technology are more likely to experience reduced production, business performance and profits due to aggressive competitive business environment.

3.3.4 Infrastructure affects innovation of manufacturing SMEs

Infrastructure refers to the basic equipment, facilities and structures such as roads, bridges, electricity, telecommunication, education, water supply, sanitation and sewerage that are the government created services essential for the operations and functionality of manufacturing SMEs (Garsous, 2012: 01; Gaal and Afrah, 2017: 49). Lack of good infrastructure that is accessible and well-functioning acts as a severe hindrance to economic development (Ehler, 2014: 01). The need for efficient infrastructure, more especially in developing economies, is infect fundamental to the survival of manufacturing SMEs (Perkins 2011:24). Power failure affects the production of goods and services, and inaccessible roads affect the distribution networks. This also has an impact on transportation costs, while developing alternatives can prove costly, threatening the existence of the enterprise (Okpara 2011: 166; Agwu and Emeti, 2014: 105). Frequent interruptions in service supplies impose extra backup costs on manufacturing SMEs, affecting their business operations which ultimately narrows profit margins (Muriithi, 2017: 36; Iimi, 2011: 121). These issues were further highlighted in a study conducted by Seda (2012: iii) that found poor quality and inconsistency of supporting infrastructure stalled the innovative capacity of manufacturing SMEs. This means that the continued load-shedding in South Africa due to ESKOM's instabilities puts a heavy strain on manufacturing SMEs' operations.

Das (2017: 22) claims that infrastructure is key to improving the growth of developing countries. Well-functioning infrastructure is said to be the principal driver of business growth, competitiveness, access to markets, unlocking of economic opportunities and promotion of job creation (Jafta, 2017: 04). Furthermore, suitable infrastructure provision is a key requirement for efficient export growth within the manufacturing SME sector (Ajakaiye and Ncube, 2010). Without proper infrastructure, manufacturing SMEs' operations such as production, importing, exporting and servicing will be severely negatively affected.

3.3.5 Social factors affecting innovation

Social factors are defined as the facts and experiences that influence an individual's personality, attitudes and lifestyle (OECD, 2010). Henry (2010) sees social factors as those that affect not only individuals, but business thought and behaviour within social settings. These factors affect the market strategies put in place by firms, whether big or small (Gachuhi, 2016). Luebke (2017) and Indris and Primiana (2015: 189) claim that entrepreneurs often lack the ability to study and understand their social environment, and that is one of the main hurdles that affect creativity and innovation. Therefore, social factors play a significant role in effective innovation, and entrepreneurs need to pay attention to social factors if they are to gain competitive advantage (Rujirawanich, Addison and Smallman, 2011: 1264). As argued by Genis-Gruber and Öğüt (2014: 719) being mindful of social factors allows entrepreneurs to be innovative in ways which are sensitive to current social needs and preferences (Shalley and Gilson, 2004).

3.3.6 Social responsibility

Corporate social responsibility (CSR) is a concept which needs to be understood and addressed by manufacturing SMEs (Charitoudi, Sariannidis and Giannarakis, 2011: 20). It is defined as the "responsibilities (duties, obligations) of corporations as social institutions. Corporations are legal entities socially constructed within the legal frameworks of a society" (Haynes, Murray and Dillard, 2013: 11). Williams, Siegel and Wright (2006: 01) explain that CSR involves actions and considerations designed to encompass social good, beyond the immediate interests of the firm and in line with the law. The core function of CSR is linked to the way companies manage their relations with society (Moon, 2014: 03). Socially responsible firms are expected to consider economic, social and environmental concerns and incorporate them into their strategies

(Mallin, 2009: 09). Furthermore, an organisation's CSR integrates social, environmental and economic concerns of both its stakeholders and the public, into its value systems and operations in a reliable, consistent and accountable manner that will lead to improved economic, health and community welfare (Ooko, 2014: 95). Turyakira and Smith (2014: 168) conclude that it is important for organisations to incorporate CSR not only for the organization's profitability, but to help lift the standards of society as a whole.

3.3.7 Economic factors' influence on business innovation

According to Nichter (2009) economic factors are those that influence changes in costs of production, prices of products, wage rates, interest rates, and inflation. These factors have an influence on how a business generates profits, losses, or growth (Gachuhi, 2016). Economic progress is advanced by pragmatic people who are entrepreneurial, innovative, and able to exploit opportunities and who are willing to take risks (Hisrich, 2005).

3.3.8 Supply costs' influence on manufacturing SMEs' sustainability

Suppliers exert great influence on the cost of a product, and the costs imposed by any supplier depend on the scarcity of the material (Sherman, 2018). Supplier components also greatly influence the quality of the product (Reiss, 2010). This means that sustainable growth is no longer purely within the company's hands as it has been stretched to incorporate all the risks along its supply network/ chain (Halldorsson, Kotzab and Skjott-Larsen, 2009). Suppliers are therefore also key in the total life cycle impact that the product will have on the environment (Nieman, Hall and Oliver, 2017: 210). Pooe, Mafini and Loury-Okoumba (2015: 01) claim that the information shared and provided by suppliers influences the firms' activities and enhances its abilities to achieve sustainable competitive advantage. Moreover, reliable supplies improve performance in terms of cost and the quality of goods produced by the firm (Sithole, 2014: 13). The overall business performance and sustainability will be enhanced if suppliers are able to provide the right product in the right quantity at a reasonable cost (Piderti, Flowerday and Von Solms, 2011). Therefore, manufacturing SME suppliers play a fundamental role in their achieving sustainability (Meqdadi, Johnsen and Johnsen, 2012: 02).

3.3.9 Competition within manufacturing SMEs

Competition also poses a great threat to the growth and survival of a firm, but at the same time it is often competition that is the main factor in achieving economic growth as it motivates and pushes firms to be more productive (Soini and Veseli, 2011: 50). A firm's competitors are an important part of its external environment, since competing firms do not have control over products, prices and services offered by other firms (Beach, 2017). A firm has a competitive advantage when it implements strategies of value creation that have not been introduced by other probable competitors (Barney, 1991: 103). In Porter's (1985) theory, competitive advantage measures a firm's success relative to its competitors. Basically, competitive advantage is offering consumers greater value by means of lower costing of products or services or offering higher quality services or products which justify higher prices (Pickard-Whitehead, 2018). Kraja and Osmani (2013: 81) argue that manufacturing SMEs have tangible assets, whereas some others have strong intangible assets, both of which can create sustainable competitive advantage. By generating a lower cost, or a higher benefit for the firm, these critical resources can create residual value for the same delivered value, thus providing increased profit margins for the company (Ong, Ismail and Goh, 2010: 379).

CHAPTER FOUR: RESEARCH METHODOLOGY

4.1 INTRODUCTION

The previous chapter discussed and analysed literature on critical factors affecting innovative leadership towards growth and sustainability of manufacturing SMEs. The purpose of this chapter is to provide an overview of the approaches and techniques used to conduct this research. Research is an intensive and purposeful search for knowledge and understanding of social and physical phenomena (Kumar, 2011). Howell (2013) describes methodology as general research strategy responsible for providing an outline of how the research project should be conducted and the methods to be used. The purpose and function of research methodology are to find answers to the research questions (Rao, 2008:01: Kumar, 2014: 07). The chapter will therefore explain and discuss the research design, research method, population, data collection instruments, validity and reliability, and ethical considerations.

4.2 RESEARCH DESIGN

According to Khan (2008: 69); Malhotra (2011); and Creswell (2014: 12) a research design provides a framework or blueprint for conducting the research project by specifying the procedures necessary for obtaining the information required to solve the research problem. This means that a research design is about convincing a wider audience of sceptical people that the conclusions of the research have been reached by methods which are appropriate and thus are as safe as possible (Gorard, 2013: 04). A good design, one in which the components work harmoniously together, promotes efficient and successful functioning (Maxwell, 2013: 2). Nylander and Renbergy (2014) and Vogt, Gardner and Haeffele (2012: 10) claim similarly that a research design provides an outline of how the research plans to answer the research questions and achieve its objectives. Creswell and Plano (2007: 58) add that it entails procedures for collecting, analysing, interpreting and reporting data for research studies. It is therefore, important that the researcher is rigorous about ensuring that it is suitable for the study (Rajkoomar, 2015: 65). In the case of this research study, the research design adopted was based on its ability to answer the research questions and for its ability to translate research problems into usable data for analysis that could be used to bring closure to the research questions (Jongbo, 2014: 88). As stated by Maxwell (2013: 04) research questions are the heart of any research design and they are an essential component that connects to all the other research components.

For the purpose of this study, a quantitative research method was used – the population consisting of manufacturing SMEs' leadership: that is, executive management, and managers. These managers' of manufacturing SMEs were all within the Province of KwaZulu-Natal. The manufacturing industries which participated in the study included: agriprocessing, automotive engineering, chemicals, ICT and electronics, metals, textiles, clothing and footwear. To identify the size for this research study, a nonprobability sampling technique was identified as the practical option. A detailed closed questionnaire was used as the data collection instrument. Data analysis was coded and analysed using SPSS version 23.0.

4.3 RESEARCH METHOD

The reason for choosing this method was to find differences between three variables (leadership, innovation and manufacturing) and to reach specific conclusions as to the critical issues influencing business innovation and the attainment of sustainable growth of manufacturing SMEs (Khan, 2008: 03). The research methods recognized the practical implementation of the scientific inquiry in terms of the data collection, analysis and interpretation (Gelo, Braakmann and Benetka, 2008: 270). It is important that the method should in principle be used as intended and for the purpose for which it has been developed (Blessing and Chkrabarti, 2008: 103). According to Kumar (2014: 22) there are three approaches that are used in social research to find answers to research question, and they are; quantitative, qualitative and mixed methods approach. For the purpose of this study, a quantitative approach was used. Quantitative research was selected based on its fundamental abilities to test the objectives' theories by examining the relationships among variables (Cresswell, 2014: 04). These variables were measured using a questionnaire and analysed statistically to determine the factors influencing innovative leadership in attaining business innovation and sustainable growth in manufacturing SMEs. This approach was also deemed appropriate for exploring the large sample size of 400 manufacturing SMEs in KwaZulu-Natal which was considered necessary for establishing valid findings, and which would have been impractical should qualitative methods have been employed. The adoption of a different method such as a qualitative research method would not have been suitable for this study because of its inability to test relationships between the particular study variables and provide statistical tests that prove study hypotheses. Furthermore, it would not have been feasible to target the same study sample size using a different approach.

4.3.1 Quantitative research

According to Punch (2013) and Brannen (2016: 04) a quantitative research method is an approach which involves a collection or cluster of methods, as well as data in numerical form. It focuses on, and sets out to examine, the relationships between variables and allows the testing of hypotheses and statistical analyses (Erikson and Kovalainen, 2011: 05; Saunders, Lewis and Thornhill, 2012: 162; O'Dwyer and Bernauer, 2014: xxi). From a broader view, a quantitative research approach is a type of empirical research focusing on a social phenomenon – in the case of this research, innovative leadership challenges enhancing or prohibiting the attainment of sustainable growth of manufacturing SMEs. It involves testing theory through the analysis of the variables which are measured numerically and analysing them statistically to evaluate and ascertain whether the theory explains or predicts the phenomena of interest (Yilmaz, 2013: 311). Mellinger and Hanson (2017) assert that this type of approach is powerful and an essential tool that can help the researcher to test the hypotheses of the study and thus to make sound generalisations to the parent population. This is based on accepted theory where hypotheses are developed and then tested to prove or disprove any correlations or relationships that may or may not exist (Rubin and Babbie, 2009: 34; Rasinger, 2013). This approach was designed in this instance to provide a clear picture of the underpinning reasons for KZN manufacturing SMEs ability, or more often inability, to be innovative and acquire sustainable growth (Farrelly, King, Wesley and White, 2017: 80). As with other approaches, quantitative methods involve the processes of collecting, analysing, interpreting, and writing the results of a study (Creswell, 2014: xxiv). Based on its scientific objectivity and rationale (McLeod, 2017), this approach was identified as ideal to the study as it provided a significant execution in answering the objectives of the study. This approach was further used to test the variables selected from the literature review that formed the basis of the questionnaire.

4.4 POPULATION

Population is an aggregate or totality of objects or individuals that belong to a certain group with the same characteristics and/ or specifications (Polit and Hungler, cited by Marwat, Zia-ul-Islam and Khattak, 2016: 288). The target population is the complete group of objects or elements relevant to the research project (Hair Jr, Celsi, Money, Samouel and Page, 2011: 165; Bajpai, 2010: 96). Krieger (2012: 636) defines target population as dynamic beings constituted by intrinsic relationships that exist within the same vicinity making meaningful, casual inference possible. These individuals or groups of people have some specific characteristics that are of interest to the researcher and from which profound implications can be drawn (Stevens, Wrenn, Sherwood and Ruddick 2006; Jha, 2014: 182). Accordingly, as claimed by Privitera (2016: 31) and Babbie (2017: 202) the identification of the population is central to a research study because it enables researchers to intensively study any social phenomenon that is of interest and considered as an issue or challenge to that population, by means of identifying an appropriate sample of this population with the hope of finding solutions that can be ideal for generalisation to the entire population (Jha, 2014: 183). The population for this study consisted of manufacturing SMEs operating within the Province of KwaZulu-Natal. The manufacturing SMEs which form part of this study were from the following industries: agriprocessing, automotive engineering, chemicals, ICT and Electronics, Metals, Textiles, clothing and footwear.

4.5 SAMPLING

According to Sekaran and Bougie (2010: 267) sampling begins with precisely defining the target population in terms of elements, geographical boundaries and time. It is a process of selecting a part of the assigned population to represent the entire population (Sharma, 2014: 208) and expecting that the data and information gathered from the small group of elements will provide accurate judgements about the larger group (Cargan, 2007: 236; Shukla, 2010: 54; Levy and Lemeshow, 2013). Sampling is a practical way of collecting data when the population is infinite or extremely large, thus making a study of all its elements impossible – while a 'sampling frame' should exclude no element of the population under investigation (Bless, Higson-Smith and Kagee, 2006: 99). A questionable sampling method can seriously affect the validity of the research (Gratton and Jones, 2004: 101).

There are two main types of sampling design, namely: probability and nonprobability sampling (Sekaran and Bougie, 2010: 267; Trochim, Donnelly and Arora, 2016: 86). Probability sampling is more robust in comparison as in this technique each sampling unit has a known, non-zero chance of getting selected in the final sample (Shukla, 2010: 58; Omair, 2014: 142). It is selected according to mathematical guidelines whereby the chance for selection of each unit is known (Tayie, 2006: 31; Showkat and Parveen, 2017: 03). On the other hand, nonprobability sampling is that sample procedure which does not afford any basis for estimating the probability that each item in the population has of being included in the sample (Kumar, 2008: 42; Surbhi, 2016). This type of sampling is useful when the researcher has limited resources or an inability to identify members of the population or when one is doing exploratory research (Adler and Clark, 2008: 121). Based on this background, a nonprobability, quota, convenience sampling technique was adopted for this study. Quota sampling was used to divide the population of interest into strata which were grouped based on their different characteristists (Taherdoost, 2016: 22) as reflected in *table 4-1* below. This method ensured some degree of representativeness of all the strata in the population. According to Burns and Grove (2011: 308) quota sampling offers an improvement over simple convenience sampling and tends to decrease potential bias. Convenience sampling allowed the researcher to identify entrepreneurs, manager and owners of manufacturing SMEs across KZN who were available, accessible and willing to participate by answering the questionnaire (Mustapha, 2010; Ary, Jacobs, Sorensen and Walker, 2014: 169; Podesva and Sharm, 2013: 76; Gravetter and Forzano, 2016: 147; Terry, 2018: 153). A thorough coverage of the representation of the industrial areas and/ or businesses within KZN was made through the circulation of questionnaires. This limited bias or the misrepresentation of certain areas (Etikan, Musa and Alkassim, 2015: 02). The researcher began by identifying the population's characteristics; how many registered manufacturing SMEs there were per province, the firms' number of employees, age of existence, turnover/income and ownership. This was done closely with the procedures of quota sampling. These characteristics were gathered and formulated using different reports and also derived from the 2016 SEDA report. This analysis allowed the researcher to determine precisely the elements to be considered for the sample size.

As stated by Dornyei and Taguchi (2010: 60) a good sample is very similar to the target population in its most important general characteristics. It must be stated that a probability sampling would not have been ideal for this kind of research as some manufacturing SMEs are not legally registered or their operating permits have been out-dated and therefore they do not appear on the list of registered manufacturing SMEs. The sample size of the study is discussed below.

4.5.1 Sampling size

The following table 1 reflects the target population's characteristics which were considered.

Registered SMEs per province		Number of employees	Years of existence	Turnover/Income	Ownership
Western cape	10107	5-250	1-10 years	> 10 million	Sole proprietor Manager Partnership Corporation
Eastern Cape	50670	5-250	1-10 years	> 10 million	Sole proprietor Manager Partnership Corporation
Northern Cape	8534	5-250	1-10 years	> 10 million	Sole proprietor Manager Partnership Corporation
Free State	26224	5-250	1-10 years	> 10 million	Sole proprietor Manager Partnership Corporation
KwaZulu-Natal	74976	5-250	1-10 years	> 10 million	Sole proprietor Manager Partnership Corporation
North West	27430	5-250	1-10 years	> 10 million	Sole proprietor Manager Partnership Corporation
Gauteng	306231	5-250	1-10 years	> 10 million	Sole proprietor Manager Partnership Corporation
Mpumalanga	35208	5-250	1-10 years	> 10 million	Sole proprietor Manager Partnership Corporation
Limpopo	28054	5-250	1-10 years	> 10 million	Sole proprietor Manager Partnership Corporation

Table 4-1 Target population's characteristics

KwaZulu-Natal is the second largest area with 74976 manufacturing SMEs operating within its borders. For the basis of this study, as stated above, a quota, convenience sampling was used to select the sample size for this study. A population of 74976 is well represented by a sample size of 384 (Sekaran and Bougie, 2010: 296).

4.6 DATA COLLECTION INSTRUMENTS

Data collection instruments can be designed to collect either qualitative or quantitative data or a mixture of both (Hall, 2008: 147). The type and amount of data to be collected depends on the nature of the study and its research objectives (Hair, Celsi, Money, Samouel and Page, 2011: 185). The literature was used as a source of information for guiding the questionnaire formulation, and a quantitative research method was selected as the best technique to test the variables identified. According to Blessing and Chkrabart (2008: 114) the importance of good instrumentation and clearly defined data-collecting procedures should not be underestimated, and should be tested carefully to ensure their applicability under the conditions given by the context in which the method is to be used. As the study was concerned with the determination of prevailing conditions and identifying factors affecting innovative leadership towards sustainable growth in manufacturing SMEs, the study adopted a descriptive approach (Milagross, 2004: 33). According to Sekaran and Bougie (2016) there are two principle types of data collection instruments, namely: questionnaires and interviews. For the purpose of this study, and based on the research approach, a questionnaire was selected to collect data from the participants.

4.6.1 Questionnaire

According to Rose and Grosvenor (2013: 129) the nature of the research question, the identified data required to answer the question, and the resources available, will generally determine the type of questionnaire that the researcher will employ. Brace (2014: 01) describes a questionnaire as a self-completion survey instrument intended to collect data on social phenomena within the population of interest. Quelhas *et al.* (2011: 02) indicates that constructing a questionnaire is not easy and straightforward, but a difficult task. This is because questionnaires need to address the research questions, aims and objectives of the study clearly, since all questions within the questionnaire have a direct impact on the outcome of the study (Mathers, Fox and Hunn, 2009: 24). Wilson (2013) warns that, failing to address these issues rigorously can have a negative impact on how the study participants answer the questionnaire and this can further have a significant effect on the credibility of the outcomes. Researchers therefore need to know exactly what questions to be asked, how to ask them, and how to assess their value for the study (Brace, 2018: 06).

Questionnaires play a significant role in data collection (Brace, 2008: 1). They can address a large number of issues and questions of concern relating to the objectives of the study and, when well designed, can generate a high response rate (University of Bristol, 2018). Using a questionnaire for this study allowed the researcher to access a large sample and also, with questionnaires, there is a reduction in bias – which is less easy to achieve in interviews (Gratton and Jones, 2010: 128).

For the purpose of this study, the term “questionnaire” is used to signify the use of questions or statements to elicit responses in a self-completion instrument, in order to generate data that is quantified in a case-by-variable data matrix (Scott and Morrison, 2006: 82). Questionnaires were therefore used in correlation to the adopted research method and also used because of their intrinsic ability to reach large sample sizes that can yield responses that are usually easy to tabulate while the data is easy to analyse (Patten, 2017). Primary data may be collected by questioning respondents *via* mail, over the telephone, in person, or through self-administered questionnaires (Neelankavil, 2012: 11).

4.6.2 Design of the questionnaire

Designing a questionnaire is a complex procedure that involves a great many considerations (McBurney and White, 2010: 246). These considerations must be in context and should be aligned to the study so that the questionnaire will obtain the most accurate data to address the objectives of the study (Brace, 2008: 1; Brace, 2018: 13). Hence, the researcher has a responsibility to ensure that the questionnaire is designed effectively to enable the respondents to perform their roles properly (Azzara, 2010: 18).

According to Azzara (2010: 19) a Likert scale (five-point related options) questionnaire design is difficult because the instrument design has to work on several levels (e.g., content, flow, question structures, wording, logic and instructions). However, as explained above, the questionnaire format was adopted as the data collection instrument most appropriate for this study (see appendix 1). The formulation of the questionnaire was achieved through a review of the relevant literature specifically on innovation, leadership and sustainability of manufacturing SMEs. It was designed to enable the gathering of relatable, critical factors which had been shown to affect innovative leadership and its ability to maintain sustainable growth. Both internal and external environmental factors were considered and covered. The questionnaire was divided into Sections A and B. Section A sought demographical information. This section was designed to understand the nature of the population and to make statistical inferences which could help the researcher to understand and answer the hypotheses and objectives of this study. For instance, the section enabled the researcher to identify whether level of education was understood by the respondents to influence innovation within manufacturing SMEs. Section B focussed in depth on the study variables. This section was created in line with the aims and objectives, research questions and reviewed literature underpinning the study. The fundamental purpose of this section was to understand and critically evaluate significant challenges that may stall and hinder leadership from adopting innovations which may be necessary for the sustainability of their businesses. Furthermore, this section enabled the researcher to identify patterns that could help him to understand manufacturing SME business's dynamic challenges and also to find practical ways of dealing with these challenges. This section was in a form of a Likert scale. The sample of the questionnaire is provided below.

Sample of the questionnaire

I hereby kindly request that you complete the following section by placing a cross (X) in the appropriate box to reflect your answer.

SECTION A: Biographical data

Please indicate your age group

19 – 25 years	1
26 – 32 years	2
33 – 39 years	3
40 - 49 years	4
More than 50 years, please specify:___________________	5

Please indicate the type of ownership

Sole proprietor	1
Partnership	2
Manager of the business and co-owned	3
Corporation	4
Other, Please specify ______________________________	5

Please indicate the number of years the business has been in existence

1 – 5 years	1
6 – 10 years	2
11 – 15 years	3
More than 15 years, please specify_______________	4

Please indicate your highest qualification

Matric Certificate	1
National Diploma	2
BTech/honours	3
Masters	4
PhD	5
Other, please specify_____________________________	6

SECTION B: **Factors influencing leadership and innovation in manufacturing SMEs**

Please indicate your response to the following questions regarding leadership and innovation for the growth and sustainability of manufacturing SMES.

Please place a cross (X) for each statement that truly reflects your response where:

1 = Strongly disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly agree

Statement	**Strongly disagree 1**	**Disagree 2**	**Neutral 3**	**Agree 4**	**Strongly agree 5**
The following questions are based on education and training of innovative leadership in manufacturing SMEs					
5a. Innovative leadership level of education influences the innovative leadership skills of entrepreneurs					
5b. Training will improve the innovative leadership performance of entrepreneurs					
5c. Training will improve the ability of entrepreneurs to be innovative					
5d. Level of education will influence the ability of entrepreneurs to be innovative					
The following questions are based on technical skills of innovative leadership in implementing innovation					
6a. A lack of technical skills will affect an entrepreneur's innovation strategies					
6b. A lack of technical skills will affect an entrepreneur's analytical skills					

4.7 DISSEMINATION OF THE QUESTIONNAIRE

One area in which a questionnaire study can go very wrong concerns the procedures used to administer it (Dornyei and Taguchi, 2010: 59). These authors claim that the most efficient way to administer questionnaires is by hand distribution to the targeted participants. This method proved to be effective and efficient as all the participants voluntarily agreed to complete the questionnaires and, where they had issues and questions, the researcher provided assistance. It must be noted that this method is very demanding for the researcher and some participants took a very long time to complete the questionnaire, requiring numerous reminders and visits to be made in order finally to attain feedback. The initial timeframe that was allocated for the dissemination of the questionnaire was two month. However, this time frame proved to be very small and was then extended to approximately five months. The extension was due to unavailability of the respondents due to their congested business schedules and also reluctance from participants.

Due to the study being fully funded by both the NRF and NIHSS, the employment of four research assistants provided great support in distributing and collecting the questionnaires from the participants. The entire process took almost five months.

4.8 PILOT TESTING THE QUESTIONNAIRE

A pilot study is a distinct preliminary investigation, conducted before the main study to test the research instruments' ability to capture the required information from the participants (Machin, Campbell, Tan and Tan, 2009; Dhawan, 2010). Pilot studies often provide important insights into the problem being investigated and may lead to reconceptualization of the problem or refinement of the research questions (Saunders, Lewis and Thornhil, 2009; Fitzpatrick and Wallace, 2012: 408). Burns and Bush (2010) claim that piloting testing improves and eliminates any ambiguities that may be found in a questionnaire.

The researcher piloted the research instrument under the same conditions which he plans to use for its formal administration (Cargan, 2007: 113; Kalof, Dan and Dietz, 2008: 203). This gives an opportunity to observe the time it takes to complete the instrument, problems with interrater reliability, the influence of environmental conditions, and any problems respondents continue to have with item wording and format (Colton and Covert, 2007: 55). If the pilot study reveals areas for improvement, then these can be incorporated before the research goes live – avoiding what might otherwise have been damaging problems for the research (Denscombe, 2014: 165).

Forty leaders (executive managers and managers) within the manufacturing sector across KZN were selected for the pilot study. These businesses were randomly visited across KZN based on the quota characteristics. Research experts within the field were also consulted to improve the quality of the instrument prior to the collection of the main primary data. The feedback from the pilot study provided insightful and constructive suggestions which were incorporated in the questionnaire. One of the comments made on the questionnaire was that "statements within the questionnaire need to be short and specific and straight to the point" and also "the construction of statements should not be negative" and the flow of the questionnaire and simplicity was commended. This process enhanced the quality of the instrument and minimized any potential ambiguity in the questions. The period which was set for the pilot study was two weeks, however, due to the unavailability of the respondents owing to their business schedules and commitments, the process lasted for almost two months. It must be noted that the 40 participants who were chosen for the pilot study did not form part of the 384 participants.

4.9 DATA ANALYSIS

The data that was collected after the field survey allowed the researcher to identify techniques for data analysis that would be conducive to understanding the findings of the study through different analytical tests. As stated by Khanzode (2004:83) processing and analysing of data is necessary, as it covers all technical matters related to the research study. According to Monette, Sullivan and Dejong (2007: 364) the analysis of quantitative data usually entails the use of statistics, which are procedures for assembling, classifying, tabulating and summarising numerical data to obtain some meaning or information. The independence of the variables was determined by Chi-square tests (X^2) to observe the degree of the frequency of data (Terre Blanche, Durhheim and Painter 2006: 207). Descriptive statistics such as bivariate analysis and correlations were used to describe patterns and trends in the data set (Welman, Kruger and Mitchell, 2005: 231). Inferential statistics in the form of the *t*-test were utilised to test the research hypotheses. In order for quantitative analysis to provide a basis for generalization, the selection of cases to be studied should follow adequate statistical procedures so as to ensure their representativeness (Silverman, 2016: 423).

4.9.1 Frequency analysis

This research study used frequency analysis to determine the associated number of times each respondent made reference to a particular statement and to check coding of data (Lavrakas, 2008; Ho, 2013). Frequency analysis further provided a clear view of the number of cases that fall into the various response categories set in the research questionnaire, and also assisted in depicting the overall results of the study (Brown, Suter and Churchill, 2018: 254).

4.9.2 Descriptive analysis

This type of analysis describes the nature of an object or phenomenon under study. This analysis provides profiles of organisations, work groups, persons and other subjects concerning any of a multitude of characteristics such as size, composition, efficiency, and preferences (Krishnaswami and Satyaprasad, 2010:161). In this study descriptive statistics were used for two major purposes. Firstly, they were used to summarize the data set. Secondly, they were used to numerically describe sample units, phenomena, and other variables of interest (McNabb, 2008:153).

4.9.3 Inferential statistics and Chi-square test

Inferential statistics are used to make assumptions or inferences about a population from the measurement taken of sample units drawn from the population (Krishnaswami and Satyaprasad, 2010:161). There are three inferential statistical tests namely *z test* and the *t* test that require us to make certain assumptions about estimates of population characteristics, or parameters. The Chi-square (X^2) is a test that does not involve the use of any population parameters and the underlying distribution does not have to be normal (Jackson, 2012: 190). Connor-Linton (2010:5) and Clark and Foster (2014) explain that a Chi-Square test (X^2) is conducted to determine if there is a significant association between the two variables in one or more categories. Therefore, the test compares the number of cases falling into each cell of the table with the frequency that would be expected if there were no association between the two variables that form the table (Foster, 2001: 156).

The researcher used a Chi-Square test for goodness of fit and also to test relationships between the study variables (Gravetter and Wallnau, 2009). The variables tested were guided by the objectives of the study. The inferential statistics and Chi-Square test were therefore conducted on all variables to test for significant relationships and the tests were then used to help in determining and proving the hypothesis of the study. Additionally, the Chi-Square test was conducted because the sample data consisted of numerical scores making it much easier to determine different relationships between the tested variables.

4.9.4 Correlations

Correlation statistical analysis refers to the measurement of association between or among variables (Archdeacon, 1994: 97; Saunders, Lewis and Thornhill, 2003: 475). CIRT (2019) explains that correlation tests allow the researcher to determine which variables are interacting and what type of interaction is occurring. This means that +5 and-5 represent the strength of the relationship between two ranked or quantifiable variables (Li, 2013: 3325; Xiao, Halbach, Simcik and Gulliver, 2012: 3103). For the purpose of this study, correlations were used to determine and identify critical factors affecting innovative leadership for the attainment of sustainable growth of manufacturing SMEs in KZN.

4.10 RELIABILITY

There are two key critical concepts by which the quality of research is assessed, namely, reliability and validity – and these are used to assess how 'truthful' a piece of research actually is (Gratton and Jones, 2004: 85). Reliability refers to the quality of a measuring instrument that would cause it to report the same value in successive observations of a given case (provided the phenomenon being measured has not changed) (Babbie, Halley, Wagner and Zaino, 2013: 16; Efron and Ravid, 2013: 73). Yan (2007: 10) and Monette, Sullivan, DeJong and Hilton (2014: 208) describes 'reliability' as a probability that an instrument performs its intended function without failure under specified conditions for a specified period of time. Reliability of a measure is simply its consistency. A measure is reliable if the measurement does not change when the concept being measured remains constant in value (Babbie, 2016: 149). Reliability is characterized by precision and objectivity and the purpose of reliability testing is to ensure that the instruments in question are robust and not sensitive to changes of the researcher, the respondents or the research condition (Sarantakos, 2013: 104).

In quantitative research, the issue of reliability is important (Gratton and Jones, 2004: 85). It is, therefore, essential that reliability scores exhibit a very high degree of reliability and reliability estimates at or above 0.70 are deemed reasonable for research purposes (McCoach, Gable and Madura, 2013). Reliability estimates largely depend on the participants taking the tests, and the context in which they take them, and the test items or tasks that have been used. In other words, a reliability estimate is based on, among other factors, the mean and standard deviation of the scores obtained by the participants in the tests, the number of test items or tasks, and the level of difficulty, and discrimination functions of the test items or tasks (Phakiti, 2014). High levels of reliability are critical in quantitative research because it informs us about the dependability of test results and demonstrates the levels of consistency of the scores obtained (Berg and Latin, 2008: 192). It was important that a reliability test was done for this study because it enabled the researcher to have confidence that the measure taken was close to the true measure (Goodwin, 2010: 134). All data are required to demonstrate reliability for usefulness (Vannest, Davis and Parker, 2013: 96).

4.11 VALIDITY

Validity is the degree to which a measure captures what it claims to measure (Phakiti, 2014). Validity is therefore important because it tells you if the measure actually measures what it is supposed to measure, and not something else (Goodwin, 2010: 134). Efron and Ravid (2013: 73) add that validity depends on the quality and appropriateness of the measures used to collect data. Therefore, an instrument is said to be valid if it really measures the concepts it is intended to measure (Babbie, Halley, Wagner and Zaino, 2013: 15). Berg and Latin (2008: 188) advise that once the validity of an instrument is established, it need not be demonstrated again – it more or less goes along with the proper use of the instrument or test.

Before the questionnaires were administered to the participants, they were pilot tested to ensure that the questions were simple to understand and unambiguous (Junpath, 2013: 64). As indicated above, questions were based on information gathered during the literature review to ensure that they represented the factors affecting leadership and innovation and the sustainable growth of manufacturing SMEs. The questionnaire was also taken to a professional editor to check for any misprints and incorrect wording or phrases. In this manner the validity of the instrument was improved.

4.12 ETHICAL CONSIDERATIONS

Ethics in research refers to the moral deliberation, choice and accountability on the part of researcher(s) throughout the research process (Miller, Birch, Mauthner and Jessop, 2012: 14). Drew, Hardman and Hosp (2008: 69) and Alderson and Marrow (2011: 03) add that ethical consideration is concerned with respecting and protecting research participants throughout each project, partly by using agreed standards. This means that the researcher needs to have principles and values set to determine an appropriate approach to conducting the research at all stages of the research process (Adler and Clark, 2011: 40). Ethical considerations in research are always evolving and changing and it is very important that researchers keep up-to-date with the latest thinking about ethics. It is therefore essential that research proposals are subjected to scrutiny by ethics committees (Bless, Higson-Smith and Kagee, 2007: 146) as ethical issues are an integral and important part of the planning stage of all research involving human participants (Hall, 2008: 67). Most significantly, ethical considerations in research help to ensure trust between the researcher and the participants, and to promote accountability, mutual respect and fairness (Gajjar, 2013: 09; Resnik, 2015).

Participants in the study were informed about the nature of the research and informed consent (verbal and written) was obtained from the respondents (Babbie, 2016: 70). A Letter of Information and a consent form (Appendix 2) accompanied by the questionnaires (Appendix 1) were given to the respondents. This letter detailed the nature of the study, along with possible risks and benefits of taking part in the research. The letter of information and the consent form confirmed the ethical compliance standards set by the DUT Faculty of Management Sciences Research Ethics Committee which reviewed the study. The study was passed under the ethical category 2 (minimal research ethics compliance required). This Ethics Committee ensured that participants were fully aware of the nature of their participation and that they were equally protected (Kruger, Ndebele and Horn, 2014: 08)

4.12.1 Anonymity and confidentiality

The letter of information and consent (Appendix 2) also assured the participants of their anonymity, confidentiality, and the protection of their rights and welfare. As advised by Pillay (2014: 199) to maintain confidentiality in a study, the names of the participants are not mentioned. Thus all participants were anonymous. The assurances given to the participants allowed them to engage freely and to provide truthful information pertaining to their judgement and experience of the determinants of business innovation and sustainable growth.

CHAPTER FIVE: DATA ANALYSIS, INTERPRETATION AND DISCUSSION

5.1 INTRODUCTION

The previous chapter discussed and presented the research design adopted in this research. The main purpose for this chapter is to provide a comprehensive analysis report of the quantitative primary data obtained, which is interpreted and discussed in relation to the study objectives. The chapter therefore presents the results and discusses the findings obtained from the questionnaires. As explained above, the questionnaire was distributed to 384 participants. It was the primary tool that was used to collect data. The data collected from the responses was analysed with SPSS version 25.0. The results will be presented in the form of descriptive statistics using graphs, cross tabulations and other figures illustrative of the quantitative data that was collected. Inferential techniques include the use of correlations and Chi-square test values; which are interpreted using the *p*-values. The literature review formed a strong foundation for this study by providing a wide overview of the issues and challenges threatening the growth and sustainability of manufacturing SMEs in South Africa. Thus, the literature assisted in the development of the objectives and of the research questionnaire.

5.2 THE SAMPLE

In total, 384 questionnaires were despatched and 384 were returned which gave a 100% response rate. The attainment of a 100% response rate meant that an excellent representation of the population was obtained, allowing conclusive generalisations to be made.

5.3 THE RESEARCH INSTRUMENT

The research instrument consisted of 44 items, with a level of measurement at a nominal or an ordinal level. The questionnaire was divided into 2 sections and 10 questions which measured various themes as illustrated below:

A1-4	Biographical data
5	Education and training of innovative leadership in manufacturing SMEs
6	Technical skills of innovative leadership in implementing innovation
7	Entrepreneurial characteristics that affects innovative leadership of manufacturing SMEs
8	Government support mechanisms for innovative leadership
9	Environmental barriers that affect innovative leadership towards sustainable growth of SMEs
10	Government barriers to innovative leadership of manufacturing SMEs

The questionnaire adopted a Likert Scale format which consisted of only closed-ended questions. For the basis of ascertaining from the respondents their experience and knowledge of innovative leadership factors which they deemed significant in attaining innovation, the respondents were required to select their responses based on predetermined statements. The relationship between the variables of the study were tested using cross-tabulations. A reliability test was also conducted based on the sections of the questionnaire.

5.4 RELIABILITY STATISTICS

The two most important aspects of precision are **reliability** and **validity**. Reliability is computed by taking several measurements on the same subjects. A reliability coefficient of 0.70 or higher is considered as “acceptable”. The table below reflects the Cronbach’s alpha score for all the items that constituted the questionnaire.

		N of Items	Cronbach's Alpha
B5	Education and training of innovative leadership in manufacturing SMEs	4	0.809
B6	Technical skills of innovative leadership in implementing innovation	9	0.877
B7	Entrepreneurial characteristics that affects innovative leadership of manufacturing SMEs	6	0.838
B8	Government support mechanisms for innovative leadership	4	0.908
B9	Environmental barriers that affect innovative leadership towards sustainable growth of SMEs	12	0.798
B10	Government barriers to leadership of manufacturing SMEs	5	0.863

Table 5-1 Reliability Scores

The reliability test was performed on all statements in the questionnaire. The questionnaire was designed and divided into research themes in accordance to the research aims. Table 5-1 above indicates that the reliability scores for all sections exceeded the recommended Cronbach's alpha value for a newly constructed construct. This indicates a degree of acceptable, consistent scoring for all of these sections of the research.

5.5 FACTOR ANALYSIS

Why is factor analysis important?

Factor analysis is a statistical technique whose main goal is data reduction (Tranynor and Andrews, 2015: 479). A typical use of factor analysis is in survey research, where a researcher wishes to represent a number of questions with a small number of hypothetical factors (Salkind, 2010: 02). For example, as part of a national survey on political opinions, participants may answer three separate questions regarding environmental policy, reflecting issues at the local, state and national level. Each question, by itself, would be an inadequate measure of attitude towards environmental policy, but *together* they may provide a better measure of the attitude. Factor analysis can be used to establish whether the three measures do, in fact, measure the same thing. If so, they can then be combined to create a new variable, a factor score variable that contains a score for each respondent on the factor. Factor techniques are applicable to a variety of situations. A researcher may want to know if the skills required to be a decathlete are as varied as the ten events, or if a small number of core skills are needed to be successful in a decathlon. You need not believe that factors actually exist in order to perform a factor analysis, but in practice the factors are usually interpreted, given names, and spoken of as real things.

The matrix tables are preceded by a summarised table that reflects the results of KMO and Bartlett's Test. The requirement is that Kaiser-Meyer-Olkin Measure of Sampling Adequacy should be greater than 0.50 and Bartlett's Test of Sphericity less than 0.05. In all instances, the conditions are satisfied which allows for the factor analysis procedure.

Factor analysis is done only for the Likert scale items. Certain components divided into finer components. This is explained below in the rotated component matrix.

5.5.1.1 KMO and Bartlett's Test

		Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
			Approx. Chi-Square	df	Sig.
B5	Education and training of innovative leadership in manufacturing SMEs	0.716	587.816	6	0.000
B6	Technical skills of innovative leadership in implementing innovation	0.886	1466.287	36	0.000
B7	Entrepreneurial characteristics that affects innovative leadership of manufacturing SMEs	0.826	870.595	15	0.000
B8	Government support mechanisms for innovative leadership	0.814	1048.129	6	0.000
B9	Internal	0.791	483.977	15	0.000
B9	External	0.658	558.480	15	0.000
B10	Government barriers to leadership of manufacturing SMEs	0.774	1058.275	10	0.000

Table 5-2 KMO and Bartlett's test

Based on table 5-2 above, all of the conditions are satisfied for factor analysis. That is, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy value should be greater than 0.500 and the Bartlett's Test of Sphericity significance value should be less than 0.05. These results clearly indicate that sampling, and all the variables under the categorised themes, are adequate and statistically significant in measuring the same thing. Furthermore, the tests show a 0.886 KMO measure of sampling adequacy indicating that for instance technical skills of innovative leadership in implementing innovation have a very strong significant impact (0.000) on the ability of leadership to be innovative and to achieve sustainable growth of manufacturing SMEs.

5.6 BIOGRAPHICAL DATA

As indicated above, the questionnaire was divided into two sections, biographical information and factors influencing leadership and innovation in manufacturing SMEs. Section A consisted of four statements based on age group, type of business ownership, years the business had been in existence, and respondents' highest qualification. The data demonstration is presented using frequencies and percentages.

5.6.1 Age group

Please indicate your age group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	19 – 25	11	2,9	2,9	2,9
	26 – 32	43	11,2	11,2	14,1
	33 – 39	64	16,7	16,7	30,8
	40 - 49	139	36,2	36,3	67,1
	50+	126	32,8	32,9	100,0
	Total	383	99,7	100,0	
Missing	System	1	0,3		
Total		384	100,0		

Table 5-3 Age group

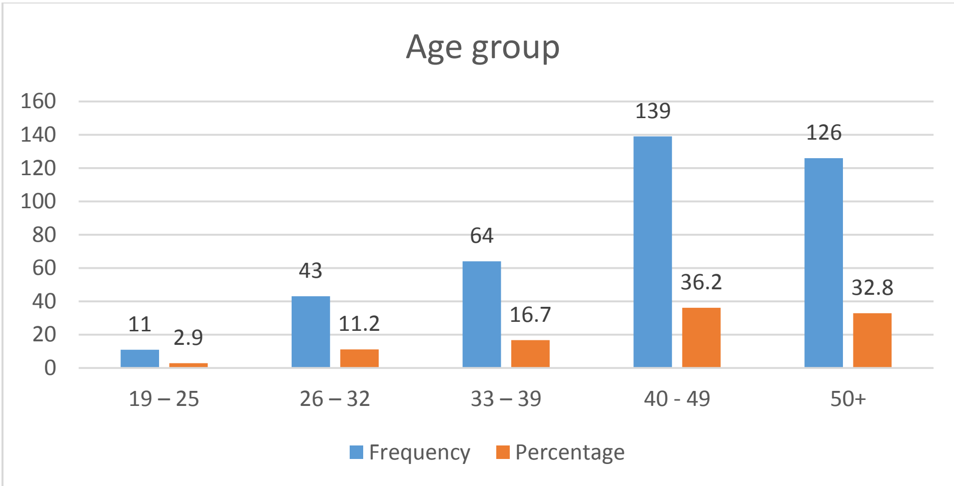


Figure 5-1 Age group

Table 5-3 and figure 5-1 show that the majority of the respondents 139 (36.2%) were between the ages of 40-49 years, followed by 126 (32.8%) of the respondents that were 50 years and above. 64 (16.7%) of the respondents were between the ages of 33-39 years, with 43 (11.2%) being between 26-32 years while only 11(2.9%) were between the ages of 19-25. Interestingly, this figure shows that there are a considerable number of younger entrepreneurs working within the manufacturing sector.

5.6.2 Type of ownership

Please indicate the type of ownership

Valid	Sole proprietor	55	14,3	18,6	18,6
	Partnership	36	9,4	12,2	30,7
	Manager of the business and co-owned	49	12,8	16,6	47,3
	Corporation	156	40,6	52,7	100,0
	Total	296	77,1	100,0	
Missing	System	88	22,9		
Total		384	100,0		

Table 5-4 Type of ownership

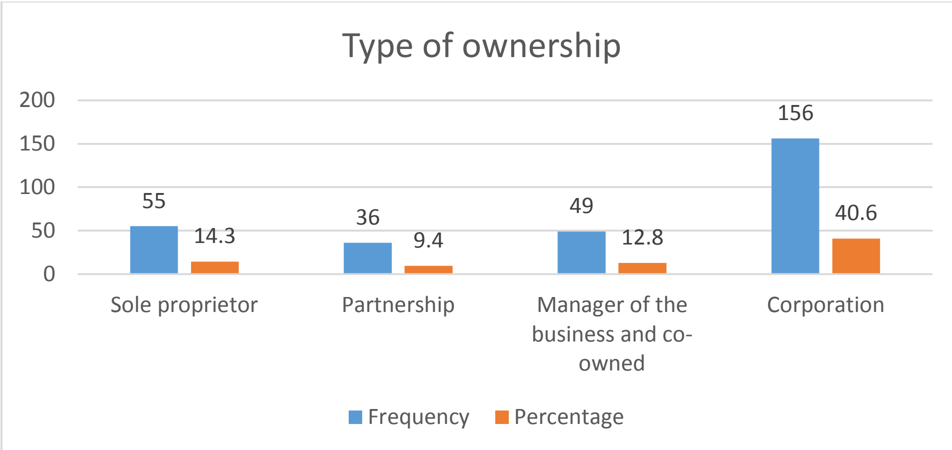


Figure 5-2 Type of ownership

Table 5-4 and figure 5-2 show that 156 (40.6%) of manufacturing SMEs were categorised as a corporation, while 49 (12.8%) of the respondents were managers of the business which they co-owned. Only 36 (4.69%) of the enterprises were partnerships and only 55 (14.3) had a sole proprietor. This indicates that successful and/or sustainable manufacturing SMEs appear most often to be managed collectively as a corporation.

5.6.3 Number of years the business has been in existence

Please indicate the number of years the business has been in existence

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - 5	45	11,7	11,8	11,8
	6 - 10	35	9,1	9,2	21,1
	11 - 15	49	12,8	12,9	33,9
	> 15	251	65,4	66,1	100,0
	Total	380	99,0	100,0	
Missing	System	4	1,0		
Total		384	100,0		

Table 5-5 Number of years the business has been in existence

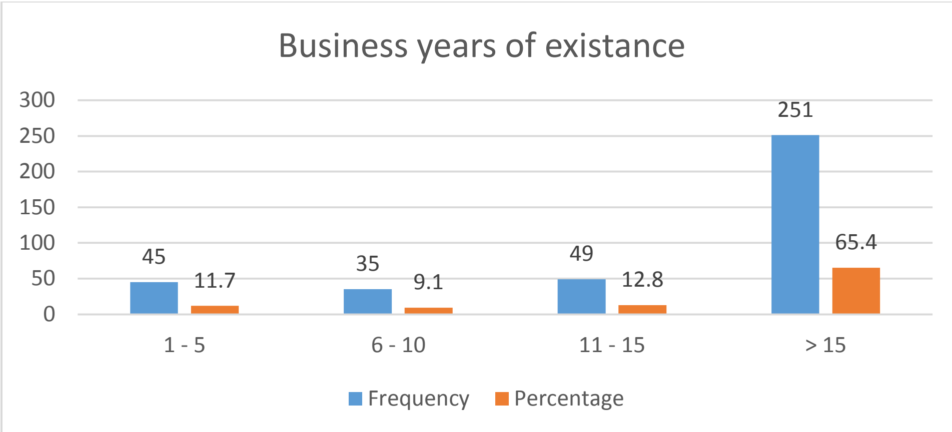


Figure 5-3 Number of years the business has been in existence

Table 5-5 and figure 5-3 show that the majority of the manufacturing SMEs targeted (251 or 65.4%) had been in existence for more than 15 years, while 49 (12.8%) had been in existence for 11-15 years with 35 (9.1%) being in operation for 6-10 years. Only 45 (11.7%) were in their earliest stage of 1-5 years. Evidently from the findings above, some manufacturing SMEs have established their target markets and have sufficiently productive strategic plans to sustain the operations of the firm. However, statistics indicate that some SMEs may have been liquidated before reaching their full potential growth. As mentioned above, and reflected by many studies (for example, Olawale and Garwe, 2010: 279; Fin24 2011; Mclntyre 2018; Mashimbye 2018), many SMEs do not survive for more than five years because of the challenges that threaten their existence.

5.6.4 Highest qualification

Please indicate your highest qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Matric Certificate	52	13,5	14,1	14,1
	National Diploma	109	28,4	29,5	43,6
	BTech/honours	123	32,0	33,3	77,0
	Masters	68	17,7	18,4	95,4
	PhD	1	0,3	0,3	95,7
	Other	16	4,2	4,3	100,0
	Total	369	96,1	100,0	
Missing	System	15	3,9		
Total		384	100,0		

Table 5-6 Highest qualification

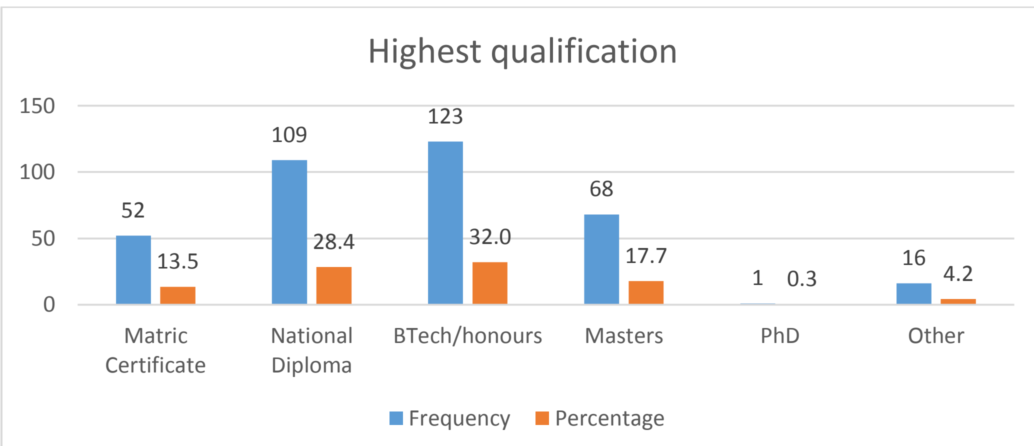


Figure 5-4 Highest qualification

Table 5-6 and Figure 5-4 show that a moderate number of the respondents 123 (32%) had BTech/honours as their highest qualification, while 109 (28.4%) of the respondents had National Diplomas and 68 (17.7%) had a Master's Degree. 52 (13.5%) had only a Matric certificate, with 16 (4.2%) holding other qualification and certifications, and only 1 (0.3%) respondent had a PhD. These findings appear to indicate that the respondents viewed education seriously as a foundation for business ownership. They are supported by the GEM report (2016-2017) which acknowledges that South African entrepreneurs with tertiary level education have shown a steady increase over the years. This is further supported by the Trade and Industry Policy Strategy (2017: 16) that improving the level of formal education of entrepreneurs is an important consideration for businesses.

FACTORS INFLUENCING LEADERSHIP AND INNOVATION IN MANUFACTURING SMES

The primary aim of this section was to dissect and understand the internal and external critical factors that influence innovative leadership in achieving innovation and sustainable growth in manufacturing SMEs. These factors were categorised into six themes with theme one consisting of four statements; theme two consisting of nine statements; theme three consisting of six statements; theme four consisting of five statements; theme five consisting of ten statement, and theme six consisting of five statements.

As mentioned above, these factors were identified through rigorous literature searches and were also used in the formation of the aims and objectives of the study and in the development of the questionnaire. The section below presents the findings regarding education and training of innovative leaders in manufacturing SMEs in KZN. As with the biographical information, to represent the findings frequencies and percentages were used in the form of tables and figures.

5.6.5 The level of education influences the innovative leadership skills of entrepreneurs

The level of education influences the innovative leadership skills of entrepreneurs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	8	2,1	2,1	2,1
	Disagree	23	6,0	6,0	8,1
	Neutral	53	13,8	13,8	21,9
	Agree	184	47,9	47,9	69,8
	Strongly Agree	116	30,2	30,2	100,0
	Total	384	100,0	100,0	

Table 5-7 The level of education influences the innovative leadership skills of entrepreneurs

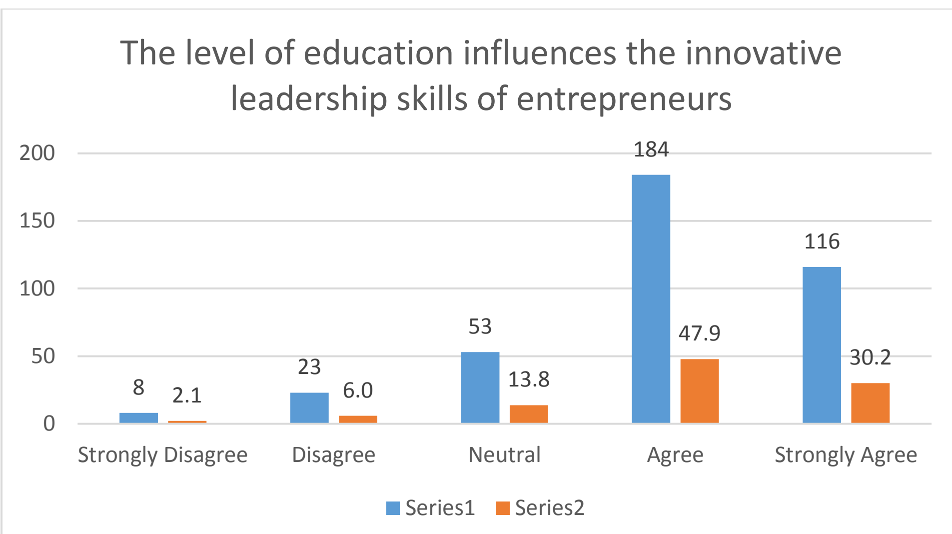


Figure 5-5 The level of education influences the innovative leadership skills of entrepreneurs

According to Lekhanya (2015: 411) and Spescha and Woerter (2019: 19) the level of education has a direct influence on leadership and innovation skills as education enables a greater awareness of business issues and greater involvement with innovation in the firm. The GEM report (2013) claimed that the level of education promotes competitiveness, productivity, growth and significantly improves the entrepreneurial climate. In view of this, the findings above indicate clearly that respondents agreed that the level of education of a business leader has a direct influence on their innovation skills. The largest group of respondents 184 (47.9%) agreed or strongly agreed (116 or 30.2%) with this. 53 (13.8%) respondents were neutral about the statement while only 23 (6 %) disagreed and 8 (2.1%) strongly disagreed. Thus, the great majority (nearly 80%) perceived education as a determinant of innovation skills. These findings are supported by a Chi-square test that was conducted to determine whether the level of education influences the innovative leadership skills of entrepreneurs. These results indicated that (X^2 = 276.339; df = 4; P = 0,000) for this variable, indicating that education is an essential component to innovation. These findings are in line with the research findings by Steenkamp and Bhorat (2016: 28) who concluded that education and skills play a starring role in the sustainable performance of SMEs and its ability to access market opportunities, which can subsequently instil innovative culture within the firm.

5.6.6 Training will improve innovative leadership performance

Training will improve innovative leadership performance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	1,8	1,8	1,8
	Disagree	5	1,3	1,3	3,1
	Neutral	27	7,0	7,0	10,2
	Agree	178	46,4	46,5	56,7
	Strongly Agree	166	43,2	43,3	100,0
	Total	383	99,7	100,0	
Missing	System	1	0,3		
Total		384	100,0		

Table 5-8 Training will improve innovative leadership performance

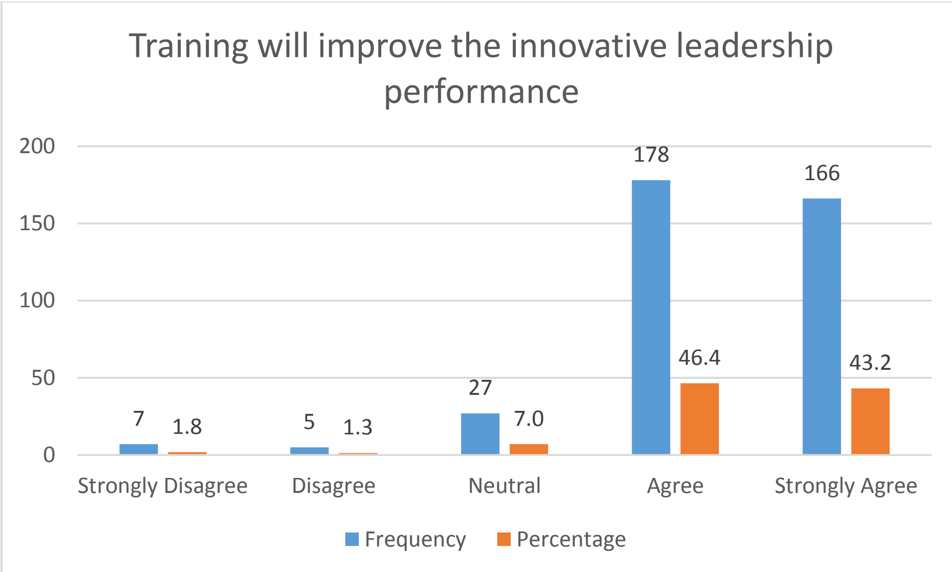


Figure 5-6 Training will improve innovative leadership performance

As depicted in table 5-8 and figure 5-6 the vast majority (nearly 90%) of respondents either agreed (178 or 46.4%) or strongly agreed (166 or 43.2%) that training improves innovative leadership performance. These findings are supported by a Chi-square test conducted to determine whether training improves the innovative leadership performance. The results indicate that (X^2 = 400.851; df = 4; P = 0,000) for this variable, indicating that training is understood to have a significant influence on the improvement of innovative leadership performance.

There were very few respondents 7 (1.8%) and 5 (1.3%) who disagreed with the statement. The literature endorsed this finding, as Isaacs, Visser, Friedrich and Brijal (2007: 614) and Dludla (2014) were able to show quite conclusively that education and training actually improves the abilities of entrepreneurs and contributes to social capital, innovation and networking. It can be argued, therefore, that education and training can further fast track the improvement of the national economy and ultimately help to solve its socio-economic challenges, especially unemployment and low economic growth (Matlay, 2008: 382), given the right business climate. Therefore, training can be seen as a significant means of enhancing the capabilities and field related knowledge of innovative leaders.

5.6.7 Training will improve the ability of entrepreneurs to be innovative

Training will improve the ability of entrepreneurs to be innovative

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	1,6	1,6	1,6
	Disagree	18	4,7	4,7	6,3
	Neutral	29	7,6	7,6	13,8
	Agree	182	47,4	47,4	61,2
	Strongly Agree	149	38,8	38,8	100,0
	Total	384	100,0	100,0	

Table 5-9 Training will improve the ability of entrepreneurs to be innovative

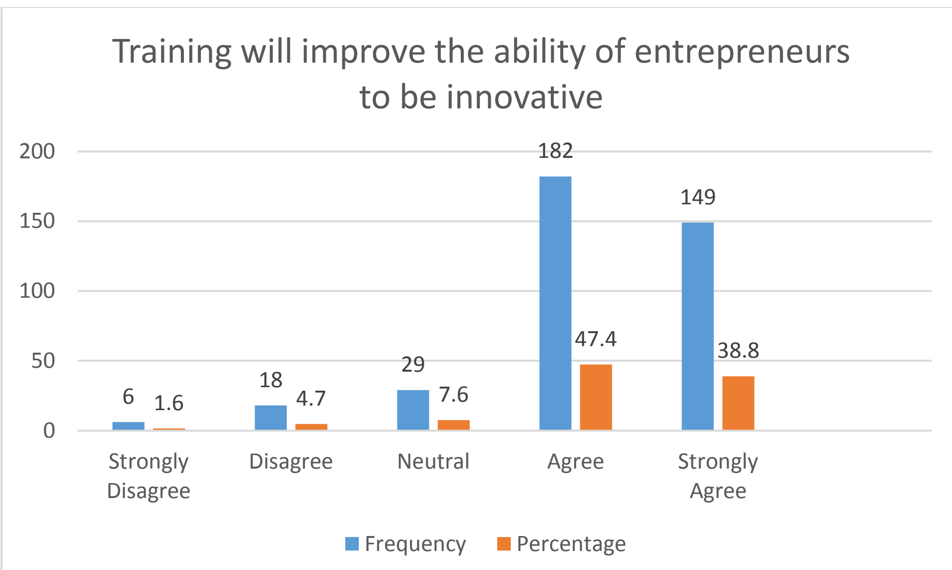


Figure 5-7 Training will improve the ability of entrepreneurs to be innovative

As depicted in table 5-9 figure 5-7 a significant number of respondents 182 (47.4%) and 149 (38.8%) agreed and strongly agreed that training is essential as it improves the ability of entrepreneurs to be innovative. These findings are supported by a Chi-square test conducted to determine whether training improves the ability of entrepreneurs to be innovative. The results indicate that (X^2 =352.016; df = 4; P = 0,000) for this variable, indicating that training has a significant influence on the ability of entrepreneurs to be innovative. A smaller number of respondents 29 (7.6%) were neutral about the statement whilst 18 (4.7%) disagreed with only 6 (1.6%) strongly disagreed. This means that these respondents nearly all see the need to pay attention to training to help them strengthen and improve their skills. Indeed to ignore this, according to Dereli (2015: 1366), is suicidal as he claims that in order for any enterprise to survive global competition, maintain competitiveness, be sustainable and contribute to GDP, it should regard innovation as the fundamental driving tool, and training is clearly seen here, as essential to achieve successful innovation This is due to innovation being an important tool that provides opportunities for the introduction of new inventions and for building new markets (Kuhn and Marisck, 2010).

5.6.8 The influence of education on innovative entrepreneurs

The influence of education on innovative entrepreneurs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	18	4,7	4,7	4,7
	Disagree	29	7,6	7,6	12,2
	Neutral	72	18,8	18,8	31,0
	Agree	156	40,6	40,6	71,6
	Strongly Agree	109	28,4	28,4	100,0
	Total	384	100,0	100,0	

Table 5-10 The influence of education on innovative entrepreneurs

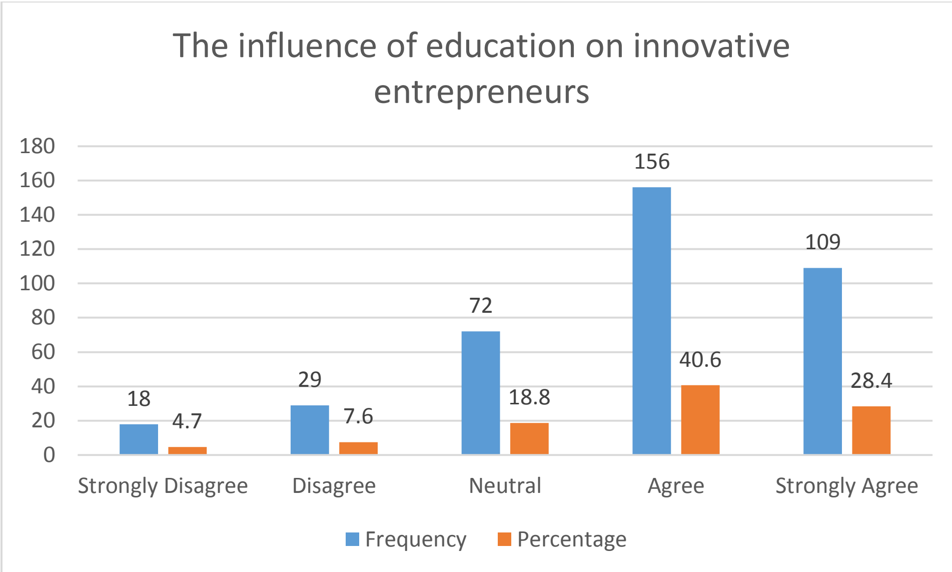


Figure 5-8 The influence of education on innovative entrepreneurs

As depicted in table 5-10 and figure 5-8 a significant number of respondents 156 (40.6%) and 109 (28.4) agreed or strongly agreed respectively that education has influence on innovative entrepreneurs. These findings are supported by a Chi-square test conducted to determine whether training is understood to improve innovative leadership performance. The results show that (X^2 = 170.245; df = 4; P = 0,000) for this variable, indicating that this understanding is valid. This means that the respondents viewed studying further and the attainment of postgraduate degrees as important for innovative leadership in order to enable them to broaden their understanding in the manufacturing sector and be able to instigate creative innovation that is going to positively influence the operations of the business. However, a smaller group of respondents 72 (18.8%) were neutral to the statement, whilst only 29 (7.6%) and 18 (4.7%) disagreed and strongly disagreed with the statement.

Component matrix: Education and training of innovative leadership in manufacturing SMEs

Component Matrix[a]

B5	Component 1
The level of education influences the innovative leadership skills of entrepreneurs	0.793
Training will improve innovative leadership performance	0.846
Training will improve the ability of entrepreneurs to be innovative	0.846
The influence of education on innovative entrepreneurs	0.731

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Table 5-11 Component matrix of education and training for innovative leadership in manufacturing SMEs

These components are additional statistical analysis on the above-mentioned figures *(Figure 5-1- to 5-8).* The respondents have indicated to only one category of components, with all components showing a very strong significance. A component test was performed on the statement regarding whether training will improve the innovative leadership performance of entrepreneurs, and a strong positive significance of 0.846 was determined. A strong positive significance of 0.846 was further established for the statement as to whether training will improve the ability of entrepreneurs to be innovative. A figure of 0.793 is reflected for the statement relating to whether innovative leadership level of education influences the innovative leadership skills of entrepreneurs. The last variable reflects a figure of 0.731 on the statement pertaining to whether the level of education will influence the ability of entrepreneurs to be innovative. All the variables tested based on education and training of innovative leadership in manufacturing SMEs reflected a very strong significance towards innovative leadership which means that the respondents believed that education and training fosters and influences leaders to be innovative. Furthermore, the component test reveals that training is seen as an essential tool for comprehensive skills attainment.

THE FOLLOWING VARIABLES CONCERN TECHNICAL SKILLS REQUIRED OF INNOVATIVE LEADERSHIP IN IMPLEMENTING INNOVATION.

5.6.9 A lack of technical skills will affect an entrepreneur's innovation strategies

A lack of technical skills will affect an entrepreneur's innovation strategies

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	11	2,9	2,9	2,9
	Disagree	28	7,3	7,3	10,2
	Neutral	49	12,8	12,8	23,0
	Agree	156	40,6	40,7	63,7
	Strongly Agree	139	36,2	36,3	100,0
	Total	383	99,7	100,0	

Table 5-12 A lack of technical skills will affect an entrepreneur's innovation strategies

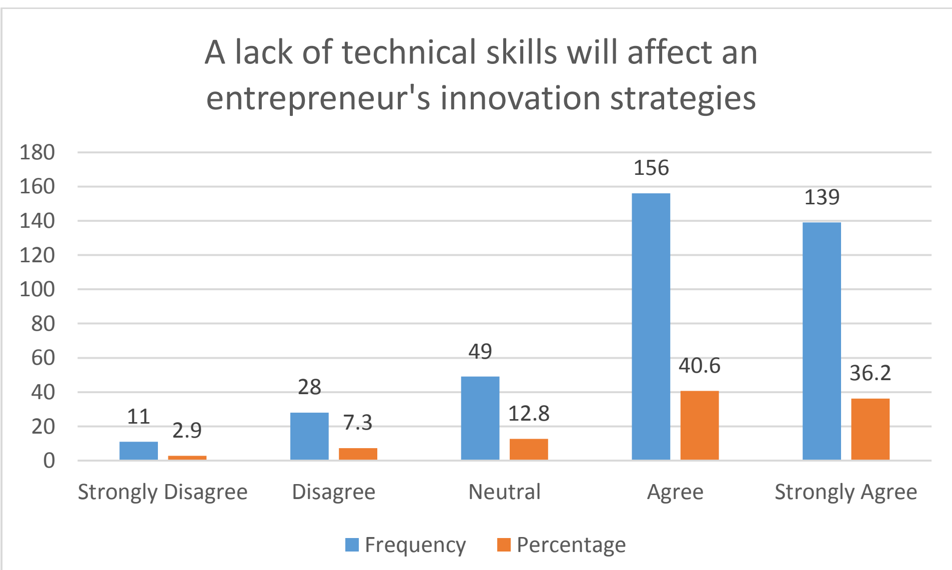


Figure 5-9 A lack of technical skills will affect an entrepreneur's innovation strategies

According to Slipicevic and Masic (2012: 106) investing in entrepreneurial training and skills development improves the ability to take initiative, seek out and use opportunities, risk decision-making in uncertain conditions, and building the capacity to succeed.

Technical skills are necessary to manufacturing SME operations as they act as a fulcrum for growth (Ikupolati Adeyeye, Olatunle and Obafunmi, 2017: 06). This means that innovative leaders possessing technical skills have an added advantage in designing and operating machines or tools, and also in implementing various procedures and techniques to improve the operations of the firm (Professional Development Centre, 2016). Furthermore, having technical skills eliminates the pressure consequent upon having to depend on outside assistance and, most importantly, it saves money and time (Jane, 2017). Leg-Tero (2016) assert that about 65% of SMEs are losing time and money due to lack of technical skills which are necessary during implementation of a wide range of business strategies. Hence, innovative leadership needs expert industry-related technical skills to support the strategic planning of the enterprise (Wang, Walker and Redmond, 2011: 03)

As reflected in table 5-12 and figure 5-9 a significant number of the respondents (156 or 40.6%) agreed that a lack of technical skills will affect an entrepreneur's innovation strategies while 139 (36.2%) strongly agreed with the statement. Fewer respondents (49 or 12.8%) were neutral while 28 (7.3%) disagreed and only 11 (2.9%) strongly disagreed. A Chi-square test was conducted to determine whether the findings observed were those expected. The results show (X^2 = 230.094; df = 4; P = 0,000) for this variable, indicating that innovative leadership does need technical skills in order to develop and implement innovative strategies that will help the firm acquire innovation that is going to sustain the business. These findings are in line with the study conducted by Chimucheka and Mandipaka (2015) which found a strong relationship between technical skills and knowledge, and the stability in SMEs.

5.6.10 A lack of technical skills will affect an entrepreneur's analytical skills

A lack of technical skills will affect an entrepreneur's analytical skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	1,6	1,6	1,6
	Disagree	38	9,9	9,9	11,5
	Neutral	41	10,7	10,7	22,1
	Agree	167	43,5	43,5	65,6
	Strongly Agree	132	34,4	34,4	100,0
	Total	384	100,0	100,0	

Table 5-13 A lack of technical skills will affect an entrepreneur's analytical skills

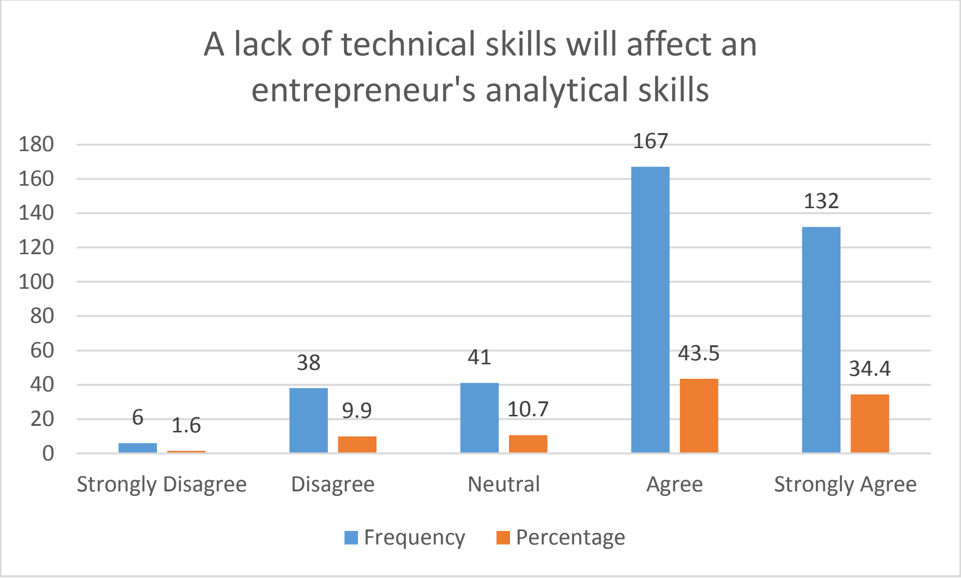


Figure 5-10 A lack of technical skills will affect an entrepreneur's analytical skills

According to Stevenson (1993) cited by Abdul (2018: 08) innovative leadership needs cognitive skills, including analytical skills which will help them in any strategic transformation of the firm. These skills allow innovative leadership to be able to identify, challenge and overcome difficult situations and problems that might arise in the firm.

As reflected in table 5-13 and figure 5-10 a significant number of the respondents (167 or 43.5%) agreed and 132 (34.4%) strongly agreed that a lack of technical skills will affect an entrepreneur's analytical skills. A smaller number of the respondents 41

(10.7%) were neutral to the statement while 38 (9.9%) disagreed and only 6 (1.6%) strongly disagreed with the statement. A Chi-square test was conducted to determine the closeness of fit between this variable and the expected findings and the results show that (X^2 = 247.172; df = 4; P = 0,000), indicating that the hypothesis is valid. Furthermore, the findings indicate that problem-solving skills are needed by innovative leadership to analyse, evaluate and solve simple and complex problems for the smooth management and running of the firm. The ability to come up with solutions within a short space of time are rare, but will be enhanced by analytical skills (Abdul, 2018: 09). It is interesting that several years ago, analytical skills were identified by Buttner and Gryskiewicz (1993) as essential to the growth of entrepreneurial enterprises.

5.6.11 A lack of technical skills will affect the level of customer support an entrepreneur is able to provide

A lack of technical skills will affect the level of customer support an entrepreneur is able to provide

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	1,8	1,8	1,8
	Disagree	45	11,7	11,7	13,5
	Neutral	50	13,0	13,0	26,6
	Agree	159	41,4	41,4	68,0
	Strongly Agree	123	32,0	32,0	100,0
	Total	384	100,0	100,0	

Table 5-14 A lack of technical skills will affect the level of customer support an entrepreneur is able to provide

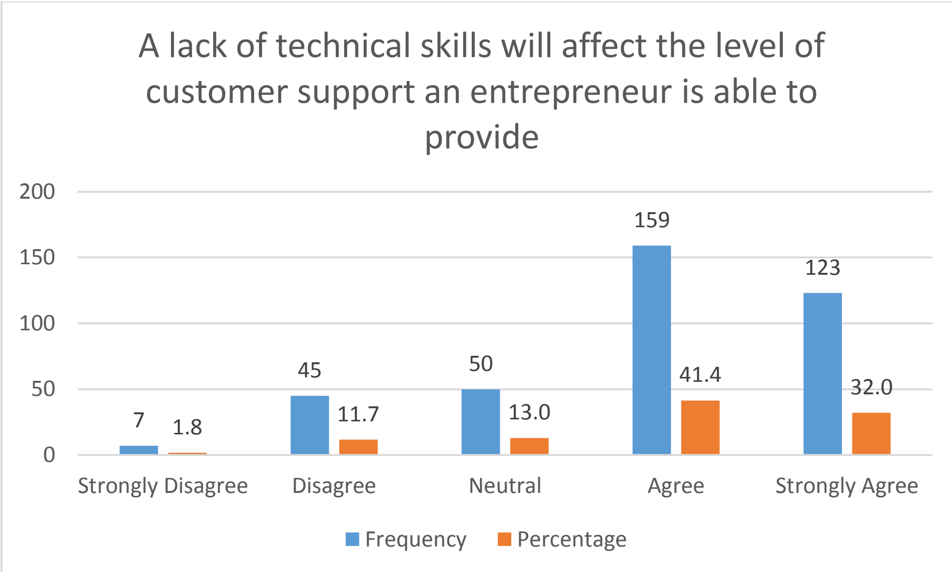


Figure 5-11 A lack of technical skills will affect the level of customer support an entrepreneur is able to provide

According to Nkosi, Bounds and Goldman (2013) technical skills are essential to the development and expansion of the enterprise. This is because technology in manufacturing SMEs involves intrinsic industry-specific skills, including product development, and those methods and techniques needed for the operation of the firm on a daily basis (Mamabolo, Kerrin and Kele, 2017). In the realm of customer service, detailed product knowledge is key to encouraging a customer to purchase or consider an item (Newman, 2014). Therefore, being better informed about the offerings of the firm, including technical details, enables innovative leadership to provide better-informed customer support.

The findings in table 5-14 and figure 5-11 also confirm that respondents believed this, as 159 (41.4%) agreed and 123 (32%) strongly agreed, that technical skills are essential for entrepreneurs to provide good customer support. A smaller number (50 or 13%) were neutral, while 45 (11.7%) disagree with only 7 (1.8%) strongly disagreed with the statement. A Chi-square test determined the good fit of this variable. The results show that X^2 = 201.729; df = 4; P = 0,000.

5.6.12 A lack of technical skills will affect an entrepreneur's ability to co-ordinate and manage critical business books

A lack of technical skills will affect an entrepreneur's ability to co-ordinate and manage critical business books

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	1,6	1,6	1,6
	Disagree	32	8,3	8,3	9,9
	Neutral	69	18,0	18,0	27,9
	Agree	154	40,1	40,1	68,0
	Strongly Agree	123	32,0	32,0	100,0
	Total	384	100,0	100,0	

Table 5-15 A lack of technical skills will affect an entrepreneur's ability to co-ordinate and manage business books

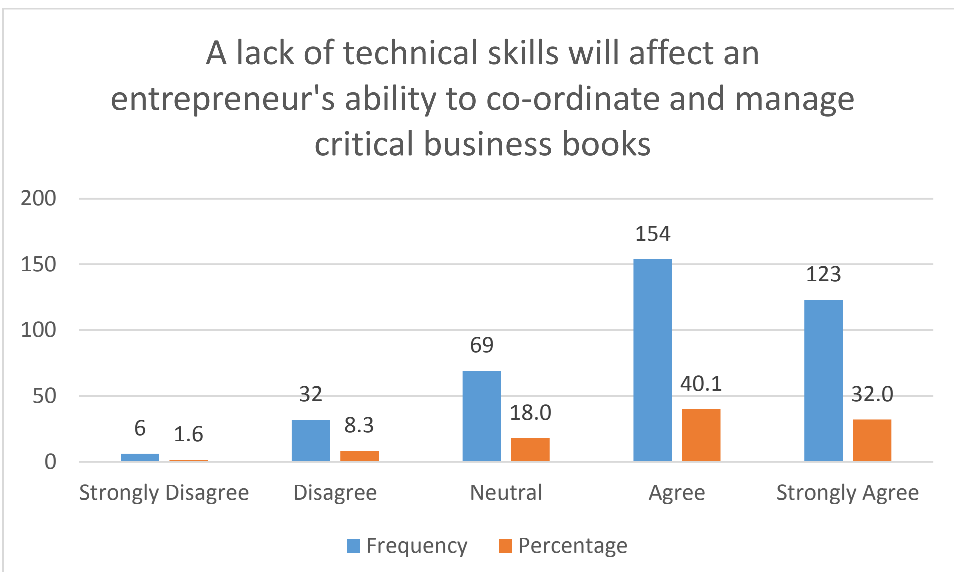


Figure 5-12 A lack of technical skills will affect an entrepreneur's ability to co-ordinate and manage business books

According to Sutevski (2019) technical skills are not only related to the ability to use machines, IT, production tools and various types of business equipment, but they are also skills critically needed to design strategic business approaches, manage business books using different accounting software, and design different types of products and services. Katz (2009) highlighted that technical skills involved specialised knowledge, analytical ability within that specialty, and the use of tools and methods or systems specific to that discipline. Thus, innovative leadership needs to possess technical skills as understood very broadly. As shown in Table 5-15 and figure 5-12 a significant number of the respondents 154 (40.1%) agreed and 123 (32%) strongly agreed that a lack of such technical skills will affect an entrepreneur's success. A small number of the respondents 69 (18%) were neutral while 32 (8.3%) disagreed and only 6 (1.6%) strongly disagreed with the statement. Again, a Chi-square test was conducted to determine this variable and once again a good fit was established. The results show that (X^2 = 197.59; df = 4; P = 0,000) for this variable.

5.6.13 A lack of technical skill will affect the ability of an entrepreneur to communicate effectively

A lack of technical skill will affect the ability of an entrepreneur to communicate effectively

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	17	4.4	4.4	4.4
	Disagree	57	14.8	14.8	19.3
	Neutral	65	16.9	16.9	36.2
	Agree	147	38.3	38.3	74.5
	Strongly Agree	98	25.5	25.5	100.0
	Total	384	100.0	100.0	

Table 5-16 A lack of technical skill will affect the ability of an entrepreneur to communicate effectively

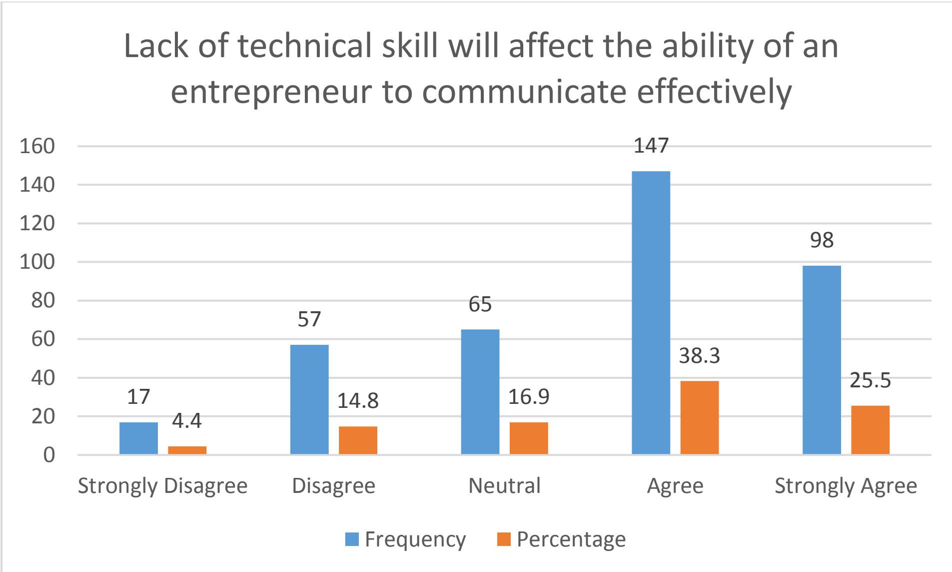


Figure 5-13 A lack of technical skill will affect the ability of an entrepreneur to communicate effectively

As shown in table 5-16 and figure 5-13 a moderate number of the respondents 147 (38.3%) agreed and 98 (25.5%) further strongly agreed that a lack of technical skills affects the ability of an entrepreneur to communicate effectively. A fewer number of the respondents 65 (16.9%) were neutral, while 57 (14.8%) disagreed and 17 (4.4%) strongly disagreed with the statement. The findings reveal that most respondents considered having technical skills as essential for innovative leadership to communicate effectively. A Chi-square test was conducted to determine whether a lack of technical skill will affect the ability of an entrepreneur to communicate effectively. The results show that (X^2 = 123.5; df = 4; P = 0,000) for this variable, indicating that a lack of technical skills will affect the ability of an entrepreneur to communicate effectively.

5.6.14 A limited knowledge on IT has an impact on leadership abilities

A limited knowledge on IT has impact on leadership abilities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	24	6.3	6.3	6.3
	Disagree	54	14.1	14.1	20.4
	Neutral	73	19.0	19.1	39.4
	Agree	148	38.5	38.6	78.1
	Strongly Agree	84	21.9	21.9	100.0
	Total	383	99.7	100.0	
Missing	System	1	0.3		
Total		384	100.0		

Table 5-17 A limited knowledge on IT has an impact on leadership abilities

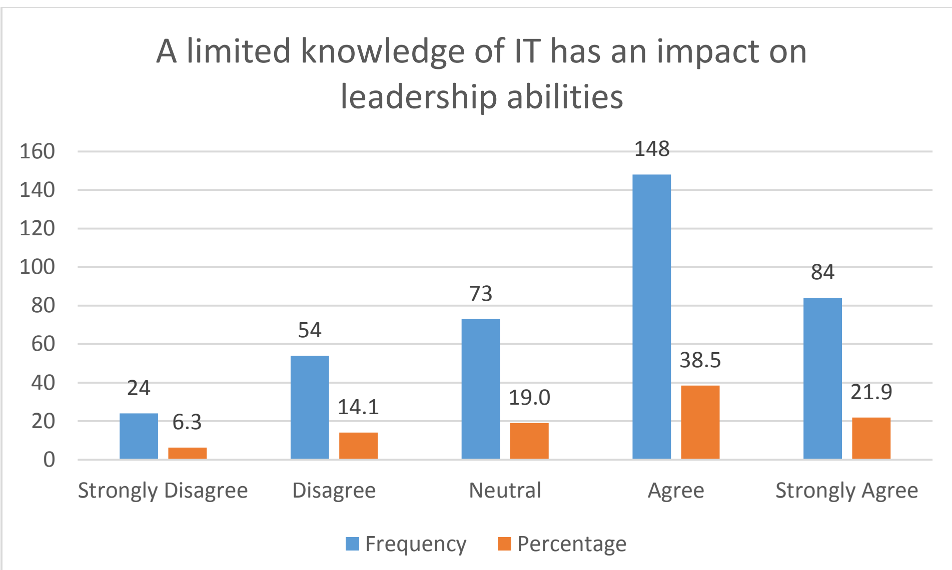


Figure 5-14 A limited knowledge on IT has an impact on leadership abilities

Internet, computers and telecommunication systems have been recognised as key business elements and productivity tools to enhance business efficiency and growth (Agwu 2018: 01). Beheshti (2004) argues that in order for innovative leadership to be able to gain a competitive edge in their respective industries they will need to have a sound knowledge of information technology in order to harness its value for business transformation and growth. Agwu (2018: 03) urges business leaders to acquire proficiency in the adoption of IT and other current business techniques in order to meet the evolving business environment. In manufacturing processes, IT has enabled shorter lead times and reduced scrap rates (Rana, 2013).

As shown in table 5-17 and figure 5-14 a moderate number of the respondents 148 (38.5%) agreed and 84 (21.9%) further strongly agreed that limited knowledge on IT has an impact on leadership abilities. These findings are supported by a Chi-square test that was conducted to determine whether a limited knowledge on IT has impact on leadership abilities. The results shows that (X^2 = 110.225; df = 4; P = 0,000) for this variable, indicating that a limited knowledge on IT has an impact on leadership abilities. As pointed out by Kalane (2015: 102) poor IT knowledge affects the ability of entrepreneurs to use different online platforms for product marketing. A lower number of the respondents 73 (19%) were neutral, whilst 54 (14.1%) and 24 (6.3) disagreed and strongly disagree with the statement respectively. It could be safely stated that innovative leaders believe IT knowledge is a significant skill that has a positive influence on their abilities.

5.6.15 Lack of technical skills affects the vision and mission of the business

Lack of technical skills affect the vision and mission of the business

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	21	5.5	5.5	5.5
	Disagree	63	16.4	16.4	21.9
	Neutral	76	19.8	19.8	41.7
	Agree	125	32.6	32.6	74.2
	Strongly Agree	99	25.8	25.8	100.0
	Total	384	100.0	100.0	

Table 5-18 Lack of technical skills affects the vision and mission of the business

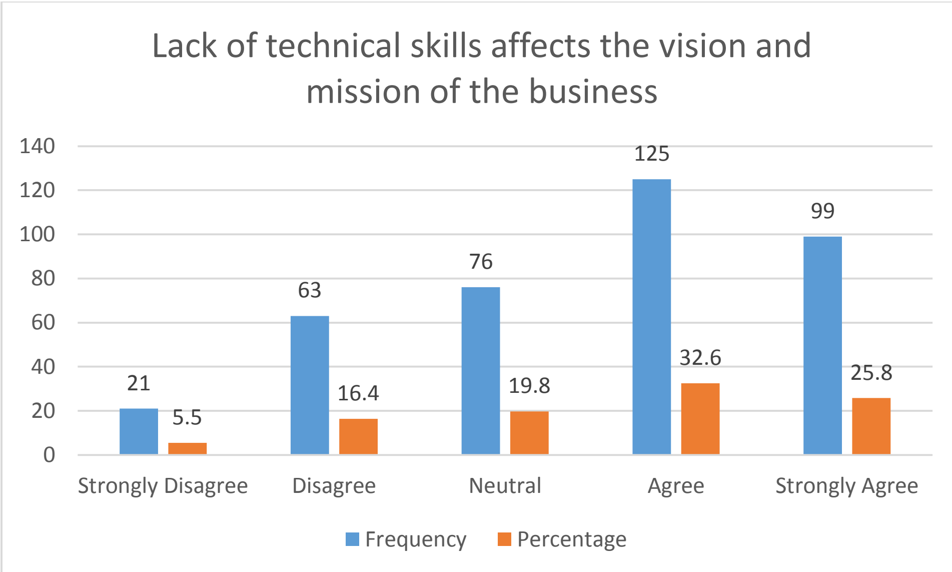


Figure 5-15 Lack of technical skills affects the vision and mission of the business

Table 5-18 and figure 5-15 show a moderate number of the respondents 125 (32.6%) agreed and 99 (25.8%) further strongly agreed that lack of technical skills affect the vision and mission of the business. A smaller number of the respondents 76 (19.8%) were neutral, whilst 63 (16.4%) and 21 (5.5%) disagreed and strongly disagreed with the statement. A Chi-square test was conducted to determine whether a lack of technical skills affect the vision and mission of the business. The results show that (X^2 = 79.698.225; df = 4; P = 0,000) for this variable, indicating that a lack of technical skills are understood to affect the vision and mission of the business. The findings therefore indicate that possessing technical skills is beneficial in constructing a clear business vision and mission that is rooted to the firms' core values and strengths in order to achieve business goals.

5.6.16 Lack of technical skills affects the innovation process due to lowering project management skills

Lack of technical skills affects Innovation process due to lowering project management skills

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	1.6	1.6	1.6
	Disagree	40	10.4	10.4	12.0
	Neutral	55	14.3	14.3	26.3
	Agree	181	47.1	47.1	73.4
	Strongly Agree	102	26.6	26.6	100.0
	Total	384	100.0	100.0	

Table 5-19 Lack of technical skills affects Innovation process due to lowering project management skills

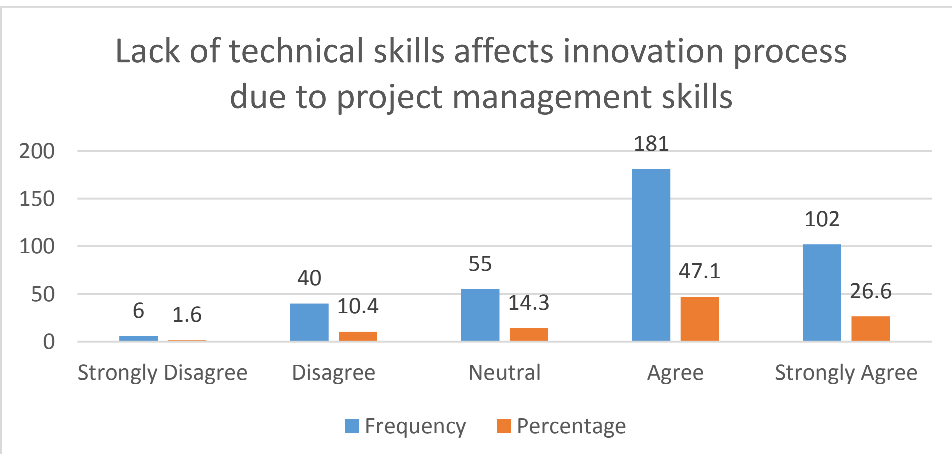


Figure 5-16 Lack of technical skills affects Innovation process due to project management skills

As shown in table 5-19 and figure 5-16 a significant number of the respondents 181 (47.1%) agreed and further 102 (26.6%) strongly agreed that a lack of technical skills affects the innovation process due to its detrimental effect on project management skills. A smaller number of the respondents 55 (14.3%) were neutral to the statement while 40 (10.4%) disagreed and only 6 (1.6%) strongly disagreed with the statement. A Chi-square test was conducted to determine whether a lack of technical skills affects Innovation process due to project management skills. The results show that (X^2 =

238.734; df = 4; P = 0,000) for this variable, indicating that a lack of technical skills are understood to affect the innovation process due to its detrimental effect on project management skills.

5.6.17 Lack of technical skill affects service delivery from leadership

Lack of technical skill affects service delivery from leadership

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	2.3	2.3	2.3
	Disagree	55	14.3	14.3	16.7
	Neutral	65	16.9	16.9	33.6
	Agree	155	40.4	40.4	74.0
	Strongly Agree	100	26.0	26.0	100.0
	Total	384	100.0	100.0	

Table 5-20 Lack of technical skill affects service delivery from leadership

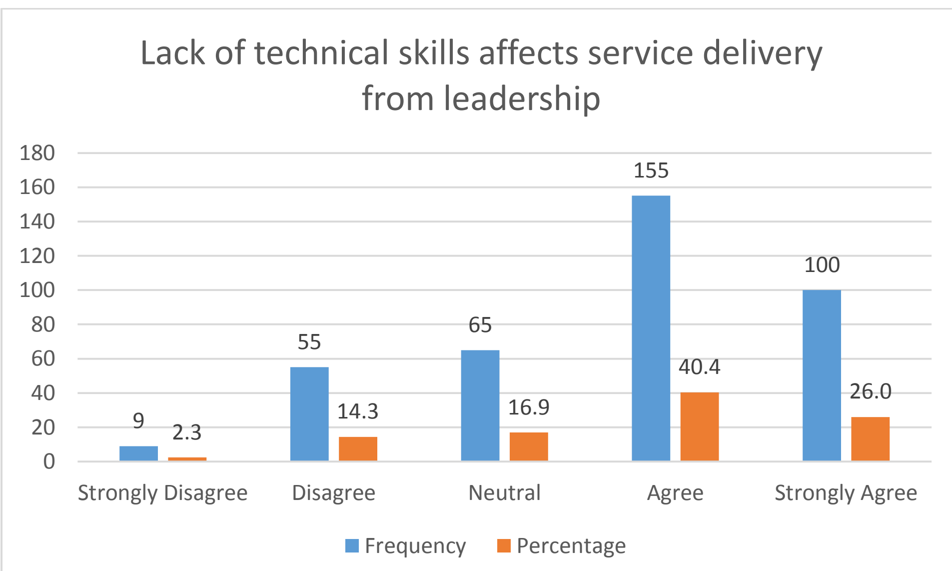


Figure 5-17 Lack of technical skill affects service delivery from leadership

As shown in table 5-20 and figure 5-17 a significant number of the respondents 155 (40.4%) agreed and 100 (26%) further strongly agreed that lack of technical skills affects service delivery from leadership. A smaller number of the respondents 65

(16.9%) were neutral, whilst 55 (14.3%) disagreed and only 9 (2.3%) strongly disagreed with the statement. A Chi-square test was conducted to determine whether a Lack of technical skills affects service delivery from leadership. The results show that (X^2 = 154.49; df = 4; P = 0,000) for this variable, indicating that a lack of technical skills is understood to affect the service delivery from expected from leadership.

Component matrix: Technical skill of innovative leadership in implementing innovation

Rotated Component Matrix[a]

B6	Component	
	1	2
A lack of technical skills will affect an entrepreneur's innovation strategies	0.132	0.788
A lack of technical skills will affect an entrepreneur's analytical skills	0.279	0.792
A lack of technical skills will affect the level of customer support an entrepreneur is able to provide	0.234	0.793
A lack of technical skills will affect an entrepreneur's ability to co-ordinate and manage critical business books	0.352	0.635
A lack of technical skill will affect the ability of an entrepreneur to communicate effectively	0.634	0.466
A limited knowledge on IT has impact on leadership abilities	0.802	0.093
Lack of technical skills affects the vision and mission of the business	0.793	0.317
Lack of technical skills affects Innovation process due to project management skills	0.668	0.259
Lack of technical skill affects service delivery from leadership	0.759	0.242

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

Table 5-21 Component matrix: The significance of technical skills of SME leadership in implementing innovation

These components are an additional statistical analysis of the above-mentioned figures (Figure 5.9 to 5.17). A component test was conducted on the technical skills of SME leadership in implementing innovation. The respondents have indicated to two categories of components, where a strong positive significance of 0.802 is shown on the statement on whether a limited knowledge on IT has an impact on leadership abilities and the other group recorded a score of 0.93. The other variable pertaining to whether a lack of technical skills affects the vision and mission of the business, a positive significance of 0.793 is shown while the other group recorded a score of 0.317.

Regarding the statement on whether lack of technical skills affects service delivery from leadership, a positive significance of 0.759 is shown on the first group, while the second group component shows 0.242. The above variables thus showed a very strong relationship, indicating that technical skills are necessary for innovative leadership in order for them to visualize, channel, coordinating and maintain innovation for the sustainability of manufacturing SMEs in KZN.

It must be indicated that the respondents had contrasting views on the following variable: on whether a lack of technical skills will affect an entrepreneur's innovation strategies; a lack of technical skills will affect the level of customer support an entrepreneur is able to provide; a lack of technical skills will affect an entrepreneur's analytical skills; and a lack of technical skills will affect an entrepreneur's ability to co-ordinate and manage critical business books. This means that the respondents had different view only on these variables.

THE FOLLOWING VARIABLES ARE ON ENTREPRENEURIAL CHARACTERISTICS THAT AFFECT INNOVATIVE LEADERSHIP OF MANUFACTURING SMEs.

5.6.18 Innovation is affected by the lengthy processes required by financial institutions

Innovation is affected by the lengthy processes required by financial institutions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	26	6.8	6.8	6.8
	Disagree	42	10.9	10.9	17.7
	Neutral	83	21.6	21.6	39.3
	Agree	123	32.0	32.0	71.4
	Strongly Agree	110	28.6	28.6	100.0
	Total	384	100.0	100.0	

Table 5-22 Innovation is affected by the lengthy processes required by financial institutions

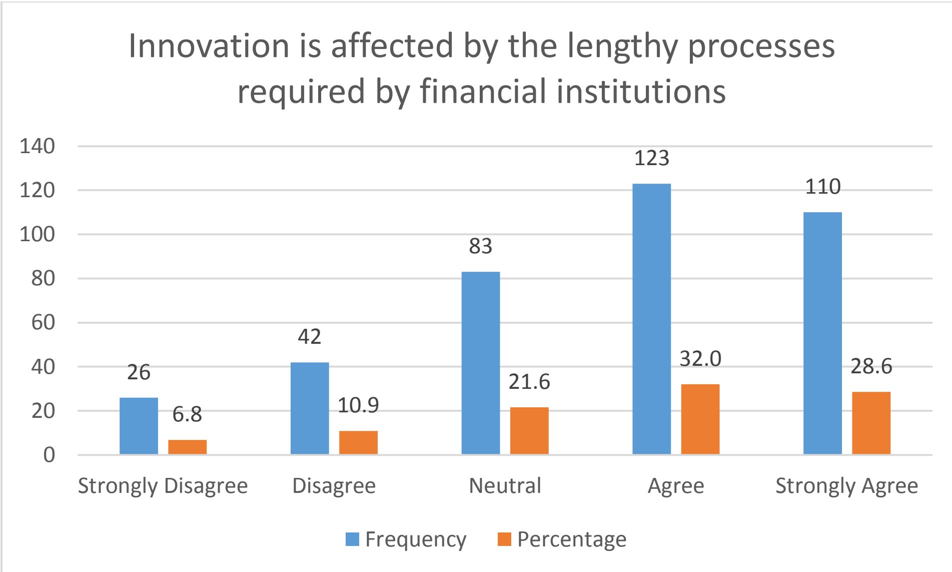


Figure 5-18 Innovation is affected by the lengthy processes required by financial institutions

As reflected in table 5.22 and figure 5.18 a moderate number of respondents 123 (32%) agree and 110 (28.6%) further strongly agreed that innovation is affected by the lengthy processes required by financial institutions. A considerable number of the respondents 83 (21.6%) were neutral, while 42 (10.9%) disagreed and only 26 (6.8%) strongly disagreed with the statement. A Chi-square test was conducted to determine whether innovation is affected by the lengthy processes required by financial institutions. The results show that (X^2 = 92.016; df = 4; P = 0,000) for this variable, indicating that innovation is indeed affected by the lengthy processes required by financial institutions. This is in agreement with Pillay, 2006: 35; Abor and Quartey, 2010: 225; Bernard, Stabilito and Yoo, 2010 that manufacturing SMEs' financial challenges obstruct and hinder their intentions to innovate and grow. These findings are also similar to those of Afande (2015); Eniola and Entebang (2015) and Albuquerque, Quirós and Justino (2017) who indicated that financial challenges affect the innovativeness and subsequent sustainable growth of manufacturing SMEs.

5.6.19 Innovation is affected by lack of government financial assistance

Innovation is affected by lack of government financial assistance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	25	6.5	6.5	6.5
	Disagree	62	16.1	16.1	22.7
	Neutral	52	13.5	13.5	36.2
	Agree	125	32.6	32.6	68.8
	Strongly Agree	120	31.3	31.3	100.0
	Total	384	100.0	100.0	

Table 5-23 Innovation is affected by lack of government financial assistance

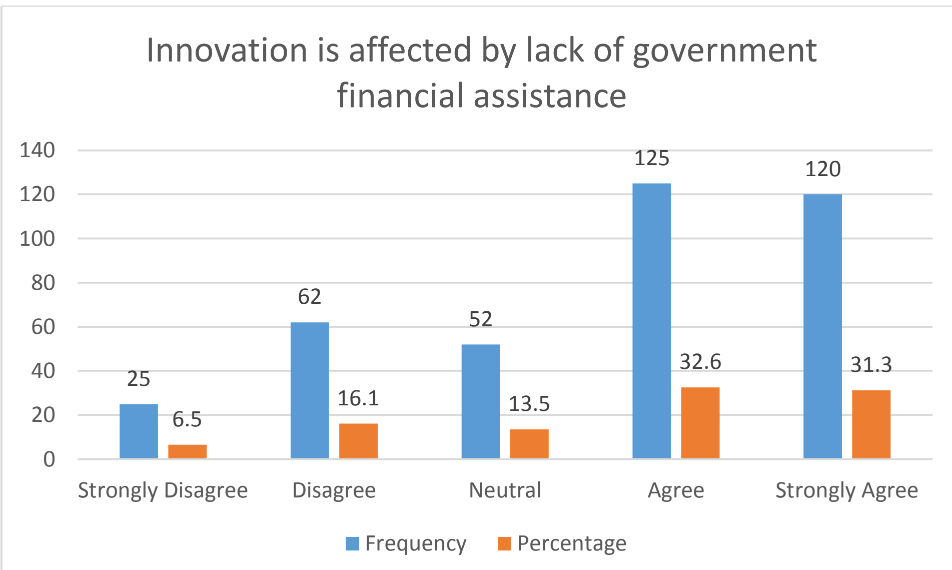


Figure 5-19 Innovation is affected by lack of government financial assistance

As shown in table 5-23 and figure 5-19 a moderate number of respondents 125 (32.6%) agreed and 120 (31.3%) further strongly agreed that innovation is affected by lack of government financial assistance. According to Smith, Pretorius, Kotecha, Menzies and Erwin (2019) the difficulties experienced by manufacturing SMEs in acquiring funding from the government or other financial institutions is often based simply on the entrepreneurs' lack of ability in preparing the relevant business documentation required by financial providers. Thus, the majority of the applications are rejected due to poor financial reporting skills and lack of experience amongst the firm owners. A smaller number of the respondents 62 (16.1%) disagreed with the statement while 52 (13.5%) were neutral and only 25 (6.5%) strongly disagreed. This result is supported by a Chi-square test that was conducted to determine if innovation is affected by the lack of government financial assistance. The results show that (X^2 = 100.349; df = 4; P = 0,000) for this variable, indicating that a lack of government financial assistance affects manufacturing SMEs' ability to be innovative and develop new technological advances.

5.6.20 Innovative leadership is affected by profits

Innovative leadership is affect by profits

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	20	5.2	5.2	5.2
	Disagree	61	15.9	16.0	21.2
	Neutral	88	22.9	23.0	44.2
	Agree	135	35.2	35.3	79.6
	Strongly Agree	78	20.3	20.4	100.0
	Total	382	99.5	100.0	
Missing	System	2	0.5		
Total		384	100.0		

Table 5-24 Innovative leadership is affected by profits

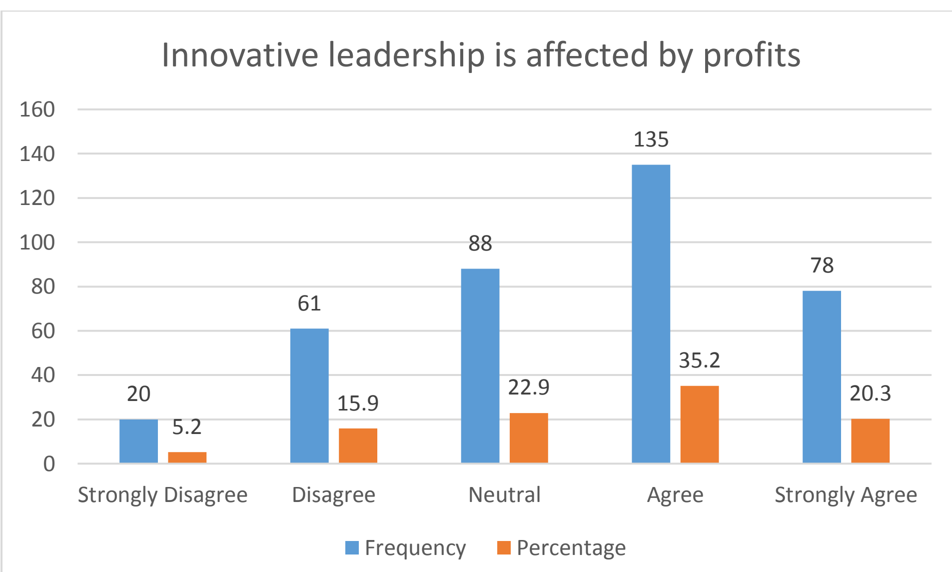


Figure 5-20 Innovative leadership is affected by profits

According to a study conducted by Minor, Brook and Bernoff (2017) on whether innovative companies are more profitable, the findings conclusively revealed that companies who are more innovative are more profitable. This means that in order for manufacturing SMEs to be profitable, they will have to invest in innovation. As shown in table 5-24 and figure 5-20 a moderate number of respondents 135 (35.2%) agreed and 78 (20.3%) further strongly agreed that profits affects the intention and level of innovation in the firm. A significant number of the respondents 88 (22.9%) were neutral while 61 (15.9%) disagreed and only 20 (5.2%) strongly disagreed. A Chi-square test was conducted to determine whether innovative leadership is affected by profits. The results show that (X^2= 91.482; df = 4; P = 0,000) for this variable, indicating that innovative leadership is affected by business profits.

5.6.21 Innovative leadership is affected by lack of educated employees

Innovative leadership is affected by lack of educated employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	24	6.3	6.3	6.3
	Disagree	47	12.2	12.2	18.5
	Neutral	77	20.1	20.1	38.5
	Agree	150	39.1	39.1	77.6
	Strongly Agree	86	22.4	22.4	100.0
	Total	384	100.0	100.0	

Table 5-25 Innovative leadership is affected by lack of educated employees

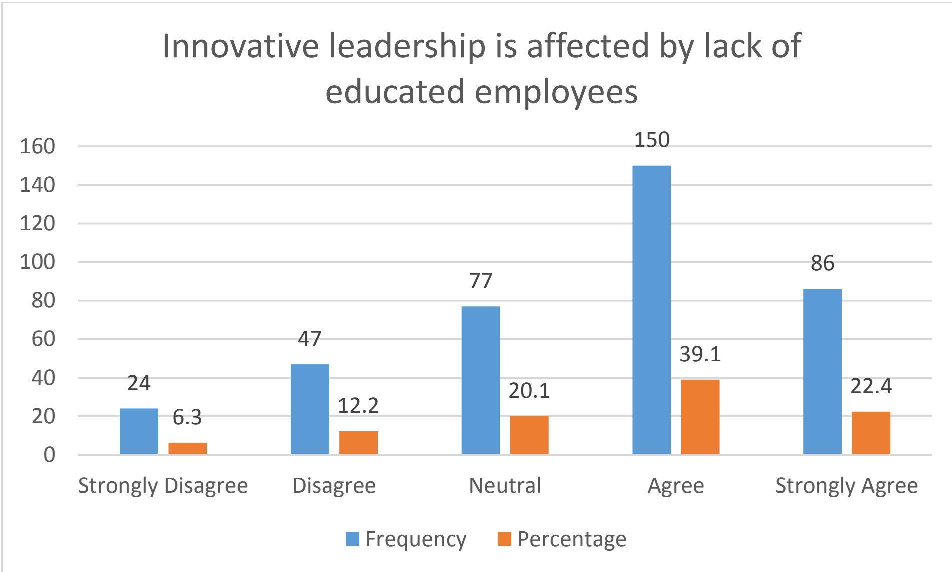


Figure 5-21 Innovative leadership is affected by lack of educated employees

As shown in table 5-25 and figure 5-21 a moderate number of respondents 150 (39.1%) agreed and 86 (22.4%) further strongly agreed that innovation is affected by lack of educated employees. A number of the respondents 77 (20.1%) were neutral about the statement, while 47 (12.2%) disagreed and only 24 (6.3%) strongly disagreed with the statement. This means that around 60% of the respondents viewed an educated workforce as instrumental in innovation. These findings are supported by Leiponen (2005); Toner (2011) and McGuirk, Lenihan and Hart (2015) who found that educated and knowledgeable employees are an enabling factor in innovation since the level of innovation is incremental and usually gives direction in terms of the firm's future, role, adaption, diffusion of technical expertise and company change. This agrees with findings of the OECD (2018: 20) where successful entrepreneurship, innovation and business growth was found to be dependent on the expanded skillsets of educated employees. SME South Africa (2017) argues that manufacturing SMEs will battle to reach innovative growth without educated and skilled employees. However, acquiring and retaining educated and qualified employees with high level skills might prove to be a challenge to manufacturing SMEs due to financial constraints (OECD, 2013). A Chi-square test was further conducted to determine whether lack of educated employees had a significant impact on business innovation. The results show that (X^2= 118.734; df = 4; P = 0,000) for this variable, indicating that having uneducated employees affects the level of innovation the firm is able to achieve. Therefore, it can be agreed that having educated and knowledgeable employees serves as an important asset for a firm's sustainability.

5.6.22 Innovation is affected by failure to adopt up-to-date ICT support within the business

Innovation is affected by failure to adopt up-to-date ICT support within the business

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	8	2.1	2.1	2.1
	Disagree	39	10.2	10.2	12.3
	Neutral	92	24.0	24.1	36.4
	Agree	171	44.5	44.8	81.2
	Strongly Agree	72	18.8	18.8	100.0
	Total	382	99.5	100.0	
Missing	System	2	0.5		
Total		384	100.0		

Table 5-26 Innovation is affected by lack of failure to adopt up-to-date ICT support within the business

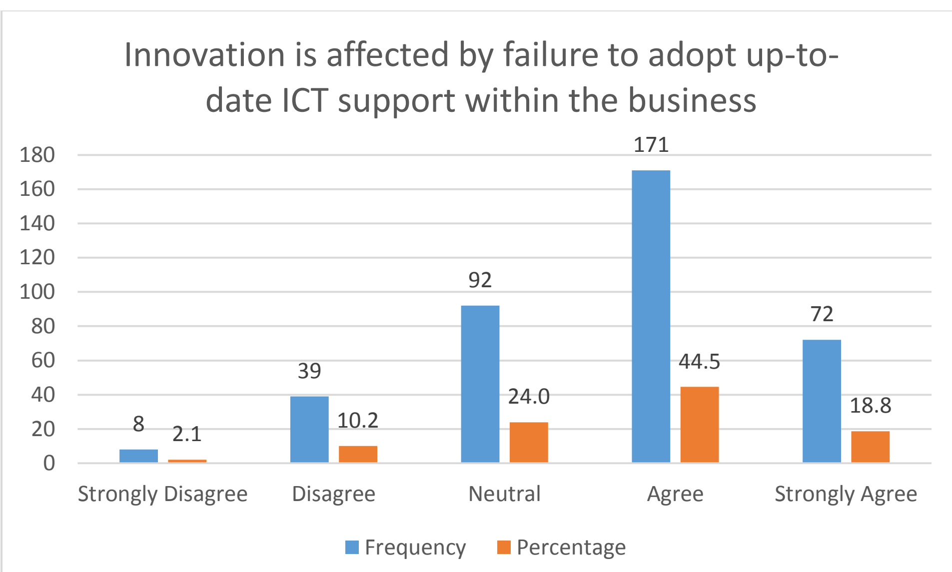


Figure 5-22 Innovation is affected by failure to adopt up-to-date ICT support within the business

As shown in Table 5-26 and figure 5-22 a significant number of the respondents (171 or 44.5%) agreed and 72 (18.8%) strongly agreed that innovation is affected by failure to adopt up-to-date ICT support within the business. A number of the respondents 92 (24%) were neutral, while 39 (10.2%) disagreed and only 8 (2.1%) strongly disagreed with the statement. These findings evidently signal that ICT adoption is considered by many SME leaders as an essential component of innovation. According to studies conducted by Comin and Hobijn (2008); Moghavvemi, Hakimian and Feissal (2012: 35); Rahab and Hartono (2012: 60) and Al Bakri (2017) up-to-date ICT adoption is a critical factor in innovation and a requirement for gaining competitive advantage and most importantly, for improving and promoting business efficiency. To determine the impact of ICT adoption towards innovation, a Chi-square test was conducted. The results show that (X^2= 200.12; df = 4; P = 0,000) for this variable, indicating that innovation is affected by the inability of manufacturing SMEs to acquire and maintain technological advances. Kozma (2005: 730); Dia, Franco and Pereira (2012: 24) and OECD (2018) argue that one of the primary barriers to adopting technological advances is lack of ICT skills, experience and resources required to use ICTs in the firm. This means that, in reference to the literature and the empirical findings of the study, ICT adoption is seen as a fundamental tool in acquiring business innovation.

5.6.23 Innovative leadership is affected by ICT implementation costs

Innovative leadership is affected by ICT implementation costs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	2.3	2.3	2.3
	Disagree	36	9.4	9.4	11.7
	Neutral	102	26.6	26.6	38.3
	Agree	163	42.4	42.4	80.7
	Strongly Agree	74	19.3	19.3	100.0
	Total	384	100.0	100.0	

Table 5-27 Innovative leadership is affected by ICT implementation costs

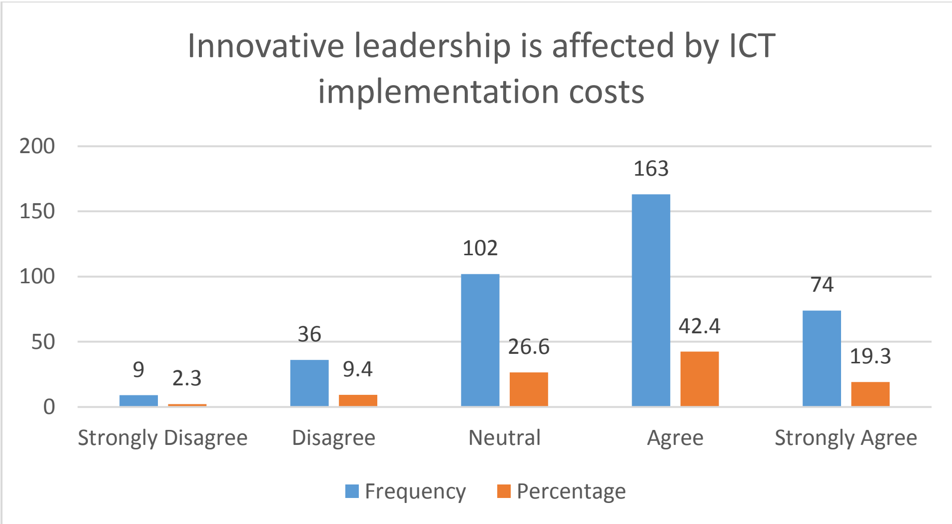


Figure 5-23 Innovative leadership is affected by ICT implementation costs

As shown in table 5-27 and figure 5-23 a significant number of the responses (163 or 42.4%) agreed and 74 (19.3%) further strongly agreed that innovative leadership is affected by ICT implementation costs. A considerable number of the respondents 102 (26.6%) were neutral, while 36 (9.4%) disagreed and 9 (2.3%) strongly disagreed with the statement. A Chi-square test was further conducted to determine whether innovative leadership is affected by ICT implementation costs. The results show that (X^2= 186.651; df = 4; P = 0,000) for this variable, indicating that the implementation costs of ICT negatively influence the adoption of ICT and can be considered as a critical hindrance in achieving technological innovation in manufacturing SMEs. This is further supported in a study conducted in both Ghana and Botswana by Asare, Gopoang and Mogotlhwane (2012: 284) which found that even though ICT usage provides a variety of benefits, the high cost of ICT facilities and high cost of usage of ICT facilities is a serious barrier to SMEs. Ghobakhloo, Sabouri, Hong, and Zulkifli (2011: 70) argue that government needs to assist by considering precisely what is needed to support ICT adoption in manufacturing SMEs and to provide the necessary assistance.

Component matrix: entrepreneurial characteristics that affects innovative leadership of manufacturing SMEs

Component Matrix[a]

B7	Component 1
Innovation is affected by the lengthy processes required by financial institutions	0.713
Innovation is affected by lack of government financial assistance	0.751
Innovative leadership is affect by profits	0.743
Innovative leadership is affected by lack of educated employees	0.682
Innovation is affected by lack of failure to adopt up-to-date ICT support within the business	0.789
Innovative leadership is affected by ICT implementation costs	0.807

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Table 5-28 Component matrix: entrepreneurial characteristics that affects innovative leadership of manufacturing SMEs

These components are an additional statistical analysis of the above-mentioned figures (Figure 5-18 to 5-23). A component test was conducted on the entrepreneurial characteristics that affect innovative leadership of manufacturing SMEs. The respondents have responded to one category of component, where a strong positive significance of 0.807 is shown on the statement as to whether innovative leadership is affected by ICT implementation costs. A figure of 0.789 is reflected for respondents who indicated that manufacturing SMEs' innovation is affected by failure to adopt up-to-date ICTs. On the variable regarding government financial assistance, the component test shows a positive significant of 0.751, indicating that the respondents believed that with government financial assistance manufacturing SMEs will be more innovative and most importantly be able to obtain sustainable growth which will benefit South African economy. The other variables on whether innovative leadership is affected by profits and by the lengthy processes required by financial institutions showed 0.743 and 0.713 respectively. Therefore, the above tested variable showed a very strong significance on entrepreneurial characteristics that affects innovative leadership of manufacturing SMEs.

THE FOLLOWING SECTION IS BASED ON GOVERNMENT SUPPORT MECHANISMS FOR INNOVATIVE LEADERSHIP.

5.6.24 Lack of technical skills workshops or training provided by government institutes affects innovative leadership abilities

Lack of technical skills workshops or training provided by the government institutes affects innovative leadership abilities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	13	3.4	3.4	3.4
	Disagree	37	9.6	9.6	13.0
	Neutral	72	18.8	18.8	31.8
	Agree	170	44.3	44.3	76.0
	Strongly Agree	92	24.0	24.0	100.0
	Total	384	100.0	100.0	

Table 5-29 Lack of technical skills workshops or training provided by government institutes affects innovative leadership abilities

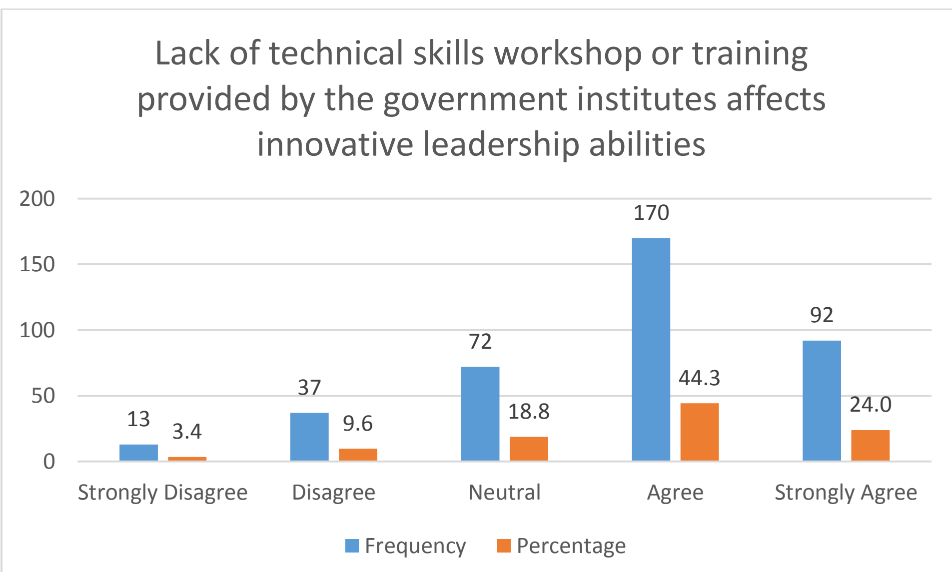


Figure 5-24 Lack of technical skills workshops or training provided by the government institutes affects innovative leadership abilities

Table 5-29 and figure 5-24 shows that a moderate number of the respondents 170 (44.3%) agreed and 92 (24%) further strongly agreed that lack of technical skills workshop or training provided by the government institutes affects innovative leadership abilities. A smaller, but significant, number of the respondents were neutral 102 (26.6%), indicating that the respondents may have not heard or attended these workshops and have no prior experience. Only 36 (9.4%) and 9 (2.3%) of the respondents disagreeing and strongly disagreeing with the statement respectively. These findings are supported by a Chi-square test conducted to ascertain whether lack of technical skills workshops or training provided by the government institutes affects innovative leadership abilities. The results indicate that (X^2 =190.036; df = 4; P = 0,000) for this variable, signalling that government inability to provide technical workshops and training was seen to affect innovative leadership performance.

5.6.25 Innovative leadership is affected by lack of financial support from the government

Innovative leadership is affected by lack of financial support from the government

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	15	3.9	3.9	3.9
	Disagree	52	13.5	13.6	17.5
	Neutral	72	18.8	18.8	36.3
	Agree	158	41.1	41.3	77.5
	Strongly Agree	86	22.4	22.5	100.0
	Total	383	99.7	100.0	
Missing	System	1	0.3		
Total		384	100.0		

Table 5-30 Innovative leadership is affected by lack of financial support from the government

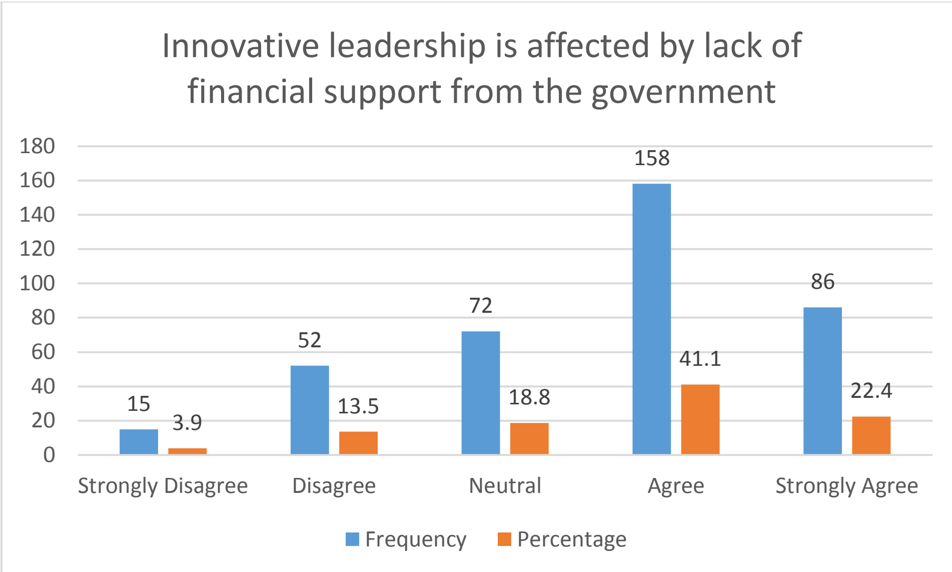


Figure 5-25 Innovative leadership is affected by lack of financial support from the government

Table 5-30 and figure 5-25 shows that a moderate number of the respondents 158 (41.1%) agreed and 86 (22.4%) further strongly agreed that innovative leadership is affected by lack of financial support from the government. Fewer respondents were neutral 72 (18.8%), while only 52 (13.5%) and 15 (3.9%) disagreed and strongly disagreed with the statement respectively. A Chi-square test to ascertain whether innovative leadership is affected by lack of financial support from the government was further conducted. The results indicate that (X^2 =145.368; df = 4; P = 0,000) for this variable, signalling that government's lack of financial support for manufacturing SMEs had a significant impact on innovative leadership's ability to improve their businesses' competitive edge and provide for the growth of the firm.

5.6.26 Innovation is affected by lack of support from government incubators

Innovation is affected by lack of support from government incubators

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	13	3.4	3.4	3.4
	Disagree	52	13.5	13.6	17.0
	Neutral	76	19.8	19.9	36.9
	Agree	159	41.4	41.6	78.5
	Strongly Agree	82	21.4	21.5	100.0
	Total	382	99.5	100.0	
Missing	System	2	0.5		
Total		384	100.0		

Table 5-31 Innovation is affected by lack of support from government incubators

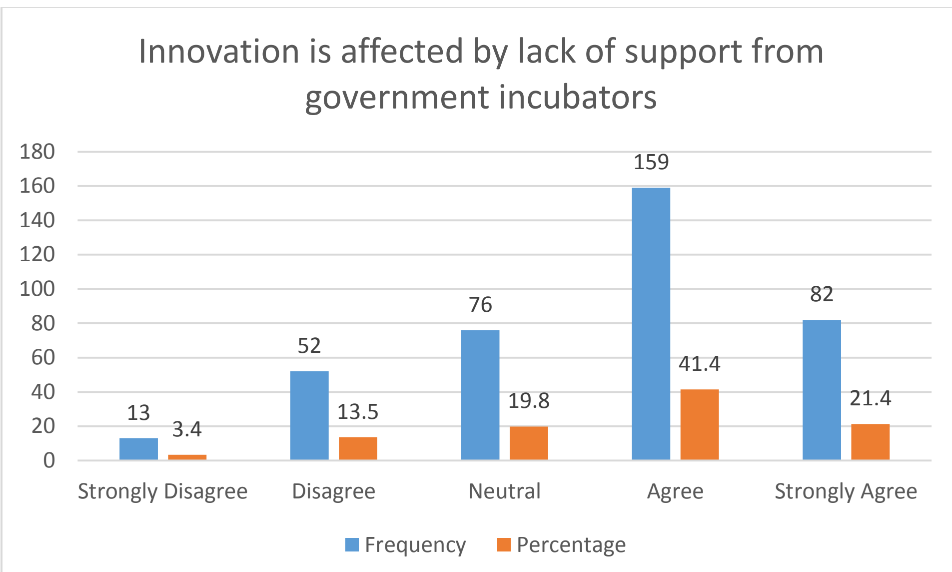


Figure 5-26 Innovation is affected by lack of support from government incubators

Table 5-31 and figure 5-26 show that a moderate number of the respondents 159 (41.4%) agreed and 82 (21.4%) further strongly agreed that innovation is affected by lack of support from government incubators. A noticeable number of 76 (19.8%) of the respondents were neutral, while only 52 (13.5%) disagreed and 13 (3.4%) strongly disagreed with the statement. A Chi-square test to ascertain whether innovative leadership is affected by lack of support from government incubators was further conducted. The results indicate that (X^2 =109.724; df = 4; P = 0,000) for this variable, signalling that innovation is understood to be hampered by lack of support from Government incubators' financial and other support mechanisms. This also indicates that government incubators are not living up to their promises, which were to develop, promote and support entrepreneurs, innovators and new and existing businesses and to reduce the chances of failure of new businesses (Crampton 2018). This is also supported by the Business Environment Specialist (2009) report which indicated that the established government support agencies initiatives to develop, support, and improve small business is not clear while the numbers of small businesses which fail keeps on increasing. A Seda (2012) report also highlighted that government incubators face deficiencies and problematic factors which limit their relevance, productivity and success in providing support.

5.6.27 Innovation is affected by lack of ICT support from the government

Innovation is affected by lack of ICT support from the government

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	16	4.2	4.2	4.2
	Disagree	47	12.2	12.2	16.4
	Neutral	106	27.6	27.6	44.0
	Agree	131	34.1	34.1	78.1
	Strongly Agree	84	21.9	21.9	100.0
	Total	384	100.0	100.0	

Table 5-32 Innovation is affected by lack of ICT support from the government

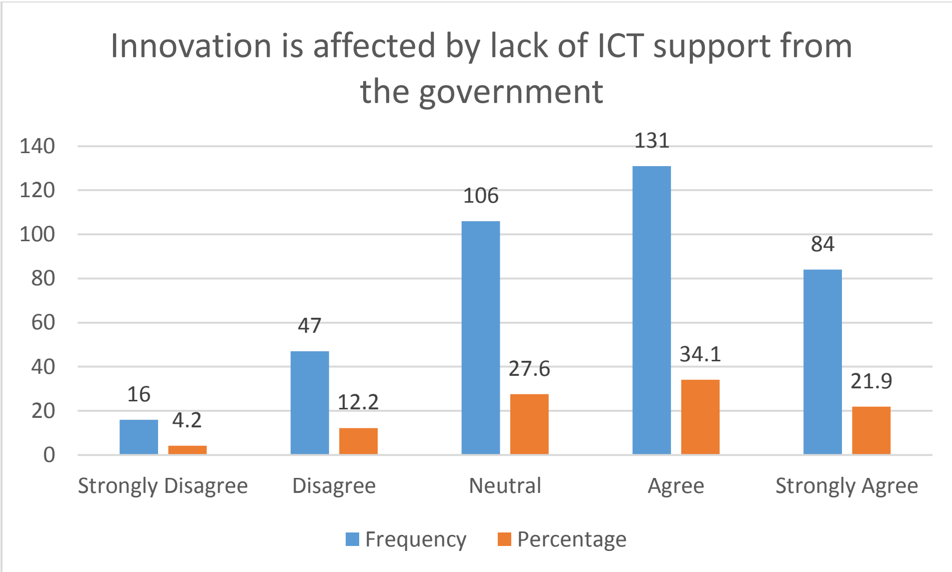


Figure 5-27 Innovation is affected by lack of ICT support from the government

As shown in table 5-32 and figure 5-27 a moderate number of the respondents 131 (34.1%) agreed and 84 (21.9%) further strongly agreed that innovation is affected by lack of ICT support from the government. A considerable number of the respondents 106 (27.6%) were neutral to the statement. This indicates that some respondents felt that the government is not solely responsible for ICT support but an internal drive for ICT adoption and support should be established within the firm. Only 47 (12.2%) and 16 (4.2%) disagreed and strongly disagreed with the statement respectively. A Chi-square test to ascertain whether innovative leadership is affected by lack of ICT support from the government was further conducted. The results indicate that (X^2 =124.324; df = 4; P = 0,000) for this variable, signalling that there is a need for the government to assist manufacturing SMEs with technological advancement adoption and other ICT assistance that can help boost the firms' business innovation and performance. This is an urgent need as the issue of manufacturing SMEs inability to adopt ICTs has had a detrimental impact on business innovation and sustainable growth.

Component matrix: Government support mechanisms for innovative leadership

Component Matrix[a]

B8	Component 1
Lack of technical skills workshops or training provided by the government institutes affects innovative leadership abilities	0.870
Innovative leadership is affected by lack of financial support from the government	0.900
Innovation is affected by lack of support from government incubators	0.915
Innovation is affected by lack of ICT support from the government	0.857

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Table 5-33 Component matrix: Government support mechanisms for innovative leadership

These components are drawn from additional statistical analysis of the figures discussed above (Figures 5-24 to 5-27) – that is, on the government support mechanisms' influence on innovative leadership. The respondents have indicated to one category of component, where a strong positive significance of 0.915 was shown on the statement as to whether innovation is affected by lack of support from government incubators. On the variable on whether innovative leadership is affected by lack of financial support from the government, a positive significance of 0.900 is shown, while the other variables on lack of technical skills workshops or training provided by the government institutes affects innovative leadership abilities and innovation is affected by lack of ICT support from the government showed a figure of 0.857 and 0.870 respectively. This means that all variables tested revealed a very strong significance as to government support mechanisms.

THE FOLLOWING SECTION IS BASED ON THE INTERNAL ENVIRONMENTAL BARRIERS THAT AFFECT INNOVATIVE LEADERSHIP TOWARDS SUSTAINABLE GROWTH OF SMES

5.6.28 Innovation is affected by an appropriate mission statement which entrepreneurs keep to

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	30	7.8	7.8	7.8
	Disagree	63	16.4	16.4	24.2
	Neutral	94	24.5	24.5	48.7
	Agree	122	31.8	31.8	80.5
	Strongly Agree	75	19.5	19.5	100.0
	Total	384	100.0	100.0	

Innovation is affected by an appropriate mission statement which entrepreneurs keep to

Table 5-34 Innovation is affected by an appropriate mission statement which entrepreneurs keep to

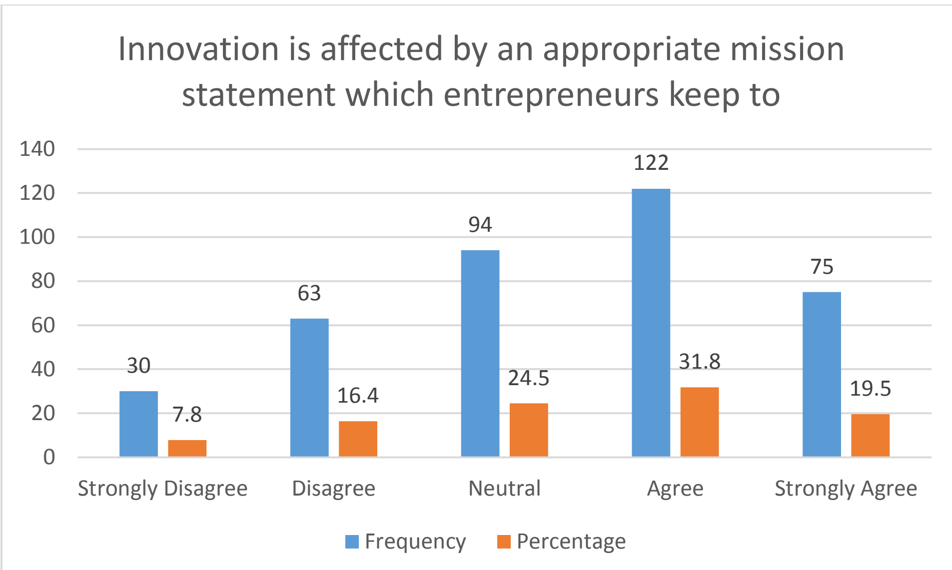


Figure 5-28 Innovation is affected by an appropriate mission statement which entrepreneurs keep to

As shown in table 5-34 and figure 5-28 a moderate number of the respondents, 122 (31.8%) agreed and 75 (19.5%) further strongly agreed that innovation is affected by an appropriate mission statement which entrepreneurs keep to. A considerable number of the respondents 94 (24.5%) were neutral, whilst only 63 (16.4%) disagreed and a further 30 (7.8%) strongly disagreeing with the statement. These findings reveal that a mission statement is not a critical factor in implementing and acquiring innovation. These findings are supported by studies conducted by Dermol (2012: 334); Mosoma (2014: 99); Taiwo, Lawal and Agwu (2016: 12) which asserts that a firms' mission statement influences the objectives of the firm and guides business performance.

Mosoma (2014: 99) and Zhang, Garrett and Liang (2015:157) cautions that mission statements must be improved continuously to meet and address the needs of the market and promote higher performance indicator at both the employees and firm levels.

5.6.29 Innovative leadership is affected by lack of support from shareholders and/ or boards of directors

Innovative leadership is affected by lack of support from shareholders and or board of directors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	10	2.6	2.6	2.6
	Disagree	33	8.6	8.6	11.2
	Neutral	66	17.2	17.2	28.5
	Agree	153	39.8	39.9	68.4
	Strongly Agree	121	31.5	31.6	100.0
	Total	383	99.7	100.0	
Missing	System	1	0.3		
Total		384	100.0		

Table 5-35 Innovative leadership is affected by lack of support from shareholders and or board of directors

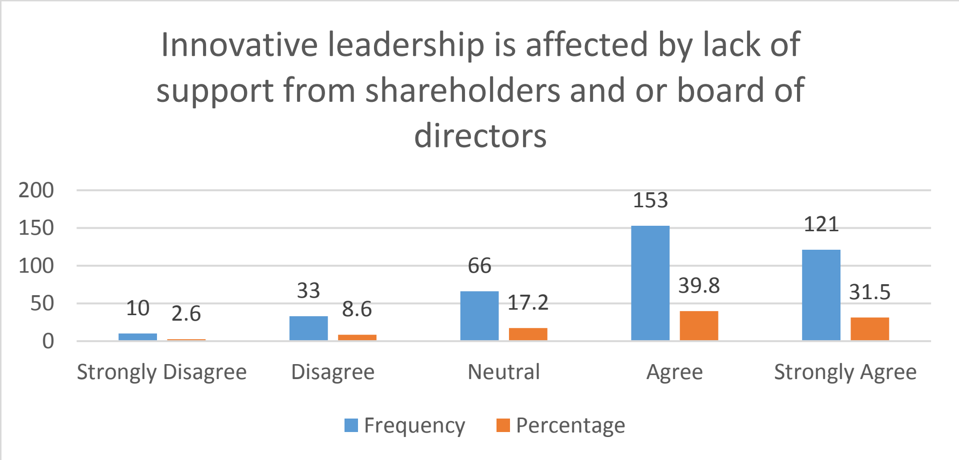


Figure 5-29 Innovative leadership is affected by lack of support from shareholders and or boards of directors

As depicted in table 5-35 and figure 5-29 a moderate number of the respondents 153 (38.9%) agreed and 121 (31.5%) further strongly agreed that innovative leadership is affected by lack of support from shareholders and/ or board of directors. These findings are supported by a Chi-square test conducted to ascertain whether innovative leadership is affected by lack of support from shareholders and or board of directors. The results indicate that (X^2 =186.125; df = 4; P = 0,000) for this variable, signalling that innovative leadership is affected by lack of support from shareholders and or board of directors. A number of the respondents 66 (17.2%) were neutral, whilst only 33 (8.6%) disagreed with 10 (2.6%) strongly disagreeing with the statement. Even though innovation is key to business transformation and achieving a competitive edge, it is costly to implement and requires capital or financing (Gombarume 2014; Ombongi and Long 2018: 43). Therefore, it can be considered that, while the costs incurred during business innovation may be high, shareholders and boards of directors may have limited funds to invest or they may lack the vision to understand the importance of innovation.

5.6.30 Innovative leadership is affected by lack of support from employees

Innovative leadership is affected by lack of support from employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	10	2.6	2.6	2.6
	Disagree	50	13.0	13.1	15.7
	Neutral	72	18.8	18.8	34.5
	Agree	152	39.6	39.7	74.2
	Strongly Agree	99	25.8	25.8	100.0
	Total	383	99.7	100.0	
Missing	System	1	0.3		
Total		384	100.0		

Table 5-36 Innovative leadership is affected by lack of support from employees

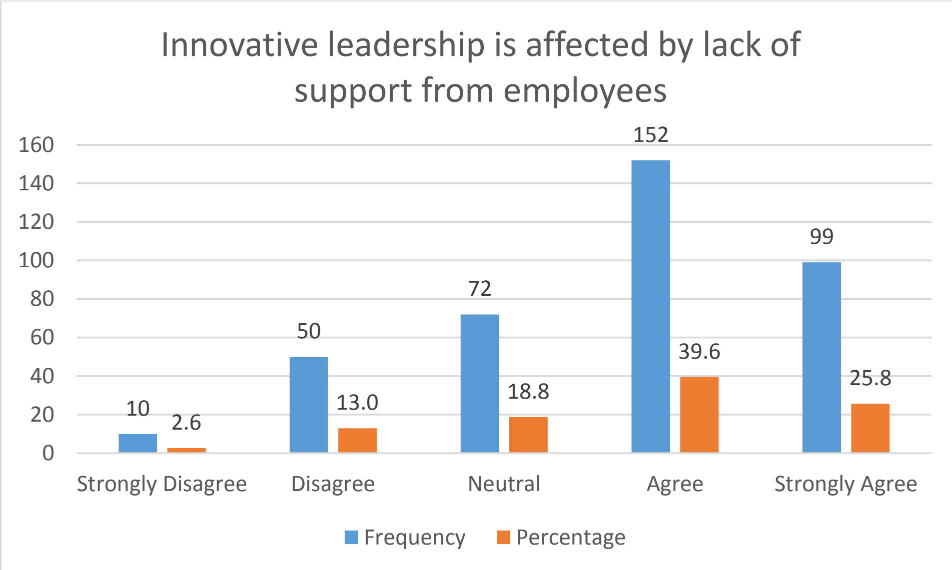


Figure 5-30 Innovative leadership is affected by lack of support from employees

As depicted in table 5-36 and figure 5-30 a moderate number of respondents, 152 (39.6%) agreed and 99 (25.8%) further strongly agreed that innovative leadership is affected by lack of support from employees. These findings are supported by a Chi-square test conducted to ascertain whether innovative leadership is affected by lack of support from employees. The results indicate that (X^2 =148.188; df = 4; P = 0,000) for this variable, reflecting that innovative leadership is affected by lack of support from employees. A smaller number of the respondents 72 (18.8%) were neutral, while only 50 (13%) and 10 (2.6%) were in disagreement with the statement. According to Sieczka (2011) this is due to resistance to new ideas and change, and more often than not, employees are comfortable in routine work. Forbes Coaches Council (2017) concurs and further finds that employees often struggle to integrate the changes into their day-to-day processes which may be caused by a lack of communication and trust in leadership.

5.6.31 Innovative leadership is affected by capital and business performance

Innovative leadership is affected by capital and business performance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	1.3	1.3	1.3
	Disagree	38	9.9	9.9	11.2
	Neutral	50	13.0	13.0	24.2
	Agree	181	47.1	47.1	71.4
	Strongly Agree	110	28.6	28.6	100.0
	Total	384	100.0	100.0	

Table 5-37 Innovative leadership is affected by capital and business performance

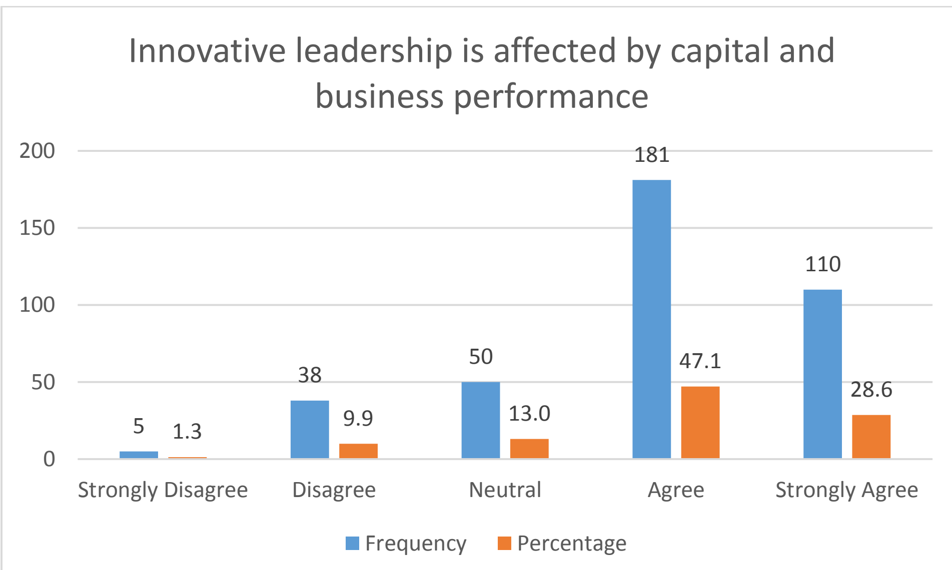


Figure 5-31 Innovative leadership is affected by capital and business performance

According to Herstatt, Buse, Tiwari and Umland (2007) SMEs often find themselves confronted with a number of barriers to innovation such as resource constraints, which hinder their capacity to invent, and successfully commercialize, new products, services or processes. The issue of a lack of capital in SMEs has long been documented as one of the greatest hindrances holding back growth and sustainability of SMEs across the globe (Naidoo and Urban, 2010: 234; Ghobakhloo, Hong, Sabouri and Zulkifli, 2012; Beynon, Jones, Pickernell and Packham, 2014: 85; Woldie, Laurence and Thomas, 2018: 40). As depicted in table 5-37 and figure 5-31 more than half of the respondents

181 (47.1%) and 110 (28.6%) agreed and strongly agreed that innovative leadership is affected by capital and business performance. A smaller number of the respondents 50 (13%) were neutral to the statement, whilst only 38 (9.9%) disagreed and a further 5 (1.3%) strongly disagreeing with the statement. These findings clearly show that capital is undoubtedly a need that instigates and promotes innovation of manufacturing SMEs. These findings are supported by a Chi-square test conducted to ascertain whether innovative leadership is affected by capital and business performance. The results indicate that (X^2 =251.807; df = 4; P = 0,000) for this variable, reflecting that capital and business performance have a major influence on leadership's ability to be innovative.

5.6.32 Innovation is affected by limited/shortage of space

Innovation is affected by limited/shortage of space

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	24	6.3	6.3	6.3
	Disagree	94	24.5	24.5	30.8
	Neutral	106	27.6	27.7	58.5
	Agree	92	24.0	24.0	82.5
	Strongly Agree	67	17.4	17.5	100.0
	Total	383	99.7	100.0	
Missing	System	1	0.3		
Total		384	100.0		

Table 5-38 Innovation is affected by limited/shortage of space

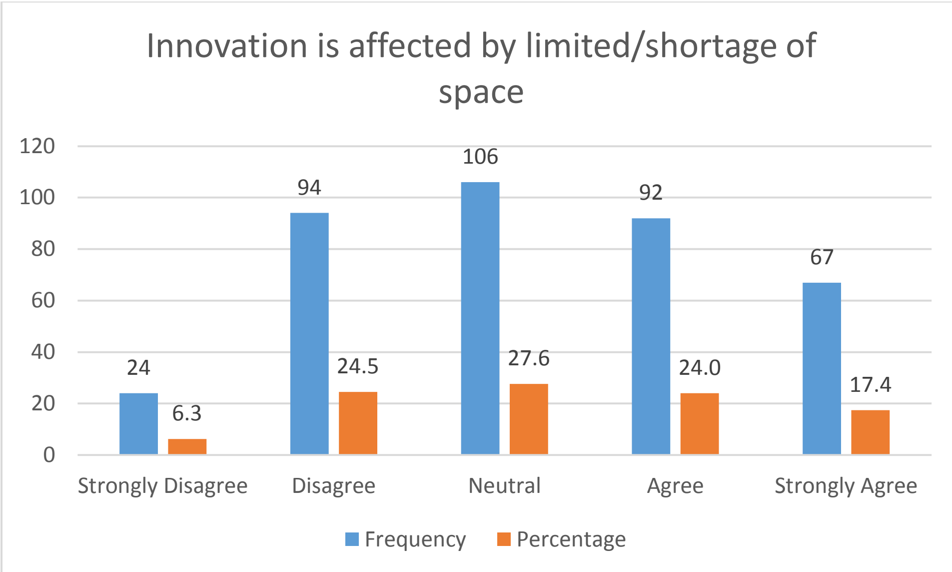


Figure 5-32 Innovation is affected by limited/shortage of space

As depicted in table 5-38 and figure 5-32 a considerable number of the respondents 106 (27.6%) and 94 (24.5%) were neutral and disagreed respectively as to whether shortage of space affected their ability to innovate. On the other hand, a similar number of respondents (92 or 24%) and 67 (17.4%) agreed or strongly agreed that they find limited spaces for business innovation and expansion a hindrance to innovation.

Although the respondents had contrasting views about this statement, the literature is clear that a considerable proportion of SMEs have been subjected to losses in recent years owing to shortage of space for production and difficulties in finding premises conducive to manufacturing (National Credit Regulator Report, 2011: 36; Lee, 2014; Charman, 2017: 01; and Kanali, 2018). This, as asserted by Glackin (2016) could have serious repercussions for innovation and sustainable growth of manufacturing SMEs. Therefore, it can be agreed to some extent that due to the different sectors in which manufacturing SMEs operate, some businesses might not need bigger premises because of the nature of the business they are operating.

Component matrix: Internal environmental barriers that affect innovative leadership towards sustainable growth of manufacturing SMEs

Component Matrix[a]

B9 - Internal	Component 1
Innovative leadership is affected by a shortage of available educated employees	0.601
Innovation is affected by an appropriate mission statement which entrepreneurs keep to	0.614
Innovative leadership is affected by lack of support from shareholders and or board of directors	0.670
Innovative leadership is affected by lack of support from employees	0.744
Innovative leadership is affected by capital and business performance	0.724
Innovation is affected by limited/shortage of space	0.690

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Table 5-39 Component matrix: Internal environmental barriers that affect innovative leadership towards sustainable growth of manufacturing SMEs

An additional statistical analysis was done for the above-mentioned figures (Figures 5-28 to 5-32). A component test was conducted on the statement regarding internal environmental barriers that affect innovative leadership from achieving sustainable growth within manufacturing SMEs. The respondents have indicated to only one category of component, with all the components tested reflecting a positive significance. On the statement on whether innovative leadership is affected by lack of support from employees, a positive significance of 0.744 is shown. This means that the respondents felt that innovation is halted by lack of support from employees. Another variable on whether innovative leadership is affected by capital and business performance, a positive significance of 0.724 is shown. With regards to innovation being affected by limited/shortage of space, respondents were not uniformly in agreement as reflected by a significance of 0.690. This might be a result of industry specifics where other firms see no need for enlarged premises for their businesses, whereas other businesses need large spaces due to machines and quantity of items or goods being produced.

Based on the component test, it is clear that all variables tested had a positive significance.

THE FOLLOWING SECTION IS BASED ON THE EXTERNAL ENVIRONMENTAL BARRIERS THAT AFFECT INNOVATIVE LEADERSHIP TOWARDS SUSTAINABLE GROWTH OF SMES.

5.6.33 Innovative leadership is affected by supplier costs

Innovative leadership is affected by supplier costs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	22	5.7	5.7	5.7
	Disagree	71	18.5	18.5	24.2
	Neutral	87	22.7	22.7	46.9
	Agree	133	34.6	34.6	81.5
	Strongly Agree	71	18.5	18.5	100.0
	Total	384	100.0	100.0	

Table 5-40 Innovative leadership is affected by supplier costs

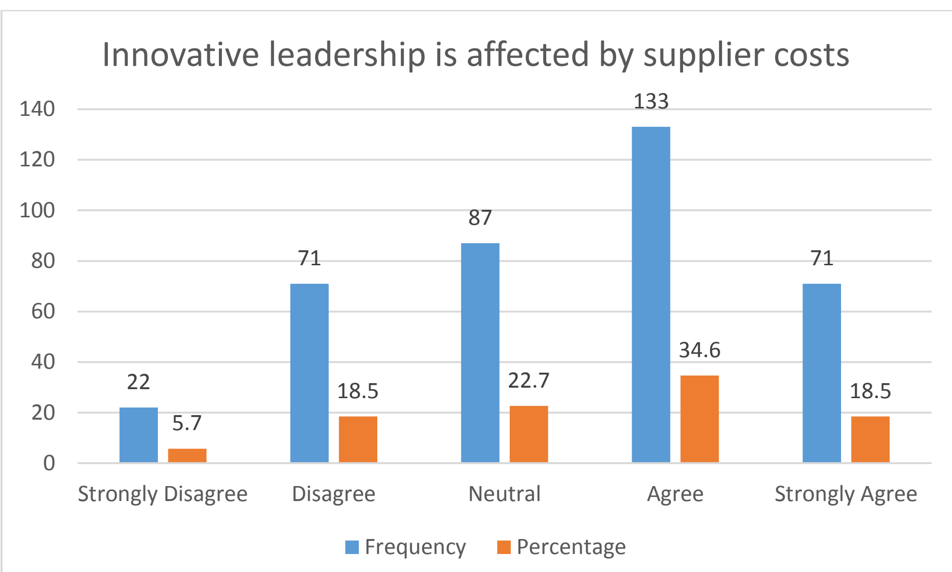


Figure 5-33 Innovative leadership is affected by supplier costs

As depicted in table 5-40 and figure 5-33 more than half of the respondents 133 (34.6%) and 71(18.5) agreed and strongly agreed that innovative leadership is affected by supplier costs. A considerable number of respondents 87 (22.7%) were neutral about the statement, whilst 71 (18.5%) and 22 (5.7%) disagreed and strongly disagreed respectively with the statement. These findings are supported by studies conducted by Meqdadi, Johnsen and Johnsen (2012) and Sherman (2018) in that supplier cost have a direct impact on innovation and achieving sustainability. This is due to the fact that supplier components can significantly influence the quality of the product (Reiss, 2010). Therefore, innovative leadership need to find strategic ways to keep their supplier costs at a reasonable price, for instance, engaging in a long-term fixed contract with a supplier shows a strong level of trust and commitment in using that supplier. As a result, an entrepreneur may be able to negotiate reasonable material prices. Furthermore, buying in bulk has been proven to be much cheaper.

5.6.34 Innovative leadership is affected by marketing intermediaries

Innovative leadership is affected by marketing intermediaries

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	20	5.2	5.2	5.2
	Disagree	68	17.7	17.7	22.9
	Neutral	107	27.9	27.9	50.8
	Agree	141	36.7	36.7	87.5
	Strongly Agree	48	12.5	12.5	100.0
	Total	384	100.0	100.0	

Table 5-41 Innovative leadership is affected by marketing intermediaries

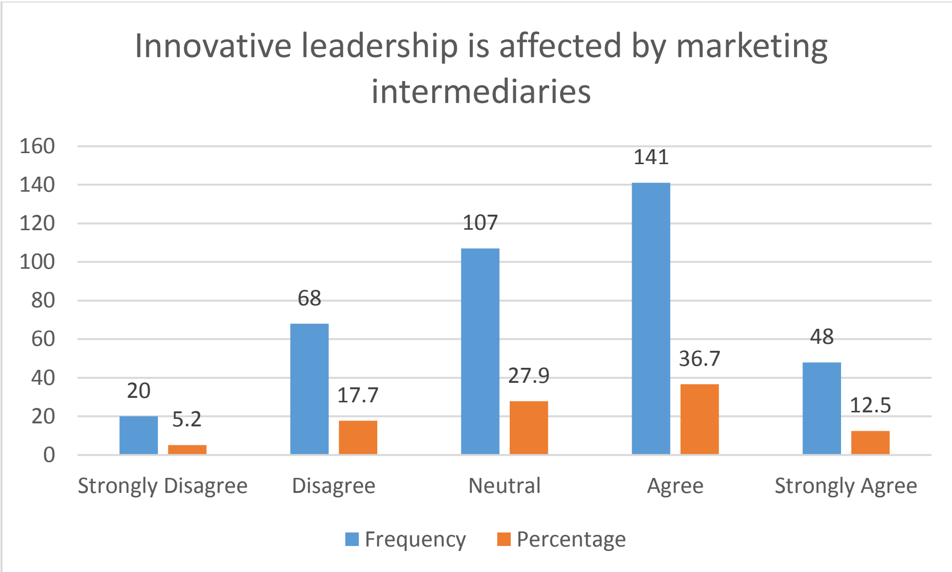


Figure 5-34 Innovative leadership is affected by marketing intermediaries

As depicted in table 5-41 and figure 5-34 a moderate number of the respondents 141 (36.7%) agreed that innovative leadership is affected by marketing intermediaries. A considerable number of the respondents 107 (27.9%) were neutral about the statement and 68 (17.7%) disagreed, whilst 48 (12.5%) strongly agreed with only 20 (5.2%) strongly disagreeing to the statement. In view of these findings, as discussed on page 75, Weedmark (2018) also revealed that marketing intermediaries affect innovative leadership as they play a role in streamlining a manufacturer's process and ensure customer demand. They further improve the functioning of markets, add value to products, and, simply by providing information, potentially increase the utility of goods and/ or increase their availability (Bessy and Chauvin 2013: 111). Therefore, although marketing intermediaries are generally cheaper, compared to manufacturing SMEs trying to manage the entire process, they can influence innovation, production, sales and profit margins of manufacturing SMEs.

5.6.35 Innovation is influenced by social factors

Innovation is influenced by social factors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	13	3.4	3.4	3.4
	Disagree	49	12.8	12.9	16.3
	Neutral	70	18.2	18.4	34.6
	Agree	169	44.0	44.4	79.0
	Strongly Agree	80	20.8	21.0	100.0
	Total	381	99.2	100.0	
Missing	System	3	0.8		
Total		384	100.0		

Table 5-42 Innovation is influenced by social factors

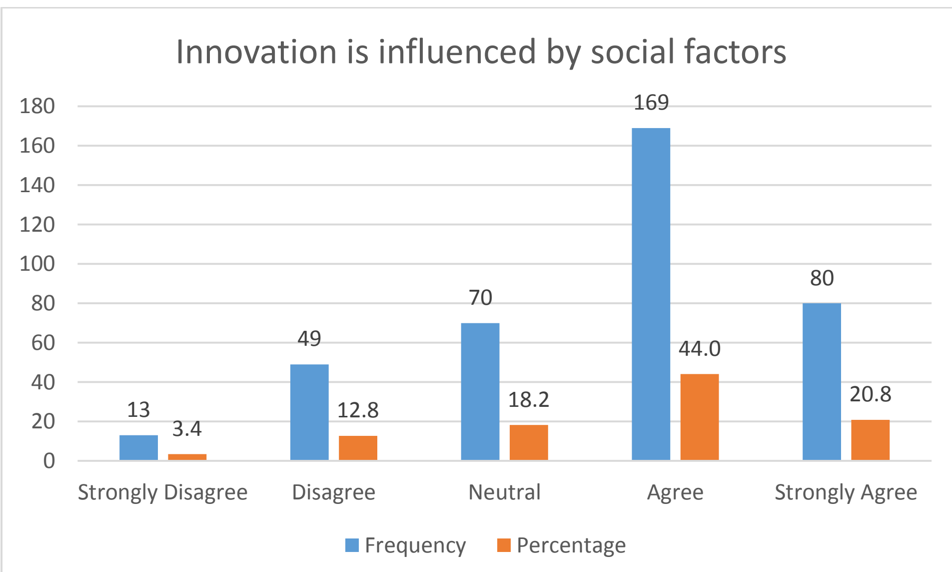


Figure 5-35 Innovation is influenced by social factors

As depicted in table 5-42 and figure 5-35 a significant number of respondents 169 (44%) and 80 (20.8%) agreed and strongly agreed that innovation is influenced by social factors. A smaller number of respondents 70 (18.2%) were neutral, whilst 49 (12.8%) disagreed and 13 (3.4%) strongly disagreed respectively with the statement. These findings are supported by a Chi-square test conducted to ascertain whether innovative leadership is affected by social factors. The results indicate that (X^2 =175.837; df = 4; P = 0,000) for this variable, reflecting that innovative leadership is affected by social factors. This means that the respondents are fully aware that any changes in social preference should automatically prompt manufacturing SMEs to change their products in order to meet the needs of their customers. As asserted by Rujirawanich, Addison and Smallman (2011: 1264) social factors play a significant role in effective innovation. Thus, being mindful of social factors allows innovative leadership to be more alert to changes in the market and to customer preferences (Genis-Gruber and Öğüt, 2014: 719).

5.6.36 Social factors influence innovative leadership abilities

Social factors influence innovative leadership abilities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	10	2.6	2.6	2.6
	Disagree	53	13.8	13.8	16.4
	Neutral	91	23.7	23.8	40.2
	Agree	146	38.0	38.1	78.3
	Strongly Agree	83	21.6	21.7	100.0
	Total	383	99.7	100.0	
Missing	System	1	0.3		
Total		384	100.0		

Table 5-43 Social factor influence innovative leadership abilities

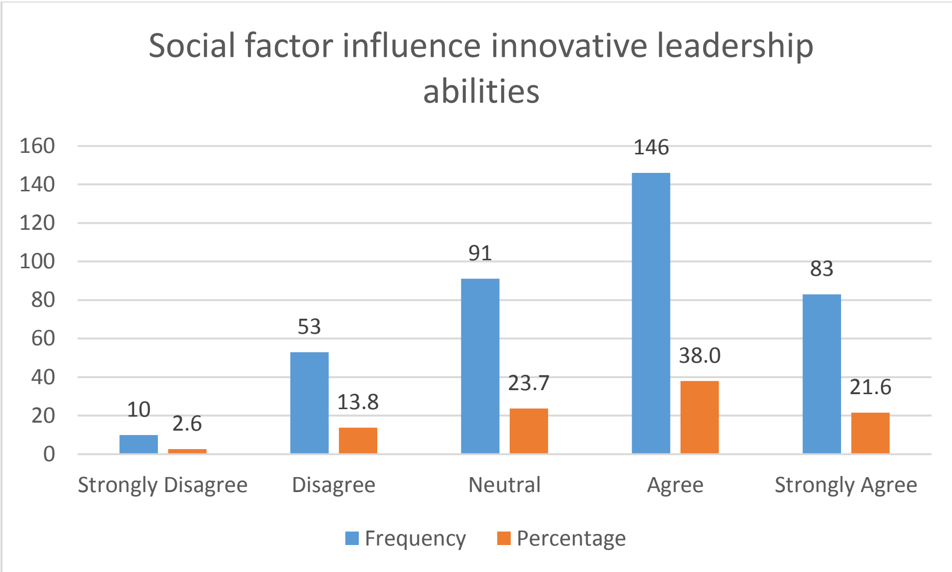


Figure 5-36 Social factors influence innovative leadership abilities

According to Gachuhi (2016) social factors affect the marketing strategies put in place by firms, whether large or small. This means that innovative leadership that fails to study and understand their environment, especially their customers and potential customers, puts the firm at risk of failing to cater for the current needs of their customers (Luebke, 2017 and Indris and Primiana, 2015: 189). Thus, being mindful of social factors allows entrepreneurs to be innovative (Genis-Gruber and Öğùt, 2014: 719). As depicted in table 5-43 and figure 5-36 a moderate number of the respondents 146 (38%) agreed and 83 (21.6%) further strongly agreed that social factors influence innovative leadership abilities. A smaller number of the respondents 91 (23.7%) were neutral, whilst 53 (13.8%) and 10 (2.6%) of the respondents disagreed and strongly disagreed with the statement respectively. A Chi-square test was conducted to ascertain whether social factors influence innovative leadership abilities. The results indicate that (X^2 =131.295; df = 4; P = 0,000) for this variable, indicating that social factors have an influence on innovative leadership abilities.

5.6.37 Innovation is affected by rapid technological changes

Innovation is affected by rapid technological changes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	14	3.6	3.7	3.7
	Disagree	21	5.5	5.5	9.2
	Neutral	33	8.6	8.7	17.8
	Agree	167	43.5	43.8	61.7
	Strongly Agree	146	38.0	38.3	100.0
	Total	381	99.2	100.0	
Missing	System	3	0.8		
Total		384	100.0		

Table 5-44 Innovation is affected by rapid technological changes

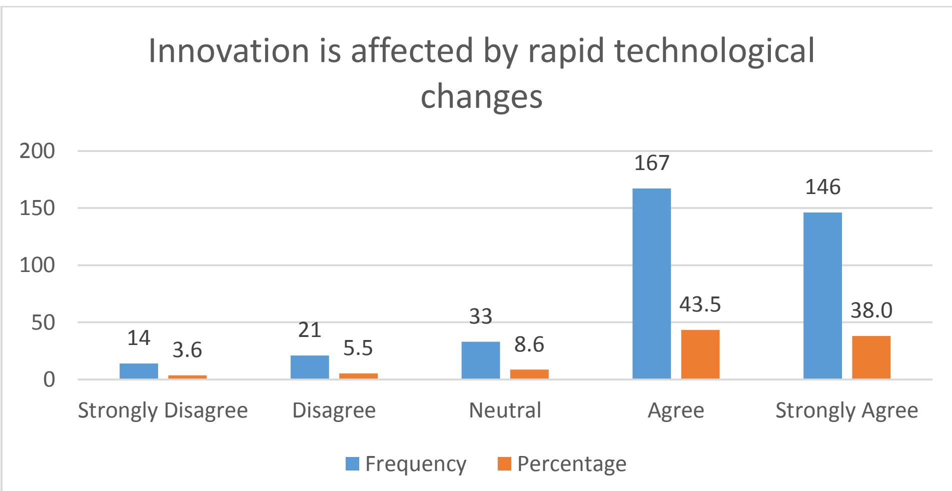


Figure 5-37 Innovation is affected by rapid technological changes

As shown in table 5-44 and figure 5-37 a significant number of respondents 167 (43.5%) and 146 (38%) agreed and strongly agreed that rapid technological changes affect innovation in manufacturing SMEs. Only 33 (8.6%) of the respondents were neutral to the statement with 21 (5.5%) and 14 (3.6%) disagreeing and strongly disagreeing respectively to the statement. These findings are supported by a Chi-square test conducted to ascertain whether rapid technological changes affect innovation in manufacturing SMEs. The results indicate that (X^2 =287.386; df = 4; P = 0,000) for this variable, reflecting that rapid technological changes challenge manufacturing SMEs due to the limited resources they have. These findings clearly show that rapid changes in technology puts a large degree of pressure on manufacturing SMES due to its financial impact (Gnyawali and Park, 2009: 308; Farsi and Toghraee, 2014: 01). In a survey conducted by Sayed and Sunjka (2016: 125) South African SMEs were found to face the challenge of rapid technological advances which put a strain on the production process and which can ultimately result in SMEs being uncompetitive in relation to larger firms (Leboea, 2017: 54). This means that innovative leadership need to come up with decisive measures to help them keep up with technology improvements if they are to contest successfully for a worthwhile market share against bigger organisations.

5.6.38 Innovation is influenced by competition

Innovation is influenced by competition

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	1.3	1.3	1.3
	Disagree	17	4.4	4.5	5.8
	Neutral	33	8.6	8.7	14.4
	Agree	152	39.6	39.9	54.3
	Strongly Agree	174	45.3	45.7	100.0
	Total	381	99.2	100.0	
Missing	System	3	0.8		
Total		384	100.0		

Table 5-45 Innovation is influenced by competition

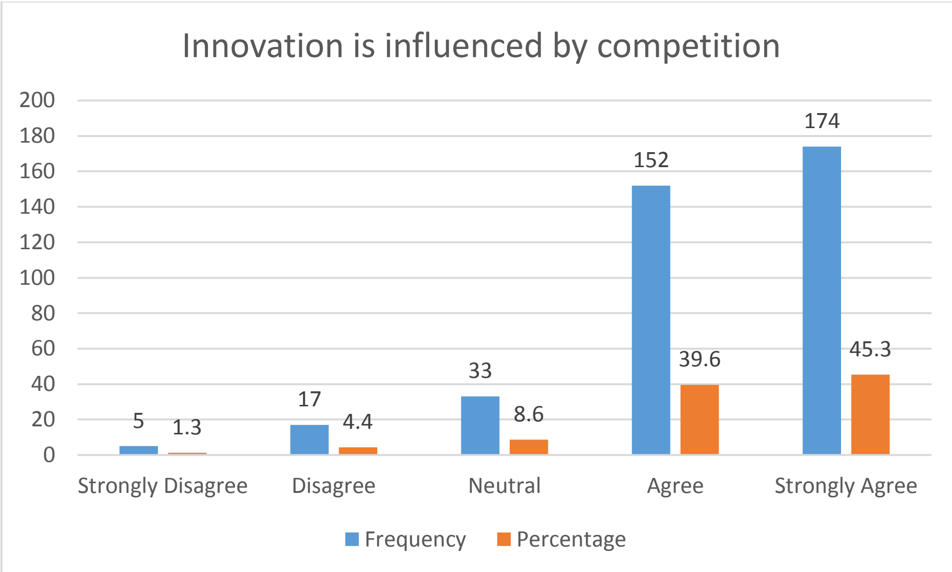


Figure 5-38 Innovation is influenced by competition

Competition can clearly pose a threat to the survival of a firm but, at the same time, it is competition that encourages and motivates SMEs to be more productive and meet the needs of their customers in a new way (Soini and Veseli, 2011: 50). Based on the findings of table 5-45 and figure 5-38 a significant number of respondents agreed 174 (45.3%) and strongly agreed 152 (39.6%) that innovation is influenced by competition. These findings are supported by a Chi-square test conducted to ascertain whether innovation is influenced by competition. The results indicate that (X^2 =337.937; df = 4; P = 0,000) for this variable, reflecting that competition among firms influences innovation. As innovation is a strategic tool that is necessary for improvement, creation and sustainability of the business (Tohidi and Jabbari, 2012: 565; Distanont and Khongmalai, 2018: 01), and although manufacturing SMEs have limited capital to invest in major innovations, they are however forced by competition to find ways to innovate if they are to maintain their sustainability and keep any competitive advantage. A small number of the respondents 33 (8.6%) were neutral to the statement and only 17 (4.4%) disagreed and 5 (1.3%) strongly disagree respectively with the statement.

Component matrix: External environmental barriers that affect innovative leadership towards sustainable growth of manufacturing SMEs

Rotated Component Matrix[a]

B9 - External	Component	
	1	2
Innovative leadership is affected by supplier costs	0.079	0.878
Innovative leadership is affected by marketing intermediaries	0.250	0.861
Innovation is influenced by social factors	0.712	0.344
Social factor influence innovative leadership abilities	0.785	0.206
Innovation is affected by rapid technological changes	0.588	0.086
Innovation is influenced by competition	0.635	0.024

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

Table 5-46 Component matrix: External environmental barriers that affect innovative leadership towards sustainable growth of manufacturing SMEs

This component matrix is an additional statistical analysis of the above figures (Figure 5-33 to 5-38). A component test was conducted on the statements on external environmental barriers that affect innovative leadership towards sustainable growth of manufacturing SMEs. The respondents have indicated to two categories of components, and a strong to moderate significance was identified, indicating that respondents believed that external environmental barriers had an impact on innovative leadership towards sustainable growth of manufacturing SMEs. The test further revealed that the respondents had a split view on whether supplier costs (0.079) and marketing intermediaries (0.250) had impact on sustainable growth of manufacturing SMEs. This means that even though supplier costs and marketing intermediaries affect manufacturing SMEs, not all the respondents viewed them as critical components that affect the sustainability of the firm.

THE FOLLOWING STATEMENTS ARE BASED ON THE INFLUENCE GOVERNMENT BARRIERS HAVE ON LEADERSHIP OF MANUFACTURING SMES.

5.6.39 Innovative leadership is affected by the cost of SME registration

Innovative leadership is affected by the cost of SME registration

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	38	9.9	9.9	9.9
	Disagree	49	12.8	12.8	22.7
	Neutral	122	31.8	31.9	54.6
	Agree	127	33.1	33.2	87.7
	Strongly Agree	47	12.2	12.3	100.0
	Total	383	99.7	100.0	
Missing	System	1	0.3		
Total		384	100.0		

Table 5-47 Innovative leadership is affected by the cost of SME registration

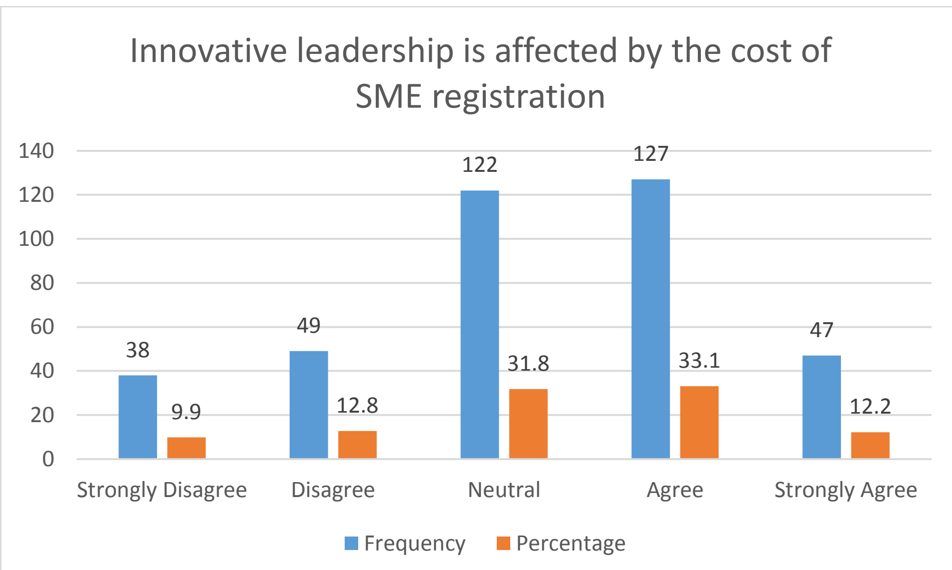


Figure 5-39 Innovative leadership is affected by the cost of SME registration

As shown in table 5-47 and figure 5-39 a moderate number of the respondents 127 (33.1%) agreed and 47 (12.2%) strongly agreed that innovation is affected by the cost of SME registration. A significant number of the respondents 122 (31.8%) were neutral to the statement with 49 (12.8%) and 38 (9.9%) of the respondents disagreeing and strongly disagreeing with the statement respectively. A Chi-square test was further conducted to determine whether innovation is affected by the cost of SME registration. The results show that (X^2= 100.903; df = 4; P = 0,000) for this variable, indicating that business innovation is affected by SMEs registration cost. Even though it is statistically proven that the cost of SME registration has a direct influence on business innovation, the respondents had contrasting views on the matter. This means that, since SME registration costs occur only once in the lifetime of the business, the impact of business registration costs can vary from business to business.

5.6.40 Innovative leadership is affected by SME licensing costs

Innovative leadership is affected by SME licensing costs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	38	9.9	9.9	9.9
	Disagree	51	13.3	13.3	23.2
	Neutral	124	32.3	32.4	55.6
	Agree	118	30.7	30.8	86.4
	Strongly Agree	52	13.5	13.6	100.0
	Total	383	99.7	100.0	
Missing	System	1	0.3		
Total		384	100.0		

Table 5-48 Innovative leadership is affected by SME licensing costs

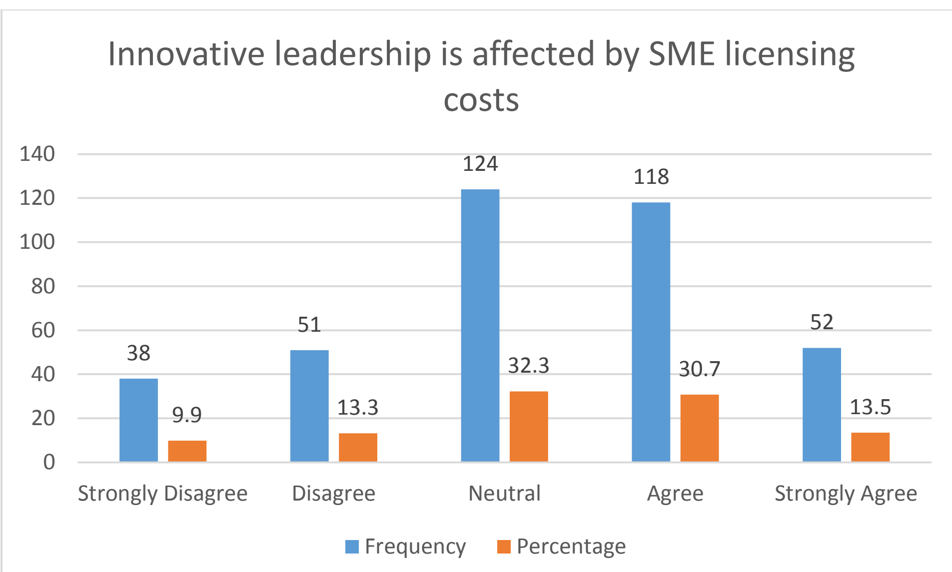


Figure 5-40 Innovative leadership is affected by SME licensing costs

As shown in table 5-48 and figure 5-40 a moderate number of the respondents 118 (30.7%) agreed and 52 (13.5%) strongly agreed that innovative leadership is affected by SME licensing costs. Furthermore, a considerable number of the respondents 118 (32.3.7%) were neutral to the statement, probably indicating that licensing costs is a burden in certain sectors where compliance is strictly monitored, more especially in food manufacturing and mechanical engineering manufacturing. Only 51 (13.3%) and 38 (9.9%) disagreed and strongly disagreed respectively with the statement.

According to the International Labour Organisation (2016: 10) SME licensing costs and taxes all fall under the umbrella term of "compliance costs" which are costs for which SMEs are liable and which are subject to change from year to year, as regulatory requirements and administrative procedures evolve. This means that, in order for manufacturing SMEs to operate, they need to acquire the necessary operating permits on a yearly basis. Based on the findings, this could have a negative impact on manufacturing SMEs for whom business innovation is required to meet customer demands. A Chi-square test was further conducted to determine whether innovative leadership is affected by SME licensing costs. The results show that (X^2= 87.614; df = 4; P = 0,000) for this variable, indicating that the SME licensing has a negative impact on business innovation. However, depending upon the particular business sector in which they operate, the operating permits and compliance certificates may vary in terms of cost.

5.6.41 Innovative leadership is affected by SARS monthly tariffs

Innovative leadership is affected by SARS monthly tariffs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	26	6.8	6.8	6.8
	Disagree	56	14.6	14.7	21.5
	Neutral	111	28.9	29.1	50.5
	Agree	118	30.7	30.9	81.4
	Strongly Agree	71	18.5	18.6	100.0
	Total	382	99.5	100.0	
Missing	System	2	0.5		
Total		384	100.0		

Table 5-49 Innovative leadership is affected by SARS monthly tariffs

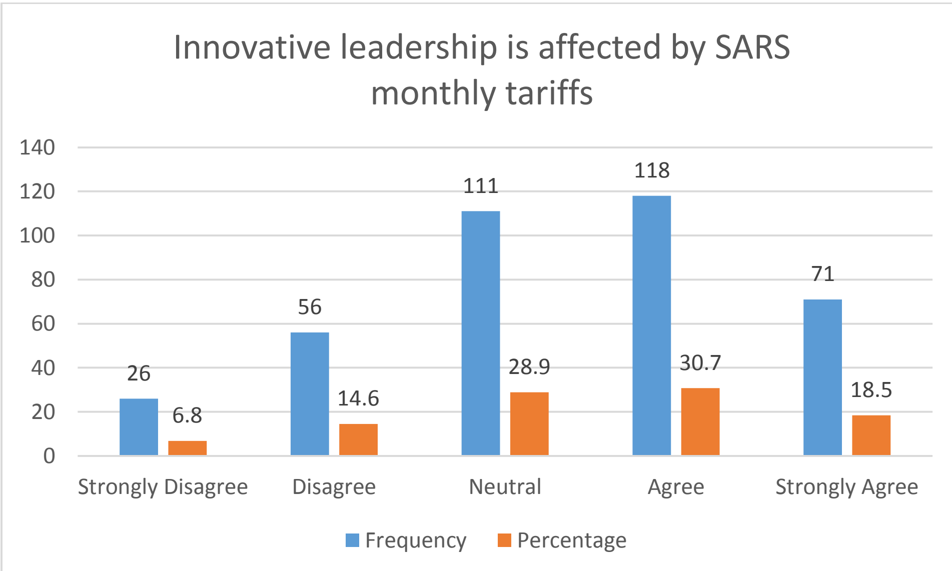


Figure 5-41 Innovative leadership is affected by SARS monthly tariffs

According to Kashalaba (2017) most SMEs lack experience with regards to tax matters, making the cost of complying with tax regulations high and, as a result, a significant proportion of the firms' revenues go into paying taxes and complying with tax regulations. *The Sunday Mail* (2014) claimed that heavy tax regulations are a catalyst for the premature exit and failure of many SMEs. As reported by *Business Environment Specialist* (2013: 06) the top five most costly and frustrating red tape issues for small business are SARS with 25.28%; followed by municipal issues 13.48%; BEE 13.48%; mandatory regulations 12.64%; and labour issues. The findings shown in table 5-49 and figure 5-41 are in accordance with the literature in that a moderate number of the respondents 118 (30.7%) agreed and 71 (18.5%) strongly agreed that innovative leadership is affected by SARS monthly tariffs. A considerable number of the respondents 111 (28.9%) were neutral, while 56 (14.6%) and 26 (6.8%) disagreed and strongly disagreed respectively with the statement. A Chi-square test was further conducted to determine whether innovative leadership is affected by SARS monthly tariffs. The results show that (X^2= 77.398; df = 4; P = 0,000) for this variable, confirming that SARs taxes affect leadership's ability to instigate business innovation.

5.6.42 Innovative leadership is affected by too many South Africa SME regulations

Innovative leadership is affected by too many South Africa SME regulations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	20	5.2	5.2	5.2
	Disagree	50	13.0	13.1	18.4
	Neutral	85	22.1	22.3	40.7
	Agree	127	33.1	33.3	74.0
	Strongly Agree	99	25.8	26.0	100.0
	Total	381	99.2	100.0	
Missing	System	3	0.8		
Total		384	100.0		

Table 5-50 Innovative leadership is affected by too many South Africa SME regulations

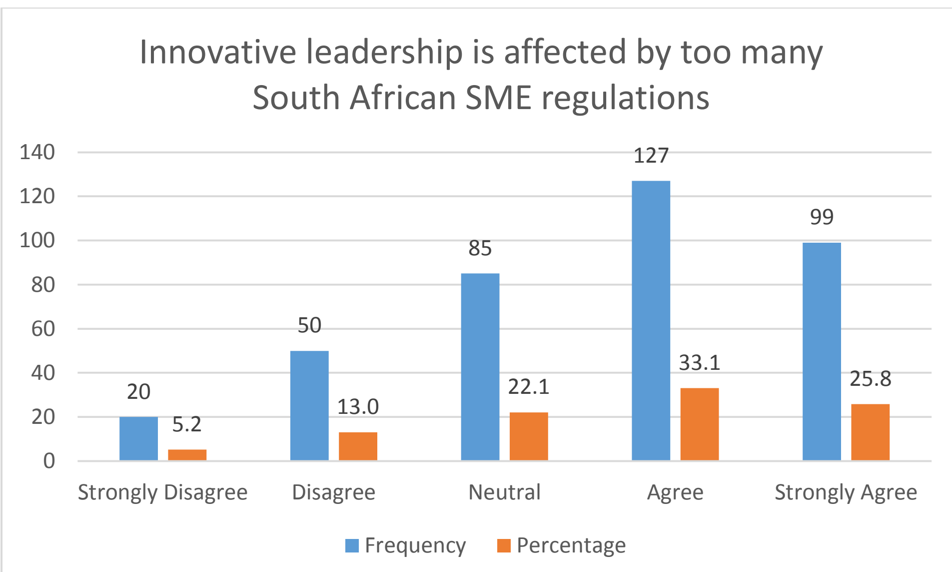


Figure 5-42 Innovative leadership is affected by too many South Africa SME regulations

According to Mupemhi, Duve and Mupemhi (2013: 22) the government of any country is responsible for instituting policies, legal frameworks and procedures that govern how business is conducted and how it operates within its borders. Boshoff (2018) argues that the South African regulatory environment is hostile to SMEs due to the ever-increasing costs needed to comply with various reporting standards, permits, accreditation by different institutions, and business administration that needs to comply with different business operating standards. This could be enough to discourage any prospective entrepreneur from opening a business. According to Barron (2017) South Africa is well behind its peers in providing an enabling environment that will support and encourage the existence of manufacturing SMEs, taking into account its significance as a key driver of rapid economic growth and association of employment, both directly and indirectly (Zalk, 2014; Brand South Africa Report, 2018). In a survey conducted by Business Environment Specialist (2015) on 500 SMEs (operating in the three sectors of manufacturing, business services and tourism) relating to factors impeding growth, the majority of the entrepreneurs cited governments' burdensome regulations as a major bottleneck preventing business growth. The report further indicates that business regulations account for 40% of the factors causing stagnation in business growth. The findings, as per table 5-50 and figure 5-42, also show that a moderate number of the respondents 127 (33.1%) agreed and 99 (25.8%) further strongly agreed that innovative leadership is affected by too many South African SME regulations. A smaller number 85 (22.1%) were neutral with only 80 (13%) and 20 (5.2%) disagreeing and strongly disagreeing respectively with the statement. To test whether SME regulation impedes business innovation, a Chi-square test was conducted. The results show that (X^2= 92.163; df = 4; P = 0,000) for this variable, indicating that the finding is in accordance with literature in that SME regulations have a direct impact on innovative leadership.

5.6.43 Many manufacturing SMEs close down due to failure to comply with government regulations

Many manufacturing SMEs close down due to lack of compliance with government regulations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	18	4.7	4.7	4.7
	Disagree	50	13.0	13.1	17.8
	Neutral	107	27.9	28.0	45.8
	Agree	118	30.7	30.9	76.7
	Strongly Agree	89	23.2	23.3	100.0
	Total	382	99.5	100.0	
Missing	System	2	0.5		
Total		384	100.0		

Table 5-51 Many manufacturing SMEs close down due to failure to comply with government regulations

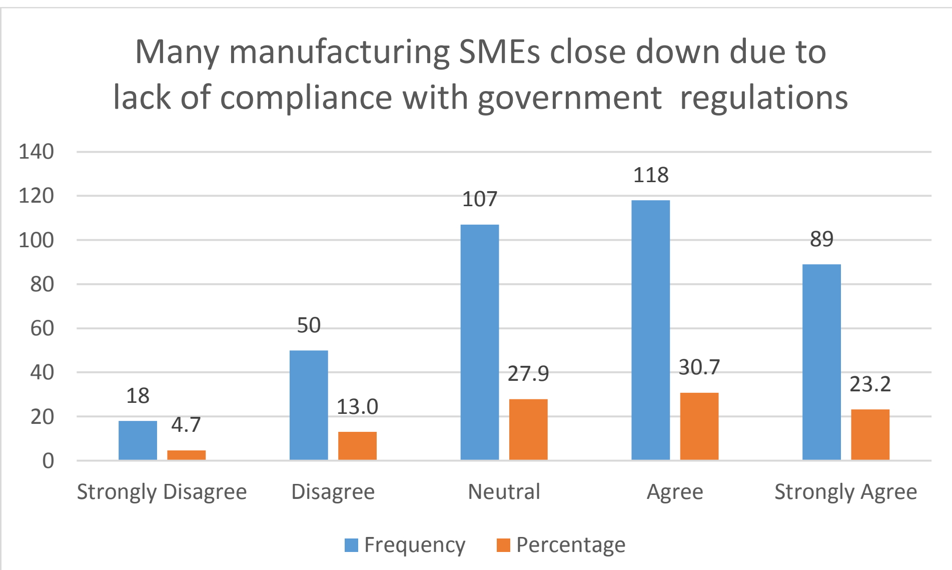


Figure 5-43 Many manufacturing SMEs close down due to lack of compliance with government regulations

As shown in table 5-51 and figure 5-43 a moderate number of the respondents 118 (30.7%) agreed and 89 (23.2%) strongly agreed that many manufacturing SMEs close down due to lack of compliance with the government regulators. A significant number of the respondents 107 (27.9%) were neutral while 89 (23.2%) strongly agreed with the statement. 50 (13%) and 18 (4.7%) of the respondents disagreed and strongly disagreed respectively with the statement. These findings are supported by a Chi-square test which was further conducted to determine whether many manufacturing SMEs close down due to lack of compliance with the government regulators. The results show that (X^2= 90.749; df = 4; P = 0,000) for this variable, indicating that manufacturing SMEs do close down, presumably to lack of finance and the knowledge necessary to cover and comply with all government regulations.

Component matrix: Government barriers to leadership of manufacturing SMEs

Component Matrix[a]

B10	Component 1
Innovative leadership is affected by the cost of SME registration	0.839
Innovative leadership is affected by SME licensing costs	0.863
Innovative leadership is affected by SARS monthly tariffs	0.871
Innovative leadership is affected by too many South Africa SME regulations	0.799
Many manufacturing SMEs close down due to lack of compliance with government regulations	0.640

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Table 5-52 Component matrix: Government barriers to leadership of manufacturing SMEs

These components are an additional statistical analysis of the above-mentioned figures *(Figure 5-39 to 5-43).* A component test was conducted on the statement pertaining to government barriers to leadership of manufacturing SMEs. The respondents responded to one category of component, where 0.871 shows a strong positive significance that the respondents believed innovative leadership is affected by SARS monthly tariffs, while 0.863 shows that innovative leadership is affected by SME licensing costs. The other variable which showed a strong positive significance was pertaining to cost of SME registration and the component test shows 0.839. Regarding innovative leadership being affected by too many South African SME regulations, a component test conducted showed a 0.799 score. All the tested variables showed a very strong positive significance which means that government barriers have a negative role on innovation and sustainable growth of manufacturing SMEs. However, a component test on manufacturing SMES closing down due to lack of compliance recorded a moderate score of 0.640, which means that the respondents had inconsistent views on this statement.

5.7 DISCUSSION OF KEY FINDINGS IN LINE WITH LITERATURE REVIEW AND RESEARCH OBJECTIVES OF THE STUDY

This section discusses the key findings in line with the literature review and the research objectives. As indicated in Chapter two, the following are the objectives of the study.

Sub-objective 1: To identify managerial skills and innovative leadership skills which assist sustainability of manufacturing SMEs

Sub-objective 2: To explore the impact of technical expertise on innovative leadership for sustainability of manufacturing SMEs

Sub-objective 3: To establish the relationship between innovative leadership and financial capital for the growth and sustainability of manufacturing SMEs

Sub-objective 4: To examine the relationship between government incubators and innovative leadership for the sustainability of manufacturing SME

Sub-objective 5: To identify environmental factors which impact upon innovative leadership for the sustainability of manufacturing SMEs

Sub-objective 6: To examine government regulations which impact upon innovative leadership for the growth and sustainability of manufacturing SMEs

This section provides a comprehensive overview of the key empirical findings of the study and a comparison between these and the literature gathered for the purpose of this research. The discussions are based on the research objectives and relevant questions/ statements within the survey which was conducted.

The following discussion of the key findings of the research was done in accordance with the outlined objectives of this study:

5.7.1 Key findings of Objective 1

To identify managerial skills and innovative leadership skills which assist sustainability of manufacturing SMEs

The literature provides a host of critical factors affecting business innovation, but for the purpose of this research study, innovative leadership skills were identified as the critical factor affecting business innovation. According to Adendorff, Emuze, and Vilakazi (2013) in South Africa, there is a research gap around a focus on entrepreneurial skills suitable for manufacturing SMEs. Allan Gray Orbis Fundation (2019) highlights that entrepreneurial skills in South Africa are still a concern. Radipere and van Scheers (2005: 410); Nemaenzhe (2010); Odendaal (2013) and Kambwale, Chisoro and Korodia (2015) all agree that in South Africa, a lack of managerial skills can be identified, and that this has proved to be a significant cause of business failure. Again, Chatterjee and Das (2016: 235) and Mbizi, Hove and Kakava (2013: 385) maintain that the survival and success of manufacturing SMEs depends largely on management skills.

Based on the literature review and the empirical findings of this study, innovative leadership should largely adopt the transformational leadership approach as it is rooted in developing employee skills and enhancing the morale and job performance. This approach further embraces teamwork and cohesiveness amongst employees. The adoption of this the approach is also supported by the findings of this study, as most of the respondents (65%) identified lack of support from the employees and lack of educated employees as one of the critical factors that impact on business innovation. Perhaps, the appropriate adoption of this approach by innovative leadership will support employee skills development which will stimulate employee participation more especially in innovative engagements.

With reference to the findings of the study, critical managerial skills that innovative leadership needed to possess were technical skills (77%), project management skills

(74%) and IT related skills (60.4%). Accordingly, the attainment of these skills through educational programmes and training workshops will serve as great support to innovative leadership in establishing innovative business ideas that are key to the growth and sustainability of the firm.

5.7.2 Key findings on Objective 2

To explore the impact of technical expertise on innovative leadership for sustainability of manufacturing SMEs

According to Mamabolo, Kerrin and Kele (2017: 8) technical skills needed by innovative leadership include an understanding of proficiency in specific activities involving methods, processes and techniques in the business's line of operation. This is further supported in a report from Seda (2012) that South African innovative leadership would benefit from support with training and technical skills development. In agreement with the literature, the empirical findings of this study show that a significant number of the respondents (79%) agreed that lack of technical skills affect business innovation processes due to the role they now play in project management skills. The empirical findings further show that a significant number of the respondents (77%) agreed that a lack of technical skills affects innovative leadership business strategies. This means that technical skills are key skills innovative leadership should have in order ensure the firm attains continuous supremacy over its competitors.

The findings of this empirical study revealed that a significant number of the respondents (68.3%) indicated that the government lacked in terms of providing them with technical skills training workshop. As discussed in the literature, technical skills are integral to innovative leadership not only for operating machines and software but they are specific skills needed to boost sales, development or designing different types of products and services, and market the service and the products.

Training and education of Innovative leadership in manufacturing SMEs

Education and training establishes a foundation for manufacturing SME leadership to develop themselves, learn new skills and stay relevant to their niche (Foley 2015). Isaacs, Visser, Friedrich and Brijal (2007: 614) and Dudla (2014) proclaim that training and education contributes immensely towards entrepreneur’s social capital, innovation and networking. Bbenkele and Ndedi (2010: 5) add that entrepreneurship education seeks to prepare entrepreneurs to be innovative individuals who are able to take risks, manage results and learn from outcomes. Accordingly, Oosterbeek, van Praag and Ijsselstein (2009: 442); Cooney (2012); van Sheers, Adesonga and Johan (2015: 86) asserts that entrepreneurship education and training is essential in reaching higher levels of economic growth, innovation and is a critical success factor for achieving optimum organisations performance. The imperative key findings concur with the literature as a significant number of the respondents (90%) indicated that appropriate training will further develop innovative leadership performance and a further 78.1% indicated that levels of education also influence the innovative leadership skills of entrepreneurs.

Entrepreneurial characteristics that affect innovative leadership

According to Jabar, Soosay and Santa (2010); Tarute and Gatautis (2013: 1224); Cuevas-Vergas, Enriquez and Adame (2015: 305) and Agwu (2018) ICT is currently one of the salient elements for remaining competitive. The Xero Report (2017) concedes that technology adoption is very costly, but argues that its benefits and significance in innovation and sustainable growth exceed its disadvantages. As early as 2008 Comin and Hobijn (2008) found that SMEs must learn to leverage new technologies to ensure that their workforces remain competitive. The findings of the current study concur with the literature in this regard in that ICT adoption has a serious impact on innovative leadership. This is indicated by the significant number of respondents (63.3%) who agreed that innovation is affected by failure to adopt up-to-date ICT support within the business. A similar number of the respondents, however (62%) agreed that failure to take on the latest IT adaptations may be due to their cost.

5.7.3 Key findings on Objective 3

To establish the relationship between innovative leadership and financial capital for the growth and sustainability of manufacturing SMEs

Government financial assistance is also seen, both within the literature and from the empirical data, to be a significant catalyst for success in small manufacturing businesses. Grant assistance from government institutes can make a significant difference in acquiring start-up finance and in subsequently expanding an enterprise (Crampton, 2016). However, the process of acquiring funding and complying with government procedures is often found to be too stringent sometimes leading to businesses abandoning these applications (Skills Portal, 2013). The findings indicated that 61% of the respondents believed that government financial support and assistance can improve business innovation.

According to Banerjee (2014: 01) financial capital often determines the rate of development and sustainable growth of SMEs. It most significantly enables manufacturing SMEs to transform into thresholds where they will adapt efficient production techniques that assure profitability and sustainability (Quartey, Turkson, Abor and Iddrisu, 2017: 19). The results of this study indicated that a large number of the respondents (76%) identified financial capital as a significant factor allowing for business innovation. This factor was closely followed by lack of support from shareholders and board of directors, 71.3%. As concluded by Guberna (2016: 13) manufacturing SMEs who are innovative knowledge-based firms that intend to expand their growth, it is therefore crucial for them to find shareholders that fit with the company's distinctive strategy and business model.

The lack of government financial support (63.4%) was also identified by the empirical study as a critical component that affected innovative leadership. Government funding has been debated by many researchers with the intentions of influencing the government and policy makers to rethink the intentions of the funding processes and the awarding of financial grants to small businesses. However, this has not been achieved as this study also reveals that shortages and lack of transparent procedures in government funding impacts on innovative leadership. It is safe to say that the government promises to assist and provide small businesses with financial support fall short in reality.

5.7.4 Key findings on Objective 4

To examine the relationship between government incubators and innovative leadership for the sustainability of manufacturing SME

The empirical findings of this study revealed that innovative leadership was affected by a lack of the government incubators (64%) needed to help improve their skills and promote their business activities. According to a Business Environment Specialist (2009) government incubators have been less successful than intended and enterprise development programmes do not have clearly predetermined objectives and sometimes have unrealistic objectives (Nichter and Goldmark, 2009: 20).

5.7.5 Key findings on Objective 5

To identify environmental factors which impact upon innovative leadership for the sustainability of manufacturing SMEs

Many factors can be included in the category of environmental factors, namely social, economic, cultural, geographic, technological, political, legal and ecological factors (Saleem 2010: 03; Litavnience and Znotina 2015). These factors have been found to affect small businesses in ways which are different from their larger competitors (Kokemuller 2018). The following section provides a discussion of internal and external environmental dynamics.

Business infrastructure

According to the literature, location and access to land, and business infrastructure are fundamental to growth and innovation of manufacturing SMEs. Kamunge, Njeru and

Tirimba (2014: 07) and Kanali (2018) also maintained that lack of allocation of suitable land impinges on innovation and growth of SMEs and that puts a strain on economic development. The findings of the study contradict the literature to some extent as a considerable number of the respondents (41.4%) indicated that business innovation can be implemented regardless of the size of the firm and sustainable growth can also be achieved regardless of a shortage of space. However, it is wise, as suggested by Queensland Government (2018) that innovative leadership should research and plan the growth of their businesses to avoid outgrowing their premises in a short-term as this could affect productivity and performance. However, a clever innovative leadership may be able to introduce up-to-date IT developments which would have no need for additional physical space.

Skilled workforce

In terms of the availability of educated employees, a significant number of the respondents (65%) indicated that the shortage of educated employees affected innovative leadership. These finding are support by the literature as Zimmermann and Thoma (2016: 03) assert that the issue of skilled labour is a serious concern as it adversely affects the innovation and development of manufacturing SMEs. This is also highlighted by Zimmermann (2017: 03) who maintains that the second biggest barrier to innovation after funding difficulties is a shortage of skilled workers (Healy, Mavromaras and Sloane, 2015: 01). Nash-Hoff (2016) concluded that an extreme talent gap also puts the firm's productivity at risk.

Competition

According to Soini and Veseli (2011: 50) and Distanont and Khongmalai (2018: 07) competition poses a great threat to the growth and survival of a firm but at the same time it motivates firms to be more productive. Business innovation is a strategy that firms use to create a competitive advantage, developing and producing items that others do not, or offering better service than everyone else or introducing cheaper goods of the same quality (Azziz and Samad, 2016). Dereli (2015: 1367) asserts that for manufacturing SMEs to survive in a competitive market, they have to follow and adopt innovations or have to be innovative themselves. Özsagir (2014) and Ismail (2015: 342) agree. The findings of the study show that a significant number of the respondents (85%) indicated that innovation is positively influenced by business competition. Additionally, in order to keep ahead of competitors, the best way may be to introduce something new that they do not produce. In conclusion, innovation can create sustainable growth that leads to competitive advantages in both internal and external markets (Virameteekul, 2011).

Social factors

Social factors are factors that affect individuals, and also business thought and behaviour within social settings (Henry, 2010; Gachuhi, 2016). Rujirawanich, Addison and Smallman, 2011: 1264) assert that social factors affect the market strategies put in place by firms, whether big or small. Social factors play a significant role in effective innovation, and innovative leadership needs to pay more attention to social factors in order to gain competitive advantage over their competitors. Luebke (2017) and Indris and Primiana (2015: 189) maintain that SME leaders often fail to study and understand their environment, more especially their customer base, and that is one of the main hurdles that affect creativity and innovation. These points are justified by the findings of this study, with 65% of the respondents indicating that business innovation is influenced by social factors. 60% of the respondents also mentioned social factors as a critical factor on innovative leadership success. Thus, business innovation and growth is affected by its business climate and an unfavourable business climate has a significant effect on manufacturing SMEs (Lumpkin and Dess, 1996; Bouazza, Ardjoumanand and Abada, 2015: 109).

Supplier costs

Bothof and van Weele (2018: 01) identified suppliers as crucial external collaborators as they are essential in new product development and process. Wagner and Hoegl (2006: 942) and Reiss (2010) claim that the inclusion of suppliers is a sensible strategy given the supplier’s specific expertise and resources. Beckma, Haunschild and Philips (2004);

Yan (2011); Raassens, Wuyts and Geyskens (2012) believed that the inclusion of suppliers allows for the expansion of manufacturing networks which bring new innovative ideas. According to Sherman (2018) suppliers possess power over the cost of a product as the influence of any supplier heavily depends on the scarcity of the material. Reiss (2010) found that supplier costs have a significant influence on the quality of the product, either positively or negatively. The findings of the study indicated that 53.1% of the respondents also confirmed that innovative leadership abilities are affected by supplier costs and further threaten the sustainability of the firm. Therefore, business performance and sustainability will be enhanced if suppliers are able to provide the right product in the right quantity at a reasonable cost (Piderti, Flowerday and Von Solms, 2011).

5.7.6 Key findings on Objective 6

To examine government regulations which impact upon innovative leadership for the growth and sustainability of manufacturing SMEs

SARS tariffs

One of the key factors inhibiting SMEs development is taxation (Smed and Robertson, 2003). Longernecker, Moore and Petty, as long ago as 1994, also found that complex tax administration and high tax rates are a significant inhibitor of SME operations and sustainability growth. As a result of this, high taxes can force premature exit and market failure of manufacturing SMEs. *The Herald* (2014) concurred and also revealed that taxes are too high for most of the growing SMEs and a significant number of SMEs have collapsed after failing to pay taxes and many more are expected to follow-suit. These taxes include SMEs registration, licencing costs and other government business compliances and permits that are required for the organisation to be legally operative. The empirical findings of the study indicate that just under half (49.2%) of the respondents mentioned SARS monthly tariffs as a bottleneck that affects their business innovation, development and further hampers their sustainable growth. These findings are supported by a report published by Business Environment Specialist (2013: 06) that the top five most costly and frustrating red tape issues are SARs with 25.28% followed by Municipal issues 13.48%; BEE 13.48%; Mandatory regulations 12.64%; and Labour issues. The empirical findings of this study further revealed that almost 60% of the respondents were affected by too many SME regulations and more than half (54%) of the respondents cited the lack of compliance with government regulations as a critical factor to SMEs closing down.

5.8 CONCLUSIONS ON THE VARIABLES MATCHED WITH THEORIES

This section explores relevant theories relating to innovative leadership and sustainable growth of manufacturing SMEs. These theories are also integrated with the empirical findings of this study.

According to *Richard Centillon (1697-1735)* entrepreneurship theory, entrepreneurs are people who brought equilibrium in supply and demand into the economic sector. This means that entrepreneurs are people with special capabilities, whose main objective is to make profits and add value to the society and the nation as a whole. This study sees entrepreneurial characteristics (financial institution lengthy processes, government financial assistance and ICT implementation costs) as factors that influence the ability of entrepreneurs to achieve sustainable growth and contribute significantly towards the economic transformation of the country. Furthermore, government barriers such as SARS tariffs, SME licensing costs and registration were also identified by the empirical findings as critical components that affected innovative leadership business abilities. These entrepreneurial characteristics found in this study inform the entrepreneurship in the manufacturing SMEs sector, with specific reference to KZN.

Jean Baptiste's (1767-1823) innovation theory focused on entrepreneur's capacity as a critical element for innovation. Therefore, based on the empirical findings of this study, innovative leadership level of education, training and technical skills were identified as critical capabilities necessary for innovative leadership to sustain their business innovation and growth.

Schumpeter (1934) identified innovation theory as a process of industrial mutation that continuously revolutionizes the economic structure from within, destroying the old one, while creating a new one. Drucker's (1986) innovation theory highlights that for innovation to be successful, innovative leadership needs to adopt a systematic approach that is constantly monitored in order to provide the desired outcome. This means that innovative leadership needs to be knowledgeable about the business environment in which they operate. They also have to be observant about different business trends and new innovative approaches that can support their business operations. As reflected in the literature review, innovation is not only based on technological adoption, however, it is the ability of the business to constructively, strategically integrate and improve their processes and products for the achievement of business objectives and goals.

Rogers's (1962) diffusion of innovation theory, focuses on adoption of new ideas, products, ICT and practices, and understanding social forces that influence the implementation of these novel ideas. Based on the empirical findings of this study, employee support, capital and business performance, social factors and technological changes are environmental factors identified by this study as factors that influence the implementation of novel ideas and the instigation of business innovation. The failure to adopt up-to-date ICT proved to be the critical factor in achieving business innovation which is undoubtedly needed for expediting business processes and competitive advantage. Therefore, the adoption of Rogers innovation theory will greatly assist innovative leadership in handling innovative engagements and will further provide critical steps in adopting new technologies as discussed in chapter three.

5.9 CONCLUSION

Based on the data analysis and the empirical findings of this study, it is apparent that South African manufacturing SMEs are faced with some intractable challenges, while other difficult situations may prove themselves to be manageable provided that innovative leadership can enable the firm to be sufficiently resilient. The tested variables provided a comprehensive picture of these issues, challenges and shortfalls faced by manufacturing SMEs. Interestingly, the findings illustrated education and training as the key catalyst to business innovation and sustainable growth. This is closely followed by technical skills, which are integral to daily business operations. Internal and external factors, government barriers and government support mechanisms were also considered to have impacted on innovative developments and promotion of an innovative culture that would preserve and improve manufacturing SMEs' profit margins. Overall, it is clear that innovative leadership should prioritise education and training to improve their skills sets in order to better coordinate, manage and improve business operations and productivity.

This discussion of the key empirical findings of the study therefore supports the literature quite closely. The following chapter provides a comprehensive discussion of the conclusions and recommendations of the study.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

The aim of this research was to discover and analyze the main factors contributing to successful innovative leadership amongst SMEs involved in manufacturing, taking the province of KwaZulu-Natal as a case study. Arising from the study an integrated model was designed to assist SME leadership to achieve business innovation and sustainable growth in the manufacturing sector. A comprehensive literature search provided a rich foundation of secondary data while the primary data was obtained from a detailed empirical study which was broadly analyzed to determine any significant correlations between the study variables. This chapter provides conclusions in the form of a summary of the key findings and evidence of the achievement of the research objectives. The hypotheses will also be discussed in relation to the findings of the study. The study's limitations along with recommendations linked to findings are also provided and explained. Finally, recommendations for further study are made.

6.2 SUMMARY OF THE KEY FINDINGS

The primary aim of this research was to identify critical factors enabling innovative leadership amongst manufacturing SMEs in KZN and to propose a prototype model derived from this evidence. Based on the findings, the following conclusions can be drawn:

The biographical and background data obtained indicated that:

- the largest group of owners/ entrepreneurs were between the ages of forty and forty-nine;
- the majority of the SMEs within the sample were corporations;
- most of the entrepreneurs had at least a first degree.

The respondents identified education and training as the most significant variable impacting on the successful leadership of manufacturing SMEs, with 90% of the responses indicating that they saw this as important for enabling innovation and sustainable growth. The results also indicated that 86.2% of the respondents believed that training specifically can improve the ability of entrepreneurs to introduce successful innovation. These findings indicate that in order for innovation to be initiated and maintained, relevant training, focusing on key business development areas and field-related knowledge, should be strongly supported. However, a challenge currently exists for manufacturing SMEs in South Africa to find field-related training workshops that will add ongoing value, taking into consideration the increasingly demanding and complex business environment. On the other hand, it is also indicated in the literature, that tertiary education is able to provide students with dynamic business concepts and sound business knowledge that could enable future business leaders to promote small business development successfully in the country. Entrepreneurial vision and open-mindedness towards the improvement of the firm’s performance, including educational initiatives, is a critical success factor for achieving optimum success and enabling innovation.

According to the study findings, technical skills possessed by the leadership were also considered to be one of the key factors influencing the implementation of business innovation. 78% of the respondents indicated that a lack of technical skills will negatively affect an entrepreneur’s success. Entrepreneurial skills enable innovative leadership to analyse, evaluate and solve simple and complex problems for the better management and running of the firm. These skills enable leaders to identify, challenge and overcome difficult situations and problems that might arise in the firm. It is therefore important that the issue of an entrepreneurial skills gap be addressed. These skills can be critical, especially when dealing with a business’s financial operations and innovation strategies, as indicated by 77% of the respondents. 79% of the respondents also believed that a lack of technical skills, including project management skills, affect the innovation process. Thus, the findings demonstrate that technical skills play a critical role in business activities and more specifically in innovation. The study

concludes that innovative leadership needs to identify and strengthen their technical capabilities which will support them in any strategic transformation of the firm and to assist them to manage business innovation and growth optimally.
In terms of the internal environmental, 76% of the respondents believed the issue of access to capital has a significant impact on innovative leadership as it affects the manner in which manufacturing SMEs are able to operate, innovate and grow. 71.3% of the respondents felt that the lack of support both from Government and from their shareholders and/ or the board of directors, contributed to manufacturing SMEs' inability to accumulate sufficient capital that will help support an innovative culture within the firm.

Less than half (41.4%) of the respondents indicated that limited, or shortage of, space for business expansion were significant for innovation and sustainable growth. These findings indicate that enlarging their business premises is not of primary concern to all manufacturing SMEs. In some industry sectors innovation may be implemented regardless of the size of the premises.

The respondents identified two external environmental barriers that they felt had a major impact on innovative leadership: competition and technical change. 85% of the respondents believed that innovation is influenced by competition. These findings are confirmed in the literature as manufacturing SMEs are necessarily competitors in a very congested business sector, and one of the best attested ways of obtaining competitive advantage is through business innovation. The findings also support the literature in that innovative leadership is seen as being greatly affected by rapid technological changes (81.5%). Additionally, 65% felt that social factors influence leaders' ability to innovate.

On the issue of government support mechanisms' role in enabling innovative leadership, the study found that respondents believed that this factor was significant (68.3%), and this is also supported by the number of the respondents (64%) who indicated that lack of technical skills workshops or training provided by government institutions, negatively affected innovative leadership opportunities. Again, inadequate support from government initiatives in providing business incubators was also regarded as a significant factor in inhibiting innovation and thus sustainable growth (63%).

64% of the respondents believed that lack of government financial assistance had an impact on business innovation. 63.3% of the respondents also indicated that innovation is affected by failure to introduce up-to-date ICT support within the business. This is linked to the findings that the failure to adopt up-to-date ICT is due to high ICT implementation costs (62%). Furthermore, 62% of the respondents identified lack of educated employees as a critical challenge for innovative leadership, more especially for business innovation.

The study findings concerning government barriers affecting successful leadership of manufacturing SMEs concluded that there may be too many regulations affecting SMEs in South Africa. This was indicated by 59% of the respondents, 54% of the respondents believing that many manufacturing SMEs are forced to close down due to their lack of compliance with government regulations. The study also found that almost half of the respondents (49.2%) considered SARS monthly tariffs as a hindrance to innovation.

6.3 CONCLUSIONS

The conclusions are formulated in accordance with the objectives of the study.

6.3.1 Conclusions as to the research objectives

The following section provides an overview of the conclusions of the study in line with the study's research objectives. These conclusions are based on the statistical analysis of the empirical findings, and the hypotheses tested. The variables that were tested, and which are discussed below, are based on the questionnaire (*see Appendix 1)* which was formulated in accordance with a comprehensive literature review and with the research objectives. The questionnaires were disseminated personally to the target population in order to collect this primary data.

The data, when analyzed, reflected a host of challenges and critical factors affecting innovative SME leadership in the manufacturing sector. The findings suggest that an integrated model for innovative leadership, providing key pointers for the attainment of sustainable growth and successful innovation, can be designed, applied and used for the benefit of the leadership (owners and managers) in this sector. The proposed integrated model is presented and discussed in the following section.

Sub-objective 1: To identify managerial skills and innovative leadership skills which assist sustainability of manufacturing SMEs

The findings of the study reflected that achieving business innovation requires SMEs to overcome considerable challenges. It is further concluded that for successful innovative leadership, Technical skill, project management skills, and appropriate education and training are key drivers of innovation, its successful implementation, and business sustainability.

Sub-objective 2: To explore the impact of technical expertise on innovative leadership for sustainability of manufacturing SMEs

It is concluded that leaders and managers believe that the possession of technical skills amongst management greatly influences the implementation of business innovation. This involves the entrepreneurs' ability to co-ordinate and manage critical business books and most significantly the implementation of advanced ICTs in the business

Sub-objective 3: To establish the relationship between innovative leadership and financial capital for the growth and sustainability of manufacturing SMEs

The study concludes that leadership success is influenced by lack of government financial assistance. While financial institutions have made some financial support available to manufacturing SMEs, the study concludes that the lengthy processes and comprehensive documentation they require poses significant challenges for entrepreneurs seeking loans and credit. The up-to-date ICTsupport seen as essential for successful innovation was also affected by lack of sufficient capital. With regards to innovation factors, the study concludes that business capital continues to have the greatest impact on growth and sustainability of manufacturing SMEs.

Sub-objective 4: To examine the relationship between government incubators and innovative leadership for the sustainability of manufacturing SME

The study concludes that, even though the government has made support available to SMEs by setting up business incubators, they have been found to be less successful in addressing the needs of the entrepreneurs and manufacturing SMEs. This is reflected by the shocking numbers of SMEs closing down on a yearly basis, as indicated in the literature review. There seems to be a wide gap between the intentions of business incubators and what is actually offered to entrepreneurs and manufacturing SMEs. Therefore, the government urgently needs to refocus their business incubation system and intentions, and align them to the specific needs of the businesses if they are to be beneficial to improving the status of SMEs in South Africa. Based on the empirical findings, this study concludes that there is a positive relationship between government incubators and innovative leadership.

Sub-objective 5: To identify environmental factors which impact upon innovative leadership for the sustainability of manufacturing SMEs

Environmental barriers (internal and external factors) were considered to have an important effect on business leadership and attainment of sustainable growth. The empirical findings showed that employee support, capital and business performance were identified as the main internal factors that had an impact on innovative leadership while social factors and rapid technological changes were the main external factors that influenced business innovation. It is therefore concluded that if innovative leadership are serious about the firm's continued and successful existence, they will need to place a greater focus on these environmental factors.

Sub-objective 6: To examine government regulations which impact upon innovative leadership for the growth and sustainability of manufacturing SMEs

With reference to government barriers to innovation, the study concludes that South African SME regulations remain a persistent hindrance in the attainment of sustainable growth, with compliance with government regulations identified as a reason for the liquidation of many manufacturing SMEs.

6.4 CONCLUSION ABOUT RESEARCH HYPOTHESES

This section provides a detailed overview of the conclusions made in terms of the hypotheses set in Chapter One and presented as the null hypotheses (Ho) and alternative hypothesis (Ha). The main hypotheses for this study are addressed as follows:

Ha1: There is a relationship between management skills and innovative leadership education and training opportunities
Bivariate correlation results reflected a significantly positive strong relationship between the tested variables at .310*** (sig. 0.000) level. The null hypothesis is rejected and it can be concluded that management skills are influenced by innovative leadership education and training.

Ha2: There is a relationship between technical skills and level of education of innovative leadership towards sustainability of manufacturing SMEs
Bivariate correlation results reflected a significantly positive strong relationship between the tested variables at .289*** (sig. 0.000) level. The null hypothesis is rejected and it can be concluded that technical expertise and education level are related and have influence on innovative leadership.

Ha3: There is a relationship between profits and ICT implementation costs towards growth and sustainability of manufacturing SMEs
Bivariate correlation results reflected a significantly positive strong relationship between the tested variables at .535*** (sig. 0.000) level. The null hypothesis is rejected and it

can be concluded that profits and ICT implementation costs are related and have significant influence on growth and sustainability of manufacturing SMEs.

Ha4: There is a relationship between government incubators and lack of technical skills workshop of innovative leadership towards sustainability of manufacturing SMEs

Bivariate correlation results reflected a significantly positive strong relationship between the tested variables at .683*** (sig. 0.000) level. The null hypothesis is rejected and it can be concluded that government incubators and technical skills development are related and have impact on sustainability of manufacturing SMEs.

Ha5: There is a relationship between environment factors (capital and business performance) and innovative leadership failure to adopt up-to-date ICT support towards sustainability of manufacturing SMEs

Bivariate correlation results reflected a significantly positive strong relationship between the tested variables at .240*** (sig. 0.000) level. The null hypothesis is rejected and it can be concluded that environmental factors and adoption of up-to-date ICT are related and influence the sustainability of manufacturing SMEs.

Ha6: There is a relationship between government regulators and manufacturing SMEs profits towards growth and sustainability of manufacturing SMEs

Bivariate correlation results reflected a significantly positive strong relationship between the tested variables at .277*** (sig. 0.000) level. The null hypothesis is rejected and it can be concluded that government regulators and business profits are related and have a significant impact on innovative leadership, growth and sustainability of manufacturing SMEs.

6.5 IMPLICATIONS

The outcomes of this study include the implications for business innovative leadership in attaining sustainable growth of manufacturing SMEs in KZN.

Implications of business innovative leadership theory

The primary focus of this study is to contribute to the body of knowledge by proposing an integrated model consisting of the critical factors affecting business innovative leadership in attaining sustainable growth of the SME sector, with specific reference to South African manufacturing SMEs in KZN. These, as well as other manufacturing SMEs in other countries, as documented in the literature and through the empirical findings of this study, are subject to numerous challenges which impede their innovative potential and hence their ability to achieve sustainable growth.

The proposed integrated innovative leadership framework (*see figure 6.2*) depicts that innovative leadership technical skills, education and training, resources, government support and ICT adoption are principal aspects to business innovation and sustainable growth of manufacturing SMEs. It is therefore, important for innovative leadership to pay close attention to these theories and other relevant innovation, leadership and growth theories that would help them to deal with the turbulent and complex business environment that currently exists. These theories can also help entrepreneurs to understand the determinants of economic growth and to develop an innovation culture within a business.

A greater awareness in terms of environmental barriers that influence business innovation is of significance to growth and sustainability of manufacturing SMEs. As manufacturing SMEs are recognized and applauded as the backbone of South African economy, the development of new theories and conceptual frameworks indicates that there is a need for innovative leadership to start considering the adoption and implementation of innovative leadership and business growth theories for the purpose of business innovation, growth and sustainability.

Implications for manufacturing SME practice

South African manufacturing SMEs are in a position to provide a major contribution towards economic transformation of the country, including contributing towards GDP, employment creation, economic development and transformation. It is against this background that it was considered important to study and analyze possible ways to develop innovative leadership as the key to supporting the manufacturing SME sector. The empirical findings indicated that in the opinion of these business leaders themselves greater innovation is achievable through good education, training and field related technical skills, given the right business environment. If financial constraints can be lessened and access to appropriate education and training enhanced, then leadership should be in a better position to adopt current cutting-edge business innovative strategies and growth models making sustainable growth more easily attainable. Simplified access to government support through both finance and training, together with less onerous procedures in connection with registration and compliance with tax laws and other government regulations were all identified, in varying degrees, as being significant catalysts for innovation. Knowledge of ICT in all its forms was also singled out as especially important for innovators in the current age, while awareness of shifting social norms and needs was also important particularly in a global market place.

6.6 RECOMMENDATIONS BASED ON THE RESULTS OF THE STUDY

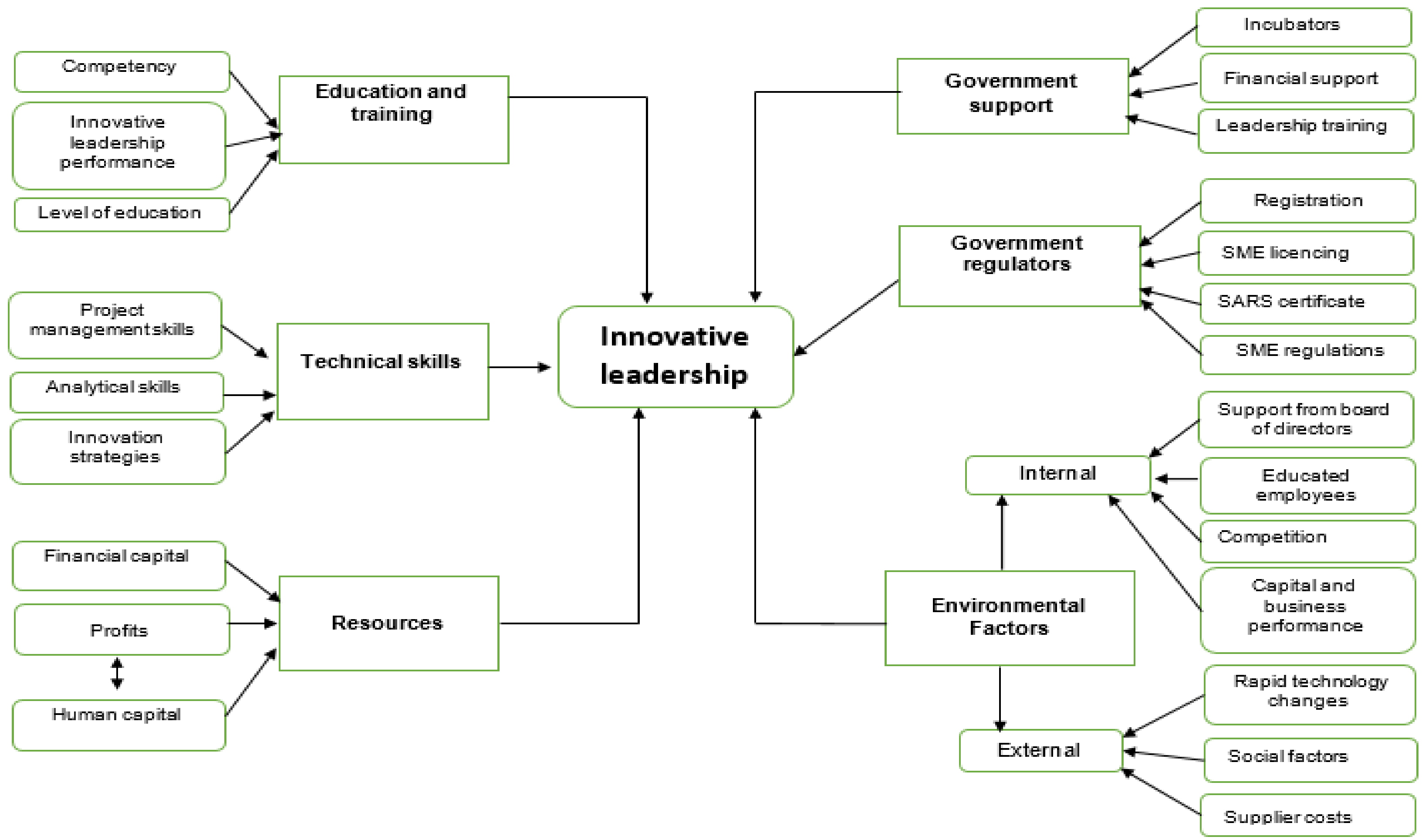
The recommendations of this study are based on the empirical findings of the study and are discussed below.

Theoretical framework formulated through variables identified from the literature review.

As indicated in the previous chapters, the formulation of the objectives, hypotheses and data collection instrument was achieved through a rigorous literature search. The literature review served as a fundamental source for identifying and selecting variables that supported the development of this research study (see figure 6.1).

Based on the literature review, it can be concluded that entrepreneurs within the manufacturing SME sector are affected by a number of challenges which can create major setbacks in terms of business development, innovation and sustainable growth. These challenges were identified and categorized into research themes in order to create a focus for the research study. As reflected in the theoretical framework below, education and training, technical skills, resources, government regulators, government support and environmental barriers were all identified as critical components that influenced innovative leadership in acquiring and achieving innovation and sustainable growth of a business. These variables were used for questionnaire formulation and were scientifically tested, and, as a result, the proposed integrated model has been developed and is presented below (*see figure 6.2*).

Table: 6.1: Theoretical framework based on literature review



Source: Developed by the researcher

Figure 6-1 conceptual framework based on literature review

The development of this framework was achieved through rigorous analysis of both the secondary and primary data gathered and through insights gained from the study's conceptual framework. The primary (empirical) data was arrived at by testing a wide range of variables, all of which were deemed by the respondents (SME leaders themselves) to have a significant impact on business innovation and sustainable growth of manufacturing SMEs.

6.7 PROPOSED INTEGRATED CONCEPTUAL FRAMEWORK

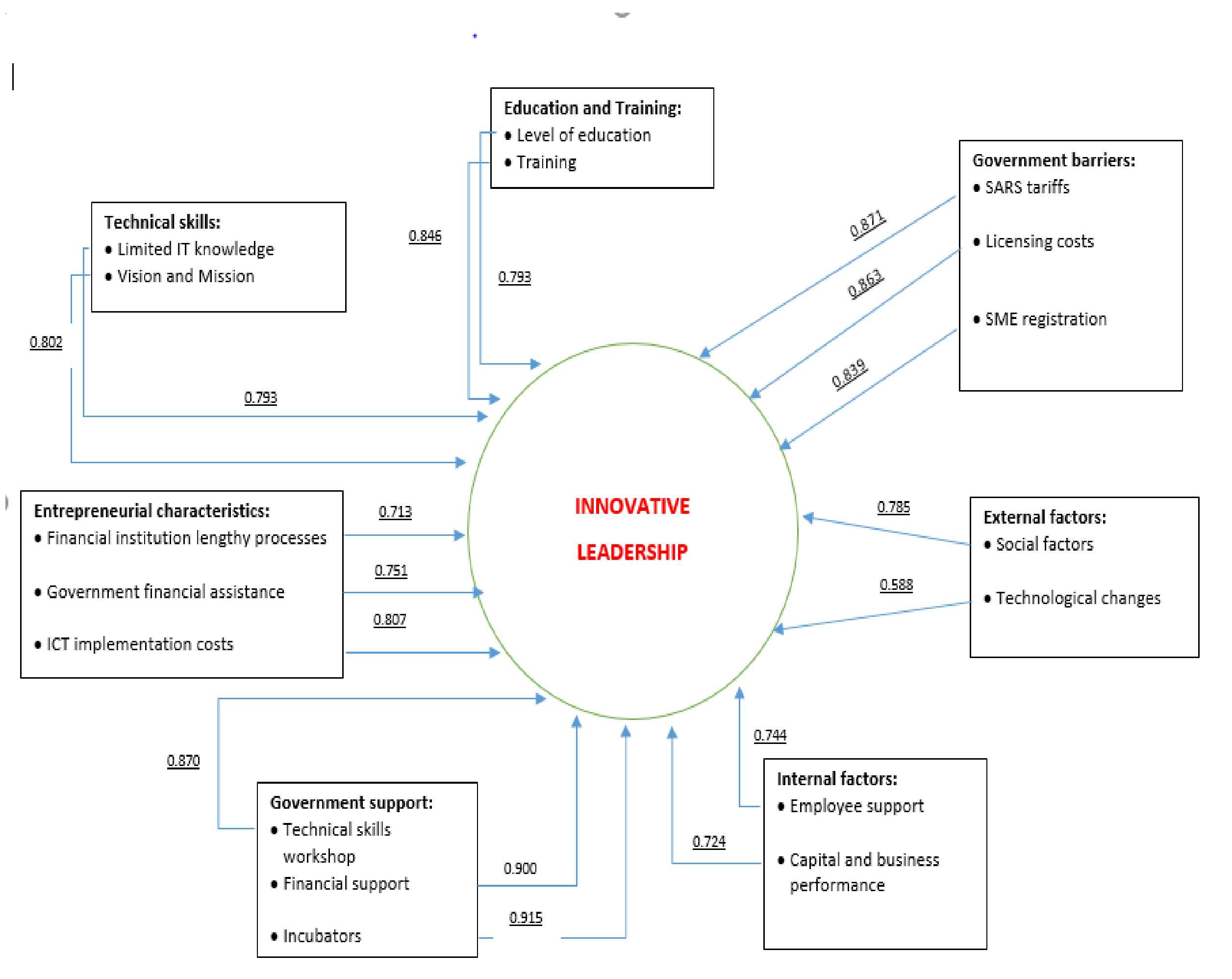


Figure 6-2 Proposed integrated conceptual framework

Education and training: The level of education of the leadership was found to be important. The people who possess higher qualifications have been perceived to be good innovators compared to entrepreneurs with lower or no qualifications. It is therefore recommended that innovative leadership should invest in their own education and employees' education and training to broaden their business acumen. The empirical findings of this study are further supported by *Jean Baptiste* and *Schumpeter's* entrepreneurship/innovation theories, in that innovative leadership need to possess special collection of skills (through education and training) in order to find strategically informative ways of solving complex issues and with-standing difficult challenges.

Technical skills: The proposed integrated conceptual framework reflects that a lack of technical skills, limited IT knowledge and poor organizational vision and mission have been regarded as part of the technical aspects that are critical as indicated by the respondents. The need is to have technical skills support, and innovative leadership with abilities to analyse business trends and the business environment and thus improve the overall business operations.

Entrepreneurial characteristics: Lengthy financial institutional processes, shortage of government financial assistance, and ICT implementation costs have been identified by the empirical study as drawbacks to innovative leadership effectiveness. Therefore, the study recommends that it is very important that innovative leadership should be aware of these characteristics and how they impact on their businesses.

Government support: Government support in the form of providing technical skills workshops, financial support and business incubators were identified by the empirical study as the key aspects with which entrepreneurs needed assistance. It is recommended that the government should be able to provide training workshops that are in line with the needs of innovative leadership and that well-funded business incubators should be able to provide these workshops and training. In line with the government mandate to strengthen the country's economy, it needs to strengthen its financial support to small businesses. They need to offer a wide range of funding with fewer restrictions to improve the position of small businesses in South Africa.

Internal factors: Employee support, capital, and business performance were identified by the empirical study as key internal factors that had a critical impact on leadership's ability to introduce innovative business operations and innovative technological advances. It is therefore recommended that innovative leadership should analyse the firm's strength and weaknesses of their internal operations in order to meet the target market. This exercise, will help innovative leadership identify assets to exploit for success of the business and key weaknesses that impede business growth.

External factors: An awareness of social factors and a willingness to implement continuous technological changes in line with external developments were identified by the empirical study as key factors that affected innovative leadership. It is therefore important that leadership understands the wider business environment in order to produce and introduce products that are needed and wanted by consumers which in turn will improve the sales figures and revenues earned. Furthermore, it is recommended that innovative leadership should keep up with current technological trends.

Government barriers: SARS tariffs, business licensing costs, and SME registration were identified by the empirical study as critical aspects that influenced manufacturing SMEs' innovation and sustainable growth. The government demands rigid adherence to business regulations, but fails to provide guidance and support to small businesses, and this can be overwhelming to new entrepreneurs. It is therefore recommended that the government should lessen red tape where feasible, and foster a greater understanding of its regulations where this is needed.

Overall, it is recommended that for leadership to achieve successful innovation and sustainable growth, that they should first conduct rigorous internal and external analyses of the inhibiting factors affecting them, to determine the most appropriate remedial approaches for their circumstances, and in their specific sectors. The conceptual framework indicated in the model above will help in the conception of these individual approaches.

6.8 RECOMMENDATIONS

Education and Training

The findings of the study revealed that innovative leadership level of education and training (both amongst the leadership and the employees) impede on the implementation of innovation:

- It is recommended that manufacturing SMEs need to invest in education and training for innovative leadership. Educational policies promoting education and training as for the development of innovative leadership need to be implemented. This means that staff development plans should be included in the strategic planning of the organization as an ongoing item. A systematic monitoring mechanism can then be identified and adopted to track staff progress.
- Manufacturing SMEs need to form a strong partnership with universities and technikons in order to seek or design field related qualifications and training workshops that are needed in manufacturing industry. The Government can also look at the Goldman Sachs model where 10,000 Small Businesses programme are run in the UK through the partner universities in Aston, Leeds and Manchester Metropolitan. This approach is designed to build the necessary field related entrepreneurial skills and help a cohort of companies grow at a faster rate.
- The government incubators need to be heavily involved with innovative leadership capacity growth. These business incubators need to have business experts with proven knowledge and experience on issues relating to business development and growth. These individuals will therefore be able to provide field related training workshops that are goal specific. This will help capacitate innovative leadership and promote a broader level of business understanding, which can influence business innovation and better management of the firm.
- Manufacturing SMEs further need to form business collaborative forums with both small and larger firms. This will help them share knowledge and expertise that will support business innovation and growth. For instance,

since small firms often bring fresh perspective on nascent markets, larger firms can share their strong financial resources in supporting new ideas.

Skills development of employees

The findings of the study indicate that innovative leadership is affected by a lack of educated employees to support business innovation:

- Skills and training are a prerequisite for manufacturing SMEs to achieve innovation and sustainable growth. The study recommends that manufacturing SMEs need to start investing in staff capabilities if they are serious about business innovation and growth. Training workshops that are cost effective and available nationally and internationally should be arranged and made available to employees. This should improve staff capabilities and allow for new innovative strategies and ideas to be available from both staff and leadership.
- Staff training and development provided on a yearly basis needs to be seen by innovative leadership as a strategic tool to business innovation and growth. This is because professional development provides skills that will help employees maintain and enhance the knowledge and skills needed to perform their jobs and this will also positively improve staff influence on business operations. This means that innovative leadership should be entrepreneurs with transformative leadership characteristics. As discussed in the literature review, this type of leadership style is concerned with creating an environment that is conducive for innovation to prosper through empowering and developing employees.
- The study further recommends that manufacturing SMEs need to start employing qualified employees to help improve the overall performance of the firm. If this is not viable, then, internal staff development should be identified as a key strategic plan for preparing and grooming employees for certain job profiles within the organization.

Business policy re-evaluation

Based on the findings of the study, government regulations and inappropriate government support mechanisms have had a negative impact on innovative leadership and sustainability. Therefore, it is recommended that:

- South African government business policy makers should review and reconsider government regulations and business taxes paid by manufacturing SMEs, specifically SARS tariffs, SME registration costs and licensing costs should all be critically evaluated to relieve the pressure on manufacturing SMEs considering their substantial economic contribution and involvement in the prosperity of South Africa. This will promote an appropriate business climate conducive for business innovation and sustainable growth of firms.
- Government financial support continues to be out of reach of most manufacturing SMEs. The government and/ or financial institutions need to find a better system of providing financial support so that it is reachable by all SME plying their trade in South Africa. For instance, short term loans should be automatically granted to newly registered small businesses to develop and grow.
- Government needs to urgently consider a supporting and protecting legal and regulatory framework that protects manufacturing SMEs from high interest rates and from providing collateral to banks, by providing government guarantees.
- Periodic monitoring and evaluation of business policies is needed in order to determine whether SMEs are able to cope. This will strengthen the ongoing efforts to build a less concentrated, more competitive, economic and manufacturing structure in which barriers to entry for new entrants are lowered across key sectors of the economy. One of the aspects that the government could eliminate is business registration fees and taxes which new businesses are subject to paying. The government and financial institutions should consider subsidizing small businesses by providing loan guarantees with low interest rates. Furthermore, the government could lower taxes to new small

businesses and a probation period of two year could be given to those businesses while they work to establish themselves.

- Government support mechanisms, including monetary resources and nonmonetary resources, need to be documented, advertised, communicated, and made easily available to all SMEs regardless of the type or location of the business. This information should also be available in all departments that engage, support and promote business development.

  Based on monetary resources, the government has set R1.4 billion to support small businesses with finance, incubation and mentoring. This is a recent announcement made by *President Cyril Ramaphosa in 2019* with the intentions of promoting entrepreneurship which will in the long run improve and strengthen the economic status of the country. It is therefore, recommended that a rigid systematic approach should be implemented to monitor the progress and effectiveness of the support provided to small businesses. An independent department with qualified business experts should be identified and appointed to administer these funds and facilitate business incubation programmes.

Technology adoption

The findings indicate that business innovation is strongly influenced by rapid technological changes and this affects sustainable growth of manufacturing SMEs:

- It is an urgent requirement for manufacturing SMEs to invest in appropriate technological advances as, across the globe, innovations involve the need to go through revolutionary changes (frequently technological) in order to be aligned with the current business dynamics. This alignment promotes competitiveness and improves manufacturing processes and strategies in accordance with the requirements of modern technology that needs to be on a par with international standards. The adoption of advanced technology will not only enhance the manufacturing processes but will yield positive results for trade facilitation in both local and international markets.

- Manufacturing SMEs need to form strong partnerships, according to their sector, with bigger firms who are resource-rich. In this manner, they will profit in using their resources which will enable sustainability-oriented innovation and radical innovation developments to be achievable.

6.9 LIMITATIONS OF THE STUDY

The study was conducted in KZN and only focused on approximately 400 managers, owners and leaders of manufacturing SMES. The study did not cover other provinces, although, as a true reflection of KZN and not of South Africa as a whole, lessons could still be learned by SMEs in other Provinces. Therefore, the findings of the study should be used with caution. Furthermore, in order to gather primary data from the participants, a closed-ended questionnaire was used with predetermined statements formulated from an intensive literature review and from its research objectives, while open-ended questions for additional comments were excluded from the questionnaires. This method limited the researcher's insights into the views of the respondents to some extent.

6.10 RECOMMENDATIONS FOR FUTURE RESEARCH

Based on the empirical findings of the study, it is recommended that further research be conducted into:

An exploration of field-related education and training needs for innovative leadership aimed specifically for growth and sustainability of manufacturing SMEs.

Further research on business innovative strategies that influence successful business innovation implementation needs to be undertaken. This will help provide various business innovation strategies that can be utilized by leadership in their quest of achieving business innovation.

Further research should assess the influence of government regulations on manufacturing SME profits and development. This will provide a clearer understanding of the exact contribution that manufacturing SMEs make to GDP, besides the other roles they play towards the development of South African economic transformation.

Further research needs to be conducted to determine the impact of government support mechanisms on manufacturing SMEs' innovation culture and sustainable growth. This type of research can provide a clearer picture of the roles and involvement government support has in nurturing and promoting the establishment of manufacturing SMEs

A critical analysis of affordable technological development strategies that are key to manufacturing SMEs needs to be undertaken. This will help innovative leadership to invest in appropriate technological advances and to consider it as a critical tool for obtaining and maintaining a competitive edge and subsequent growth.

Further research should be conducted on Government financial support structures and systems as they have significant shortcomings currently, in terms of contributing to the growth and survival of manufacturing SMEs. This will help in our understanding of the problems and challenges that prevent the financial agencies (such as the National Empowerment Fund, Khula enterprise, National Youth Development Agency, and the Critical Infrastructure Programme) from actively supporting the development, growth and sustainability of manufacturing SMEs.

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APPENDICES

APPENDIX 1: QUESTIONNAIRE

Faculty of Management Sciences
Department of Entrepreneurial Studies and Management

Date: ___________________

Dear Participant

I am studying towards a PhD in Business Administration, in the Faculty of Management Sciences at the Durban University of Technology. The title of my research is: **A proposed integrated model for innovative leadership to attain sustainable growth of manufacturing Small and Medium Enterprise (SMEs) in KwaZulu Natal (KZN)**

Please complete the questionnaire to enable me to gather data for my research. This questionnaire is designed to gather critical **factors affecting innovative leadership of manufacturing Small and Medium Enterprise for sustainable growth in KwaZulu Natal.** The information you provide will be kept strictly confidential. Please be assured that you will remain anonymous throughout the research process and in any reporting or write-ups related to my research. Please also be advised that participation is voluntary and participants can withdraw from the study.

If you need any clarity on the study, please contact the researcher or the supervisor.

____

Mr M. Ngibe

PhD: Business Administration

Email Addr: musawenkosin1@dut.ac.za

Dr L. Lekhanya

Supervisor

Email Addr: lawrencel@dut.ac.za

I hereby kindly request that you complete the following section by placing a cross (X) in the appropriate box to reflect your answer.

SECTION A: Biographical data

Please indicate your age group

19 – 25 years	1
26 – 32 years	2
33 – 39 years	3
40 - 49 years	4
More than 50 years, please specify:____________________	5

Please indicate the type of ownership

Sole proprietor	1
Partnership	2
Manager of the business and co-owned	3
Corporation	4
Other, Please specify ______________________________	5

Please indicate the number of years the business has been in existence

1 – 5 years	1
6 – 10 years	2

11 – 15 years	3
More than 15 years, please specify_______________	4

Please indicate your highest qualification

Matric Certificate	1
National Diploma	2
BTech/honours	3
Masters	4
PhD	5
Other, please specify______________________________	6

SECTION B: **Factors influencing leadership and innovation in manufacturing SMEs**

Please indicate your response to the following questions regarding leadership and innovation for the growth and sustainability of manufacturing SMES.

Please place a cross (X) for each statement that truly reflects your response where:

1 = Strongly disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly agree

Statement	**Strongly disag**	**Disagree 2**	**Neutral**	**Agree 4**	**Strongly agre**

	re e 1		3		e 5
The following questions are based on education and training of innovative leadership in manufacturing SMEs					
5a. Innovative leadership level of education influences the innovative leadership skills of entrepreneurs					
5b. Training will improve the innovative leadership performance of entrepreneurs					
5c**.** Training will improve the ability of entrepreneurs to be innovative					
5d. Level of education will influence the ability of entrepreneurs to be innovative					
The following questions are based on technical skills of innovative leadership in implementing innovation					
6a. A lack of technical skills will affect an entrepreneur's innovation strategies					
6b. A lack of technical					

skills will affect an entrepreneur’s analytical skills					
6c. A lack of technical skills will affect the level of customer support an entrepreneur is able to provide.					
6d. A lack of technical skills will affect an entrepreneur’s ability to co-ordinate and manage critical business books					
6e. A lack of technical skill will affect the ability of an entrepreneur to communicate effectively					
6f. A limited knowledge on IT has impact on leadership abilities					
6g. Lack of technical skills affect the vision and mission of the business					
6h. Lack of technical skills affects innovation process due to project management skills					
6i. Lack of technical skill affects service delivery from leadership					
The following are entrepreneurial					

characteristics that affects innovative leadership of manufacturing SMEs					
7a. Innovation is affected by the lengthy processes required by financial institutions.					
7b. Innovation is affected by lack of government financial assistance					
7c. Innovative leadership is affect by profits					
7d. Innovative leadership is affected by lack of educated employees					
7e. Innovation is affected by lack of failure to adopt up-to-date ICT support within the business					
7f. Innovative leadership is affected by ICT implementation costs					
The following statements are based on government support mechanisms for innovative leadership					
8a. Lack of government support for entrepreneurs affects innovative leadership potential					
8b.Lack of technical skills workshops or training					

provided by the government institutes affects innovative leadership abilities					
8c. Innovative leadership is affected by lack of financial support from the government					
8d. Innovation is affected by lack of support from government incubators					
8e. Innovation is affected by lack of ICT support from the government					
The following are environmental barriers that affect innovative leadership towards sustainable growth of SMEs					
Internal factors: ***9a.*** Innovative leadership is affected by a shortage of available educated employees					
9b. Innovation is affected by an appropriate mission statement which entrepreneurs keep to					
9c. Innovative leadership is affected by lack of support from shareholders and or board of directors					

9d. Innovative leadership is affected by lack of support from employees					
9e. Innovative leadership is affected by capital and business performance					
9f. Innovation is affected by limited/shortage of space					
External factors: ***9f.*** Innovative leadership is affected by supplier costs					
9g. Innovative leadership is affected by marketing intermediaries					
9h. Innovation is influenced by social factors					
9i. Social factor influence innovative leadership abilities					
9j. Innovation is affected by rapid technological changes					
9k. Innovation is influenced by competition					
The following are government barriers to leadership of manufacturing SMEs					
10a. Innovative leadership is affected by the cost of SME registration.					

10b. Innovative leadership is affected by SME licencing costs					
10c. Innovative leadership is affected by SARS monthly tariffs					
10d. Innovative leadership is affected by too many South Africa SME regulations					
10e. Many manufacturing SMEs close down due to lack of compliance with government regulators					

Thank you for taking time to complete the questionnaire. You participation is highly appreciated.

[redacted]

APPENDIX 3: ETHICAL CLEARANCE LETTER

DUT DURBAN UNIVERSITY OF TECHNOLOGY | FACULTY OF MANAGEMENT SCIENCES | RESEARCH ETHICS COMMITTEE

MANAGEMENT SCIENCES: FACULTY RESEARCH ETHICS COMMITTEE (FREC)

12 April 2019
Student No: 20813980
FREC REF: 124/16FREC

Dear Mr M Ngibe

PhD: Management Sciences: Business Administration

TITLE: A PROPOSED INTEGRATED MODEL FOR INNOVATIVE LEADERSHIP TO ATTAIN SUSTAINABLE GROWTH OF MANUFACTURING SMES IN KZN

Please be advised that the FREC Committee has reviewed your proposal and the following decision was made: **Ethical Level 2**

Date of FRC Approval: 13 October 2016

Approval has been granted for a period of two years from the above FRC date, after which you are required to apply for safety monitoring and annual recertification. Please use the form located at the Faculty. This form must be submitted to the FREC at least 3 months before the ethics approval for the study expires.

Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the FREC according to the FREC SOP's.
Please note that ANY amendments in the approved proposal require the approval of the FREC as outlined in the FREC SOP's.

Yours Sincerely

[redacted]

____
Prof JP Govender
Chairperson: FREC

APPENDIX 4: RELIABILITY TEST

```
GET
FILE='C:\Users\singh\OneDrive\Stats Analysis\1 - 2018\Musawenkosi Ngibe\Musawenkosi - Data.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
RELIABILITY
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/SCALE ('ALL VARIABLES') ALL
/MODEL=ALPHA.
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Reliability

Notes

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Comments		
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	Weight	<none>
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	Matrix Input	C:\Users\singh\OneDrive\Stats Analysis\1 - 2018\Musawenkosi Ngibe\Musawenkosi - Data
Missing Valu	Definition of	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES=B5a B5b B5c B5d /SCALE('ALL VARIABLES') ALL /MODEL
Resources	Processor T	00:00:00.00
	Elapsed Tim	00:00:00.01

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Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	383	99.7
	Exclu	1	0.3
	Total	384	100.

a. Listwise deletion based on all variables in the pro

onbach's Alp	N of Items
0.809	4

Reliability Statistics

```
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Reliability

Notes

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	Split File	<none>
	N of Rows in	384
	Matrix Input	
Missing Valu	Definition of	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.

Syntax	RELIABILITY /VARIABLES=B6a B6b B6c B6d B6e B6f B6g B6h B6i /SCALE('ALL VARIA
Resources	Processor T 00:00:00.02
	Elapsed Tim 00:00:00.04

18 21:19:51

Scale: ALL VARIABLES

CaseProcessing Summary

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Cases	Valid	382	99.5
	Exclu	2	0.5
	Total	384	100.

a. Listwise deletion based on all variables in the pro

onbach's Alp	N of Items
0.877	9

Reliability Statistics

RELIABILITY

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Reliability

Output Created	Comments	
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	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in	384
	Matrix Input	
Missing Value	Definition of	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES=B7a B7b B7c B7d B7e B7f /SCALE('ALL VARIABLES') ALL /
Resources	Processor T	00:00:00.02
	Elapsed Tim	00:00:00.02

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	381	99.2
	Excluded[a]	3	0.8
	Total	384	100.0

a. Listwise deletion based on all variables in the pro

onbach's Alp	N of Items
0.838	6

Reliability Statistics

RELIABILITY
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Reliability

Notes

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	Weight	<none>
	Split File	<none>

Matrix Input		
Missing Valu	Definition of	User-defined missing values are treated as missing.
Cases Used		Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES=B8a B8b B8c B8d /SCALE('ALL VARIABLES') ALL /MODEL
Resources	Processor T	00:00:00.00
	Elapsed Tim	00:00:00.03

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	381	99.2
	Excluded	3	0.8
	Total	384	100.0

a. Listwise deletion based on all variables in the pro

onbach's Alp	N of Items
0.908	4

Reliability Statistics

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Reliability

Notes

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	Weight	<none>
	Split File	<none>
	N of Rows in	384
Syntax		

M	atrix Input	
Missing Valu	Definition of	User-defined missing values are treated as missing.
Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.	
RELIABILITY /VARIABLES=B9a B9b B9c B9d B9e B9f1 B9f2 B9g B9h B9i B9j B9k /SCA		
Reso urces	Processor T	00:00:00.02
	Elapsed Tim	00:00:00.02

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	373	97.1
	Excluded	11	2.9
	Total	384	100.0

a. Listwise deletion based on all variables in the pro

onbach's Alp	N of Items
0.798	12

Reliability Statistics

RELIABILITY
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Reliability

Notes

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	Weight	<none>
	Split File	<none>
	N of Rows in	384
	Matrix Input	
Missing Valu	Definition of	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES=B10a B10b B10c B10d B10e /SCALE ('ALL VARIABLES') AL
Resources	Processor T	00:00:00.00
	Elapsed Tim	00:00:00.01

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	376	97.9
	Excluded	8	2.1
	Total	384	100.0

a. Listwise deletion

onba	N of Items
0.86	5

		N of Items	nbach's
B	Educatio	4	0.809
B	Technica	9	0.877
B	Entrepre	6	0.838
B	Govern	4	0.908
B	Environ	12	0.798
B	Govern	5	0.863

APPENDIX 5: CHI SQUARE TEST

	Chi-Square	df	Asymp. Sig.
Please indicate your age group	155.681	4	0.000
Please indicate the type of ownership	123.703	3	0.000
Please indicate the number of years the business has been in existence	342.653	3	0.000
Please indicate your highest qualification	193.52	5	0.000
Innovative leadership level of education influences the innovative leaders	276.339	4	0.000
Training will improve the innovative leadership performance of entrepren	400.851	4	0.000
Training will improve the ability of entrepreneurs to be innovative	352.016	4	0.000
Level of education will influence the ability of entrepreneurs to be innova	170.245	4	0.000
A lack of technical skills will affect an entrepreneur's innovation strategie	230.094	4	0.000
A lack of technical skills will affect an entrepreneur's analytical skills	247.172	4	0.000
A lack of technical skills will affect the level of customer support an entre	201.729	4	0.000
A lack of technical skills will affect an entrepreneur's ability to co-ordinate	197.589	4	0.000
A lack of technical skill will affect the ability of an entrepreneur to commu	123.5	4	0.000
A limited knowledge on IT has impact on leadership abilities	110.225	4	0.000
Lack of technical skills affect the vision and mission of the business	79.698	4	0.000
Lack of technical skills affects Innovation process due to project manage	238.734	4	0.000
Lack of technical skill affects service delivery from leadership	154.49	4	0.000
Innovation is affected by the lengthy processes required by financial insti	92.016	4	0.000
Innovation is affected by lack of government financial assistance	100.349	4	0.000
Innovative leadership is affect by profits	91.482	4	0.000
Innovative leadership is affected by lack of educated employees	118.734	4	0.000
Innovation is affected by lack of failure to adopt up-to-date ICT support v	200.12	4	0.000
Innovative leadership is affected by ICT implementation costs	186.651	4	0.000
Lack of technical skills workshops or training provided by the governmen	190.036	4	0.000
Innovative leadership is affected by lack of financial support from the gov	145.368	4	0.000
Innovation is affected by lack of support from government incubators	150.12	4	0.000
Innovation is affected by lack of ICT support from the government	109.724	4	0.000
Innovative leadership is affected by a shortage of available educated em	124.324	4	0.000
Innovation is affected by an appropriate mission statement which entrepr	61.495	4	0.000
Innovative leadership is affected by lack of support from shareholders an	186.125	4	0.000
Innovative leadership is affected by lack of support from employees	148.188	4	0.000
Innovative leadership is affected by capital and business performance	251.807	4	0.000
Innovation is affected by limited/shortage of space	55.655	4	0.000
Innovative leadership is affected by supplier costs	82.458	4	0.000
Innovative leadership is affected by marketing intermediaries	119.359	4	0.000
Innovation is influenced by social factors	175.837	4	0.000
Social factor influence innovative leadership abilities	131.295	4	0.000
Innovation is affected by rapid technological changes	287.386	4	0.000
Innovation is influenced by competition	337.937	4	0.000
Innovative leadership is affected by the cost of SME registration	100.903	4	0.000
Innovative leadership is affected by SME licensing costs	87.614	4	0.000
Innovative leadership is affected by SARS monthly tariffs	77.398	4	0.000
Innovative leadership is affected by too many South Africa SME regulatio	92.163	4	0.000
Many manufacturing SMEs close down due to lack of compliance with go	90.749	4	0.000

APPENDIX 6: CROSS TABULATIONS

Correlations

			Innovative leadership level of education influences the innovative leadership skills of entrepreneurs	Training will improve the innovative leadership performance of entrepreneurs	Training will improve the ability of entrepreneurs to be innovative	Level of education will influence the ability of entrepreneurs to be innovative	A lack of technical skills will affect an entrepreneur's innovation strategies	A lack of technical skills will affect an entrepreneur's analytical skills	A lack of technical skills will affect the level of customer support an entrepreneur is able to provide	A lack of technical skills will affect an entrepreneur's ability to co-ordinate and manage critical business books	A lack of technical skill will affect the ability of an entrepreneur to communicate effectively	A limited knowledge on IT has impact on leadership abilities	Lack of technical skills affect the vision and mission of the business	Lack of technical skills affects Innovation process due to project management skills	Lack of technical skill affects service delivery from leadership	Innovation is affected by the lengthy processes required by financial institutions	Innovation is affected by lack of government financial assistance	Innovative leadership is affect by profits	Innovative leadership is affected by lack of educated employees	Innovation is affected by lack of failure to adopt up-to-date ICT support within the business	Innovative leadership is affected by ICT implementation costs	Lack of technical skills workshops or training provided by the government institutes affects innovative leadership abilities	Innovative leadership is affected by lack of financial support from the government	Innovation is affected by lack of support from government incubators	Innovation is affected by lack of ICT support from the government	Innovative leadership is affected by a shortage of available educated employees	Innovation is affected by an appropriate mission statement which entrepreneurs keep to	Innovative leadership is affected by lack of support from shareholders and or board of directors	Innovative leadership is affected by lack of support from employees	Innovative leadership is affected by capital and business performance	Innovation is affected by limited/shortage of space	Innovative leadership is affected by supplier costs	Innovative leadership is affected by marketing intermediaries	Innovation is influenced by social factors	Social factor influence innovative leadership abilities	Innovation is affected by rapid technological changes	Innovation is influenced by competition	Innovative leadership is affected by the cost of SME registration	Innovative leadership is affected by SME licensing costs	Innovative leadership is affected by SARS monthly tariffs	Innovative leadership is affected by too many South Africa SME regulations	Many manufacturing SMEs close down due to lack of compliance with government regulators
Spearman's rho	Innovative leadership level of education influences the innovative leadership skills of entrepreneurs	Correlation	1.000																																					
		Sig. (2-tailed)																																						
		N	384																																					
	Training will improve the innovative leadership performance of entrepreneurs	Correlation	.500**	1.000																																				
		Sig. (2-taile	0.000																																					
		N	383	383																																				
	Training will improve the ability of entrepreneurs to be innovative	Correlation	.456**	.701**	1.000																																			
		Sig. (2-taile	0.000	0.000																																				
		N	384	383	384																																			
	Level of education will influence the ability of entrepreneurs to be innovative	Correlation	.484**	.396**	.464**	1.000																																		
		Sig. (2-taile	0.000	0.000	0.000																																			
		N	384	383	384	384																																		
	A lack of technical skills will affect an entrepreneur's innovation strategies	Correlation	.240**	.155**	.262**	.289**	1.000																																	
		Sig. (2-taile	0.000	0.002	0.000	0.000																																		
		N	383	382	383	383	383																																	
	A lack of technical skills will affect an entrepreneur's analytical skills	Correlation	.214**	.171**	.283**	.198**	.541**	1.000																																
		Sig. (2-taile	0.000	0.001	0.000	0.000	0.000																																	
		N	384	383	384	384	383	384																																
	A lack of technical skills will affect the level of customer support an entrepreneur is able to provide	Correlation	.229**	.217**	.307**	.251**	.457**	.568**	1.000																															
		Sig. (2-taile	0.000	0.000	0.000	0.000	0.000	0.000																																
		N	384	383	384	384	383	384	384																															
	A lack of technical skills will affect an entrepreneur's ability to co-ordinate and manage critical business books	Correlation	.214**	.213**	.322**	.259**	.421**	.488**	.502**	1.000																														
		Sig. (2-taile	0.000	0.000	0.000	0.000	0.000	0.000	0.000																															
		N	384	383	384	384	383	384	384	384																														
	A lack of technical skill will affect the ability of an entrepreneur to communicate effectively	Correlation	.192**	.122*	.231**	.270**	.339**	.473**	.527**	.479**	1.000																													
		Sig. (2-taile	0.000	0.017	0.000	0.000	0.000	0.000	0.000	0.000																														
		N	384	383	384	384	383	384	384	384	384																													
	A limited knowledge on IT has impact on leadership abilities	Correlation	.186**	.119*	.221**	.328**	.248**	.315**	.220**	.297**	.507**	1.000																												
		Sig. (2-taile	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000																													
		N	383	382	383	383	382	383	383	383	383	383																												
	Lack of technical skills affect the vision and mission of the business	Correlation	.190**	.140**	.244**	.336**	.422**	.445**	.438**	.397**	.611**	.576**	1.000																											
		Sig. (2-taile	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																												
		N	384	383	384	384	383	384	384	384	384	383	384																											
	Lack of technical skills affects Innovation process due to project management skills	Correlation	.240**	.195**	.310**	.335**	.311**	.358**	.372**	.372**	.399**	.442**	.579**	1.000																										
		Sig. (2-taile	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																											
		N	384	383	384	384	383	384	384	384	384	383	384	384																										
	Lack of technical skill affects service delivery from leadership	Correlation	.240**	.157**	.266**	.302**	.331**	.382**	.339**	.399**	.536**	.518**	.606**	.500**	1.000																									
		Sig. (2-taile	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																										
		N	384	383	384	384	383	384	384	384	384	383	384	384	384																									
	Innovation is affected by the lengthy processes required by financial institutions	Correlation	0.061	-0.003	0.083	0.081	.187**	.189**	.141**	.259**	.232**	.259**	.231**	.222**	.173**	1.000																								
		Sig. (2-taile	0.230	0.947	0.105	0.113	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.001																									
		N	384	383	384	384	383	384	384	384	384	383	384	384	384	384																								
	Innovation is affected by lack of government financial assistance	Correlation	.158**	0.097	.110*	0.072	0.090	0.092	0.085	.158**	.202**	.314**	.242**	.172**	.268**	.565**	1.000																							
		Sig. (2-taile	0.002	0.057	0.031	0.158	0.080	0.072	0.097	0.002	0.000	0.000	0.000	0.001	0.000	0.000																								
		N	384	383	384	384	383	384	384	384	384	383	384	384	384	384	384																							
	Innovative leadership is affect by profits	Correlation	0.096	-0.062	.108*	.163**	.198**	.170**	.152**	.214**	.383**	.461**	.338**	.229**	.302**	.438**	.463**	1.000																						
		Sig. (2-taile	0.061	0.228	0.034	0.001	0.000	0.001	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																							
		N	382	381	382	382	381	382	382	382	382	381	382	382	382	382	382	382																						
	Innovative leadership is affected by lack of educated employees	Correlation	.315**	.107*	.167**	.284**	.266**	.184**	.176**	.183**	.265**	.383**	.366**	.308**	.323**	.353**	.448**	.355**	1.000																					
		Sig. (2-taile	0.000	0.036	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																						
		N	384	383	384	384	383	384	384	384	384	383	384	384	384	384	384	382	384																					
	Innovation is affected by lack of failure to adopt up-to-date ICT support within the business	Correlation	.197**	0.075	.161**	.104*	.246**	.255**	.163**	.228**	.317**	.540**	.403**	.339**	.305**	.410**	.372**	.450**	.492**	1.000																				
		Sig. (2-taile	0.000	0.145	0.002	0.042	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																					
		N	382	381	382	382	382	382	382	382	382	381	382	382	382	382	382	381	382	382																				
	Innovative leadership is affected by ICT implementation costs	Correlation	.160**	.108*	.174**	.173**	.244**	.242**	.157**	.248**	.314**	.481**	.421**	.263**	.332**	.420**	.419**	.535**	.423**	.672**	1.000																			
		Sig. (2-taile	0.002	0.034	0.001	0.001	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																				
		N	384	383	384	384	383	384	384	384	384	383	384	384	384	384	384	382	384	382	384																			
	Lack of technical skills workshops or training provided by the government institutes affects innovative leadership abilities	Correlation	.245**	.162**	.154**	0.056	.121*	.134**	.164**	.141**	.204**	.182**	.148**	.136**	.151**	.330**	.498**	.236**	.253**	.302**	.323**	1.000																		
		Sig. (2-taile	0.000	0.001	0.002	0.272	0.018	0.008	0.001	0.006	0.000	0.000	0.004	0.007	0.003	0.000	0.000	0.000	0.000	0.000	0.000																			
		N	384	383	384	384	383	384	384	384	384	383	384	384	384	384	384	382	384	382	384	384																		
	Innovative leadership is affected by lack of financial support from the government	Correlation	.284**	.182**	.172**	.114*	.139**	.153**	.133**	.121*	.146**	.190**	.193**	.198**	.190**	.352**	.542**	.246**	.308**	.286**	.292**	.754**	1.000																	
		Sig. (2-taile	0.000	0.000	0.001	0.026	0.007	0.003	0.009	0.017	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																		
		N	383	382	383	383	382	383	383	383	383	382	383	383	383	383	383	381	383	381	383	383	383																	
	Innovation is affected by lack of support from government incubators	Correlation	.244**	.159**	.107*	0.076	0.094	.108*	0.061	0.092	.139**	.213**	.184**	.117*	.214**	.297**	.499**	.260**	.297**	.240**	.350**	.683**	.758**	1.000																
		Sig. (2-taile	0.000	0.002	0.037	0.136	0.067	0.034	0.237	0.071	0.006	0.000	0.000	0.022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																	
		N	382	381	382	382	381	382	382	382	382	381	382	382	382	382	382	380	382	380	382	382	381	382																
	Innovation is affected by lack of ICT support from the government	Correlation	.165**	.124*	0.080	.117*	0.083	.117*	0.053	0.078	.143**	.327**	.240**	.205**	.259**	.360**	.504**	.386**	.308**	.423**	.490**	.596**	.654**	.765**	1.000															
		Sig. (2-taile	0.001	0.015	0.116	0.022	0.103	0.022	0.302	0.129	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																
		N	384	383	384	384	383	384	384	384	384	383	384	384	384	384	384	382	384	382	384	384	383	382	384															
	Innovative leadership is affected by a shortage of available educated employees	Correlation	.381**	.209**	.246**	.249**	.283**	.231**	.201**	.205**	.256**	.377**	.310**	.239**	.291**	.268**	.263**	.285**	.484**	.388**	.377**	.281**	.323**	.330**	.362**	1.000														
		Sig. (2-taile	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000															
		N	383	382	383	383	382	383	383	383	383	382	383	383	383	383	383	381	383	381	383	383	382	381	383	383														
	Innovation is affected by an appropriate mission statement which entrepreneurs keep to	Correlation	.188**	0.092	.104*	.187**	.221**	.195**	.177**	.151**	.317**	.319**	.377**	.211**	.238**	.263**	.301**	.286**	.367**	.393**	.411**	.192**	.236**	.290**	.322**	.374**	1.000													
		Sig. (2-taile	0.000	0.073	0.041	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000														
		N	384	383	384	384	383	384	384	384	384	383	384	384	384	384	384	382	384	382	384	384	383	382	384	383	384													
	Innovative leadership is affected by lack of support from shareholders and or board of directors	Correlation	.230**	.146**	.184**	.168**	.194**	.243**	.224**	.201**	.296**	.263**	.284**	.262**	.269**	.136**	.190**	.267**	.228**	.309**	.337**	.255**	.262**	.280**	.303**	.246**	.360**	1.000												
		Sig. (2-taile	0.000	0.004	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000													
		N	383	382	383	383	382	383	383	383	383	382	383	383	383	383	383	381	383	381	383	383	382	381	383	382	383	383												
	Innovative leadership is affected by lack of support from employees	Correlation	.226**	0.098	.201**	.161**	.235**	.242**	.169**	.200**	.217**	.230**	.252**	.251**	.265**	.246**	.224**	.228**	.256**	.317**	.280**	.240**	.246**	.200**	.233**	.341**	.347**	.483**	1.000											
		Sig. (2-taile	0.000	0.055	0.000	0.002	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000												
		N	383	382	383	383	382	383	383	383	383	382	383	383	383	383	383	381	383	381	383	383	382	381	383	382	383	382	383											
	Innovative leadership is affected by capital and business performance	Correlation	.227**	.178**	.215**	.125*	.236**	.204**	.238**	.220**	.243**	.190**	.287**	.318**	.240**	.290**	.263**	.337**	.254**	.323**	.349**	.289**	.336**	.304**	.320**	.291**	.270**	.449**	.471**	1.000										
		Sig. (2-taile	0.000	0.000	0.000	0.014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000											
		N	384	383	384	384	383	384	384	384	384	383	384	384	384	384	384	382	384	382	384	384	383	382	384	383	384	383	383	384										
	Innovation is affected by limited/shortage of space	Correlation	.164**	.125*	.158**	.116*	.160**	.228**	.126*	.188**	.272**	.354**	.387**	.256**	.309**	.316**	.300**	.389**	.312**	.438**	.413**	.239**	.308**	.323**	.382**	.316**	.361**	.280**	.412**	.435**	1.000									
		Sig. (2-taile	0.001	0.015	0.002	0.023	0.002	0.000	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000										
		N	383	382	383	383	382	383	383	383	383	382	383	383	383	383	383	381	383	381	383	383	382	381	383	382	383	382	382	383	383									
	Innovative leadership is affected by supplier costs	Correlation	.155**	.134**	.173**	.219**	.292**	.207**	.105*	.201**	.253**	.283**	.312**	.264**	.280**	.301**	.269**	.356**	.301**	.316**	.395**	.185**	.216**	.187**	.285**	.248**	.279**	.235**	.294**	.373**	.465**	1.000								
		Sig. (2-taile	0.002	0.009	0.001	0.000	0.000	0.000	0.040	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000									
		N	384	383	384	384	383	384	384	384	384	383	384	384	384	384	384	382	384	382	384	384	383	382	384	383	384	383	383	384	383	384								
	Innovative leadership is affected by marketing intermediaries	Correlation	.176**	.204**	.244**	.155**	.154**	.172**	.138**	.155**	.169**	.178**	.204**	.193**	.201**	.257**	.128*	.212**	.226**	.221**	.222**	.174**	.157**	.162**	.162**	.217**	.212**	.120*	.160**	.189**	.380**	.582**	1.000									
		Sig. (2-taile	0.001	0.000	0.000	0.002	0.003	0.001	0.007	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.012	0.000	0.000	0.000	0.000	0.001	0.002	0.001	0.001	0.000	0.000	0.019	0.002	0.000	0.000	0.000										
		N	384	383	384	384	383	384	384	384	384	383	384	384	384	384	384	382	384	382	384	384	383	382	384	383	384	383	383	384	383	384	384									
	Innovation is influenced by social factors	Correlation	.173**	.183**	.170**	.110*	.113*	0.050	0.055	0.069	0.025	0.043	0.016	0.086	0.038	0.026	-0.008	0.048	0.061	0.066	0.006	.139**	.143**	.127*	0.069	0.100	0.057	.110*	.176**	.177**	.181**	.244**	.462**	1.000								
		Sig. (2-taile	0.001	0.000	0.001	0.032	0.028	0.329	0.283	0.182	0.630	0.402	0.749	0.092	0.458	0.618	0.881	0.353	0.238	0.203	0.912	0.006	0.005	0.013	0.180	0.051	0.271	0.031	0.001	0.001	0.000	0.000	0.000									
		N	381	380	381	381	380	381	381	381	381	380	381	381	381	381	381	379	381	379	381	381	380	379	381	380	381	380	380	381	380	381	381	381								
	Social factor influence innovative leadership abilities	Correlation	.161**	.177**	.210**	.115*	.195**	.108*	.109*	.159**	0.081	0.085	0.075	.131*	.117*	0.082	0.081	0.054	0.100	.121*	0.047	.166**	.190**	.183**	.126*	.102*	0.017	.172**	.167**	.207**	.153**	.231**	.383**	.644**	1.000							
		Sig. (2-taile	0.002	0.001	0.000	0.025	0.000	0.035	0.032	0.002	0.114	0.096	0.145	0.010	0.022	0.109	0.115	0.295	0.051	0.018	0.357	0.001	0.000	0.000	0.014	0.046	0.734	0.001	0.001	0.000	0.003	0.000	0.000	0.000								
		N	383	382	383	383	382	383	383	383	383	382	383	383	383	383	383	382	383	382	383	383	382	381	383	382	383	382	382	383	382	383	383	380	383							
	Innovation is affected by rapid technological changes	Correlation	.199**	.156**	.216**	0.093	.224**	.248**	.204**	.259**	.101*	.223**	.125*	0.094	.154**	.124*	.112*	.122*	.171**	.169**	.217**	.207**	.114*	.175**	.122*	.219**	0.089	.229**	.159**	.247**	.189**	.216**	.195**	.234**	.318**	1.000						
		Sig. (2-taile	0.000	0.002	0.000	0.071	0.000	0.000	0.000	0.000	0.049	0.000	0.014	0.068	0.003	0.016	0.028	0.018	0.001	0.001	0.000	0.000	0.027	0.001	0.017	0.000	0.084	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000							
		N	381	380	381	381	380	381	381	381	381	380	381	381	381	381	381	379	381	379	381	381	380	379	381	380	381	381	381	381	380	381	381	378	380	381						
	Innovation is influenced by competition	Correlation	.200**	.147**	.187**	.139**	0.058	.148**	0.100	.138**	.158**	.201**	.110*	.135**	.164**	.105*	0.089	.150**	0.070	0.057	.131*	.131*	.127*	.151**	.161**	.149**	0.031	.259**	.177**	.300**	.191**	.224**	.189**	.373**	.293**	.355**	1.000					
		Sig. (2-taile	0.000	0.004	0.000	0.006	0.256	0.004	0.051	0.007	0.002	0.000	0.031	0.009	0.001	0.040	0.083	0.003	0.172	0.272	0.011	0.011	0.013	0.003	0.002	0.004	0.541	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000						
		N	381	380	381	381	380	381	381	381	381	380	381	381	381	381	381	379	381	379	381	381	380	379	381	380	381	380	380	381	380	381	381	379	380	378	381					
	Innovative leadership is affected by the cost of SME registration	Correlation	0.060	-0.058	0.078	0.092	.168**	.179**	0.092	.172**	.258**	.282**	.249**	.164**	.239**	.344**	.329**	.329**	.320**	.348**	.331**	.304**	.328**	.312**	.382**	.263**	.350**	.169**	.238**	.237**	.371**	.384**	.292**	0.091	.104*	0.048	0.076	1.000				
		Sig. (2-taile	0.239	0.259	0.127	0.071	0.001	0.000	0.071	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.076	0.042	0.348	0.141					
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	Innovative leadership is affected by SME licensing costs	Correlation	0.085	0.007	.131*	0.082	.127*	.200**	.126*	.221**	.296**	.309**	.273**	.142**	.266**	.257**	.301**	.316**	.273**	.351**	.326**	.252**	.300**	.269**	.348**	.305**	.334**	.235**	.280**	.283**	.330**	.375**	.260**	.128*	.163**	0.071	0.077	.822**	1.000			
		Sig. (2-taile	0.097	0.897	0.010	0.111	0.013	0.000	0.013	0.000	0.000	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012	0.001	0.164	0.132	0.000				
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	Innovative leadership is affected by SARS monthly tariffs	Correlation	0.080	0.013	0.058	0.054	0.067	0.095	0.076	.146**	.216**	.273**	.279**	.186**	.260**	.259**	.287**	.296**	.241**	.293**	.268**	.251**	.321**	.269**	.339**	.245**	.262**	.197**	.233**	.338**	.420**	.337**	.243**	.163**	.186**	0.080	.148**	.599**	.668**	1.000		
		Sig. (2-taile	0.120	0.804	0.261	0.289	0.195	0.064	0.138	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.119	0.004	0.000	0.000			
		N	382	381	382	382	381	382	382	382	382	381	382	382	382	382	382	380	382	380	382	382	381	380	382	381	382	381	381	382	381	382	382	379	381	379	379	381	381	382		
	Innovative leadership is affected by too many South Africa SME regulations	Correlation	0.073	0.015	0.022	0.003	0.012	.102*	0.018	0.099	.212**	.239**	.210**	0.099	.219**	.268**	.352**	.277**	.148**	.239**	.259**	.314**	.333**	.375**	.362**	.146**	.178**	.228**	.194**	.234**	.327**	.234**	.110*	.112*	.121*	0.091	.150**	.498**	.496**	.696**	1.000	
		Sig. (2-taile	0.153	0.764	0.674	0.958	0.816	0.046	0.724	0.054	0.000	0.000	0.000	0.054	0.000	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.031	0.030	0.018	0.078	0.003	0.000	0.000	0.000		
		N	381	380	381	381	380	381	381	381	381	380	381	381	381	381	381	379	381	379	381	381	380	379	381	380	381	381	380	381	380	381	381	378	380	379	378	380	380	379	381	
	Many manufacturing SMEs close down due to lack of compliance with government regulators	Correlation	.103*	0.033	0.055	.119*	-0.004	.123*	.116*	0.097	.237**	.292**	.273**	.203**	.270**	.210**	.261**	.344**	.161**	.355**	.315**	.194**	.272**	.280**	.325**	.148**	.242**	.214**	.207**	.267**	.317**	.269**	.171**	.180**	.137**	0.063	0.098	.381**	.386**	.454**	.494**	1.000
		Sig. (2-taile	0.043	0.518	0.283	0.020	0.939	0.017	0.024	0.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.007	0.218	0.056	0.000	0.000	0.000	0.000	
		N	382	381	382	382	381	382	382	382	382	381	382	382	382	382	382	380	382	380	382	382	381	380	382	381	382	382	381	382	381	382	382	379	381	380	379	381	381	380	380	382

APPENDIX 7: FACTOR ANALYSIS

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  /PRINT INITIAL KMO EXTRACTION ROTATION
  /CRITERIA MINEIGEN(1) ITERATE(25)
  /EXTRACTION PC
  /CRITERIA ITERATE(25)
  /ROTATION VARIMAX
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```

B5
B6
B7
B8
B9
B9
B10

Factor AnalysisNotes

/VAK

[DataSet1] C:\Users\singh\OneDrive\Stats Analysis\1 - 2018\Musawenkosi Ngibe\Musawenkosi - Data.sav

KMO and Bartlett's Test

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Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.716
Bartlett's Test of Sphericity	Approx. Chi-	587.816
	df	6
	Sig.	0.000

Communalities

	Initial	Extraction
Innovative leadership level of education influences the innovative leadership skills of entrepre	1.000	0.629
Training will improve the innovative leadership performance of entrepreneurs	1.000	0.716
Training will improve the ability of entrepreneurs to be innovative	1.000	0.715
Level of education will influence the ability of entrepreneurs to be innovative	1.000	0.534

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalu Total	% o Variance
1	2.595	64.863
2	0.666	16.652
3	0.486	12.154
4	0.253	6.331

Extraction Method: Principal Component Analysis.

Component Matrix[a]

B5	Component 1
Innovative leadership level of education influences the innovative leadership skills of entrepre	0.793
Training will improve the innovative leadership performance of entrepreneurs	0.846
Training will improve the ability of entrepreneurs to be innovative	0.846
Level of education will influence the ability of entrepreneurs to be innovative	0.731

Extraction Method: Principal Component Analysis. a. 1 components extracted.

Rotated Component Matrix[a]

a. Only one component was extracted. The solution cannot be rotated.

```
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  /MISSING LISTWISE
  /ANALYSIS B6a B6b B6c B6d B6e B6f B6g B6h B6i
  /PRINT INITIAL KMO EXTRACTION ROTATION
  /CRITERIA MINEIGEN(1) ITERATE(25)
  /EXTRACTION PC
  /CRITERIA ITERATE(25)
  /ROTATION VARIMAX
  /METHOD=CORRELATION.
```

Factor Analysis

Notes

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/VA

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.886
Bartlett's Test of Sphericity	Approx. Chi-	1466.287
	df	36
	Sig.	0.000

Communalities

	Initial	Extraction
A lack of technical skills will affect an entrepreneur's innovation strategies	1.000	0.639
A lack of technical skills will affect an entrepreneur's analytical skills	1.000	0.705
A lack of technical skills will affect the level of customer support an entrepreneur is able to pr	1.000	0.683
A lack of technical skills will affect an entrepreneur's ability to co-ordinate and manage critica	1.000	0.527
A lack of technical skill will affect the ability of an entrepreneur to communicate effectively	1.000	0.618
A limited knowledge on IT has impact on leadership abilities	1.000	0.652
Lack of technical skills affect the vision and mission of the business	1.000	0.729
Lack of technical skills affects Innovation process due to project management skills	1.000	0.514
Lack of technical skill affects service delivery from leadership	1.000	0.635

Extraction Method: Principal Component Analysis.

Total Variance Explained Initial Eigenvalu

Component	Total	% o Variance
1	4.567	50.748
2	1.135	12.613
3	0.646	7.178
4	0.618	6.862
5	0.518	5.752
6	0.487	5.416
7	0.400	4.443
8	0.341	3.787
9	0.288	3.201

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component	
	1	2
A lack of technical skills will affect an entrepreneur's innovation strategies	0.634	0.487
A lack of technical skills will affect an entrepreneur's analytical skills	0.744	0.389
A lack of technical skills will affect the level of customer support an entrepreneur is able to pr	0.712	0.420

A lack of technical skills will affect an entrepreneur’s ability to co-ordinate and manage critica	0.690	0.224

Component	1	2
1	0.731	0.682
2	-0.682	0.731

A lack of technical skill will affect the ability of an entrepreneur to communicate effectively	0.781	-0.092
A limited knowledge on IT has impact on leadership abilities	0.650	-0.479
Lack of technical skills affect the vision and mission of the business	0.796	-0.309
Lack of technical skills affects Innovation process due to project management skills	0.665	-0.267
Lack of technical skill affects service delivery from leadership	0.720	-0.341

Extraction Method: Principal Component
Analysis. a. 2 components extracted.

Rotated Component Matrix[a]

	Component B6	
	1	2
A lack of technical skills will affect an entrepreneur’s innovation strategies	0.132	0.788
A lack of technical skills will affect an entrepreneur’s analytical skills	0.279	0.792
A lack of technical skills will affect the level of customer support an entrepreneur is able to pr	0.234	0.793
A lack of technical skills will affect an entrepreneur’s ability to co-ordinate and manage critica	0.352	0.635
A lack of technical skill will affect the ability of an entrepreneur to communicate effectively	0.634	0.466
A limited knowledge on IT has impact on leadership abilities	0.802	0.093
Lack of technical skills affect the vision and mission of the business	0.793	0.317
Lack of technical skills affects Innovation process due to project management skills	0.668	0.259
Lack of technical skill affects service delivery from leadership	0.759	0.242

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser
Normalization. a. Rotation converged in 3 iterations.

Component Transformation Matrix

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

```
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  /CRITERIA MINEIGEN(1) ITERATE(25)
  /EXTRACTION PC
  /CRITERIA ITERATE(25)
  /ROTATION VARIMAX
  /METHOD=CORRELATION.
```

Factor Analysis

K

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.826
Bartlett's Test of Sphericity	Approx. Chi-	870.595
	df	15
	Sig.	0.000

Communalities

	Initial	Extraction

Innovation is affected by the lengthy processes required by financial institutions	1.000	0.509
Innovation is affected by lack of government financial assistance	1.000	0.565
Innovative leadership is affect by profits	1.000	0.552
Innovative leadership is affected by lack of educated employees	1.000	0.466
Innovation is affected by lack of failure to adopt up-to-date ICT support within the business	1.000	0.623
Innovative leadership is affected by ICT implementation costs	1.000	0.652

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Syntax		FACTOR
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	Maximum M	e5544 (5.414

Extraction Method: Principal Component Analysis.

Notes

/VA

Total Variance Explained

Component	Initial Eigenvalu Total	% o Variance
1	3.367	56.112
2	0.775	12.916
3	0.660	10.992
4	0.531	8.853
5	0.385	6.420
6	0.282	4.707

Extraction Method: Principal Component Analysis.

Component Matrix[a]

Component

B7
1

Innovation is affected by the lengthy processes required by financial institutions	0.713
Innovation is affected by lack of government financial assistance	0.751
Innovative leadership is affect by profits	0.743
Innovative leadership is affected by lack of educated employees	0.682
Innovation is affected by lack of failure to adopt up-to-date ICT support within the business	0.789
Innovative leadership is affected by ICT implementation costs	0.807

Extraction Method: Principal Component

Analysis. a. 1 components extracted.

Rotated Component Matrix[a]

a. Only one component was extracted. The solution cannot be rotated.

```
FACTOR
  /VARIABLES B8a B8b B8c B8d
  /MISSING LISTWISE
  /ANALYSIS B8a B8b B8c B8d
  /PRINT INITIAL KMO EXTRACTION ROTATION
  /CRITERIA MINEIGEN(1) ITERATE(25)
  /EXTRACTION PC
  /CRITERIA ITERATE(25)
  /ROTATION VARIMAX
  /METHOD=CORRELATION.
```

Factor Analysis

Notes

/VA

K

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.814
Bartlett's Test of Sphericity	Approx. Chi-	1048.129
	df	6
	Sig.	0.000

Communalities

	Initial	Extraction
Lack of technical skills workshops or training provided by the government institutes affects in n	1.000	0.758
Innovative leadership is affected by lack of financial support from the government	1.000	0.810
Innovation is affected by lack of support from government incubators	1.000	0.836
Innovation is affected by lack of ICT support from the government	1.000	0.734

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalu Total	% o Variance
1	3.138	78.460
2	0.428	10.697
3	0.240	6.010
4	0.193	4.833

Extraction Method: Principal Component Analysis.

Component Matrix[a]

B8	Component 1
Lack of technical skills workshops or training provided by the government institutes affects in n	0.870
Innovative leadership is affected by lack of financial support from the government	0.900
Innovation is affected by lack of support from government incubators	0.915
Innovation is affected by lack of ICT support from the government	0.857

Extraction Method: Principal Component

Analysis. a. 1 components extracted.

Rotated Component Matrix[a]

a. Only one component was extracted. The solution cannot be rotated.

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	Maximum M	e5544 (5.414

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  /METHOD=CORRELATION.
```

Factor Analysis

Notes

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	Maximum M	e2872 (2.805

/VA

K

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.791
Bartlett's Test of Sphericity	Approx. Chi-	483.977
	df	15
	Sig.	0.000

Communalities

	Initial	Extraction
Innovative leadership is affected by a shortage of available educated employees	1.000	0.361
Innovation is affected by an appropriate mission statement which entrepreneurs keep to	1.000	0.377
Innovative leadership is affected by lack of support from shareholders and or board of direct o	1.000	0.449
Innovative leadership is affected by lack of support from employees	1.000	0.554
Innovative leadership is affected by capital and business performance	1.000	0.524
Innovation is affected by limited/shortage of space	1.000	0.476

Extraction Method: Principal Component Analysis.

Total Variance Explained

Initial Eigenvalu

Component	Total	% of Variance
1	2.741	45.688
2	0.918	15.307
3	0.731	12.179
4	0.635	10.589
5	0.518	8.638
6	0.456	7.599

Extraction Method: Principal Component Analysis.

Component Matrix[a]

B9 - Internal B9 - Internal	Component 1
Innovative leadership is affected by a shortage of available educated employees	0.601
Innovation is affected by an appropriate mission statement which entrepreneurs keep to	0.614
Innovative leadership is affected by lack of support from shareholders and or board of direct o	0.670
Innovative leadership is affected by lack of support from employees	0.744
Innovative leadership is affected by capital and business performance	0.724
Innovation is affected by limited/shortage of space	0.690

Extraction Method: Principal Component
Analysis. a. 1 components extracted.

Rotated Component Matrix[a]

a. Only one component was extracted. The solution cannot be rotated.

```
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Factor Analysis

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	Cases Used	LISTWISE: S
Syntax		FACTOR
Resources	Processor Ti	00:00:00.02
	Elapsed Tim	00:00:00.03
	Maximum M	e5544 (5.414

Notes

/VA

K

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.658
Bartlett's Test of Sphericity	Approx. Chi-	558.480
	df	15
	Sig.	0.000

Communalities

	Initial	Extraction
Innovative leadership is affected by supplier costs	1.000	0.777
Innovative leadership is affected by marketing intermediaries	1.000	0.805
Innovation is influenced by social factors	1.000	0.624
Social factor influence innovative leadership abilities	1.000	0.659
Innovation is affected by rapid technological changes	1.000	0.353
Innovation is influenced by competition	1.000	0.404

Extraction Method: Principal Component Analysis.

Total Variance Explained Initial Eigenvalu

Component	Total	% o Variance
1	2.578	42.967
2	1.043	17.388
3	0.943	15.721
4	0.743	12.390

5	0.390	6.505
6	0.302	5.028

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component	
	1	2
Innovative leadership is affected by supplier costs	0.626	-0.620
Innovative leadership is affected by marketing intermediaries	0.747	-0.497
Innovation is influenced by social factors	0.766	0.196
Social factor influence innovative leadership abilities	0.733	0.349
Innovation is affected by rapid technological changes	0.505	0.314
Innovation is influenced by competition	0.501	0.391

Extraction Method: Principal Component

Analysis. a. 2 components extracted.

Rotated Component Matrix[a]

B9 - External	Component	
	1	2
Innovative leadership is affected by supplier costs	0.079	0.878
Innovative leadership is affected by marketing intermediaries	0.250	0.861
Innovation is influenced by social factors	0.712	0.344
Social factor influence innovative leadership abilities	0.785	0.206
Innovation is affected by rapid technological changes	0.588	0.086
Innovation is influenced by competition	0.635	0.024

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Component Transformation Matrix

Component	1	2
1	0.765	0.645
2	0.645	-0.765

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

```
FACTOR
  /VARIABLES B10a B10b B10c B10d B10e
  /MISSING LISTWISE
  /ANALYSIS B10a B10b B10c B10d B10e
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/CRITERIA MINEIGEN(1) ITERATE(25)
/EXTRACTION PC
/CRITERIA ITERATE(25)
/ROTATION VARIMAX
/METHOD=CORRELATION.
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Syntax		FACTOR
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	Elapsed Tim	00:00:00.03
	Maximum M	e4100 (4.004

Factor Analysis

Notes

/VA

K

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.774
Bartlett's Test of Sphericity	Approx. Chi-	1058.275
	df	10
	Sig.	0.000

Communalities

	Initial	Extractio
Innovative leadership is affected by the cost of SME registration	1.000	0.703
Innovative leadership is affected by SME licensing costs	1.000	0.744
Innovative leadership is affected by SARS monthly tariffs	1.000	0.759
Innovative leadership is affected by too many South Africa SME regulations	1.000	0.639
Many manufacturing SMEs close down due to lack of compliance with government regulators	1.000	0.410

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalu	
	Total	% o Variance
1	3.255	65.094
2	0.783	15.651
3	0.534	10.688
4	0.269	5.376
5	0.160	3.190

Extraction Method: Principal Component Analysis.

Component Matrix[a]

B10	Component
	1
Innovative leadership is affected by the cost of SME registration	0.839
Innovative leadership is affected by SME licensing costs	0.863
Innovative leadership is affected by SARS monthly tariffs	0.871
Innovative leadership is affected by too many South Africa SME regulations	0.799
Many manufacturing SMEs close down due to lack of compliance with government regulators	0.640

Extraction Method: Principal Component
Analysis. a. 1 components extracted.

Rotated Component Matrix[a]

a. Only one component was extracted. The solution cannot be rotated.

	Measure o S	Bartlett's Test of Sphericity		
		prox. Chi-Squ	df	Sig.
Education a	n 0.716	587.816	6	0.000
Technical sk	0.886	1466.287	36	0.000
Entrepreneu	0.826	870.595	15	0.000
Government	0.814	1048.129	6	0.000
Internal	0.791	483.977	15	0.000
External	0.658	558.480	15	0.000
Government	0.774	1058.275	10	0.000