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The effect of business development services and human capital on the performance of SMMEs in Gauteng

A research report submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management in Entrepreneurship and New Venture Creation

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ABSTRACT

Business development services (BDS) represent a broad variety of non-financial services offered to small, medium and micro enterprises (SMMEs) to improve their performance. BDS are part of enterprise development which seeks to give support to SMMEs. They can be offered by government or private institutions. Human capital plays a role in addressing the lack of education and skills that the SMMEs are faced with. The study is motivated by the high failure and challenges facing SMMEs in South Africa. These challenges range from lack of education, lack of skills, lack of access to markets, lack of support.

The purpose of this research is to determine the empirical effect of business development services (BDS) and human capital (HC) on the performance of SMMEs in Gauteng Province in South Africa.

The research design was a quantitative research method and used a survey in the form of an online questionnaire, using a software called Qualtrics to collect the data and used SPSS for data analysis.

The main findings in the study revealed that there was no statistically significant relationship between BDS and performance of SMMEs. Human capital was so insignificant for this study due to the sig value greater than 0,05. This regression analysis could not be performed.

The implications of the study could help small business owners/managers to know what the challenges facing the sector are and what help is available in mitigating the challenges.

The study contributes to the literature of BDS, HC and SMME performance. The entrepreneurs can learn from the study. Government, policy makers and BDS providers can find lessons on how to support SMMEs better to ensure competitiveness.

Key words: market access, education, job creation, SMME support, business growth

DECLARATION

I, Veronica Shezi declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management in the Field of Entrepreneurship and New Venture Creation at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Veronica Duduzile Shezi

Signed at Bryanston

On the 29th day of March 2018.

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I used to consider myself a very strong person, but this journey showed me that I am as weak as they come. It will be criminal not to thank Meisie, she was a shoulder to cry on. I don't know how many times I went to her office with tears streaming down my face. She would sit and listen to my sobbing stories and not once did she make me feel like she was tired of me. After all the sobbing, she would say calmly "you know what you need to do, go back and do your work" - thank you for being a sister and for listening.

I had the most amazing classmates, the group hit it off and made my evenings at Wits seemed like it was home away from home. The support I received from my classmates has been too amazing. I cannot trade that for anything in the world. The words of encouragement when the going was getting tough - thank you. Keep the never DIE spirit that you have and I wish you all the best in your lives.

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TABLE OF CONTENTS

ABSTRACT II

DECLARATION III

ACKNOWLEDGEMENTS IV

LIST OF TABLES X

LIST OF FIGURES XI

LIST OF ABBREVIATIONS XII

CHAPTER 1: INTRODUCTION 1

1.1 PURPOSE OF THE STUDY 1
1.2 BACKGROUND 1
1.3 CONTEXT OF THE STUDY 3
1.4 PROBLEM STATEMENT 5
1.5 SIGNIFICANCE OF THE STUDY 7
1.6 DEFINITION OF TERMS 7
1.7 RESEARCH OUTLINE 10

CHAPTER 2: LITERATURE REVIEW 12

2.1 INTRODUCTION 12
2.2 DEFINING ENTREPRENEURSHIP 12
2.3 ENTREPRENEURIAL ECOSYSTEMS 13
2.4 BUSINESS DEVELOPMENT SERVICES 14
2.4.1 TRAINING AND TECHNICAL ASSISTANCE 16
2.4.2 TECHNOLOGY AND PRODUCT DEVELOPMENT 17
2.4.3 ALTERNATIVE FINANCING MECHANISMS 18
2.4.4 POLICY/ADVOCACY 18
2.4.5 MARKET ACCESS 19
2.4.6 INFRASTRUCTURE FACILITIES 21
2.4.7 PROCUREMENT SERVICES 22
2.5 HUMAN CAPITAL 23
2.5.1 GENERAL HUMAN CAPITAL 24
❖ FORMAL EDUCATION 25
❖ INDUSTRY EXPERIENCE 26
2.5.2 SPECIFIC HUMAN CAPITAL 27
2.6 RESOURCE BASED THEORY (RBT) 29
2.7 BUSINESS PERFORMANCE 30

2.7.1 DEFINATION OF PERFOMANCE 30
2.8 CONCEPTUAL FRAMEWORK OF HYPOTHESES 33
2.8.1 HYPOTHESES FOR BUSINESS DEVELOPMENT SERVICES 34
2.8.2 HYPOTHESES FOR HUMAN CAPITAL 35
2.9 CONCLUSION OF LITERATURE REVIEW 35

CHAPTER 3: RESEARCH METHODOLOGY 37

3.1 RESEARCH PARADIGM 37
3.2 RESEARCH DESIGN 38
3.3 POPULATION AND SAMPLE 39
3.3.1 POPULATION 39
3.3.2 SAMPLE AND SAMPLING METHOD 40
3.4 THE RESEARCH INSTRUMENT 41
3.5 PROCEDURE FOR DATA COLLECTION 43
3.6 DATA ANALYSIS AND INTERPRETATION 44
3.6.1 TRANSFORMATION OF DATA AND CLEANING 44
3.6.2 MISSING VALUE ANALYSIS 44
3.6.3. DESCRIPTIVE STATISTICS 45
3.6.4. STATISTICAL ASSUMPTIONS 45
3.7 VALIDITY AND RELIABILITY 46
3.7.1 RELIABILITY TESTING 47
3.7.2 VALIDITY TESTING 48
3.8 STATISTICAL TECHNIQUES AND PROCEDURES 48
3.8.1 PEARSON PRODUCT MOMENT CORRELATION 49
3.8.2 FACTOR ANALYSIS (EFA AND CFA) 49
3.8.2.1 EXPLORATORY FACTOR ANALYSIS (EFA) 49
CHECKING FOR APPROPRIATE CORRELATIONS 49
KAISER-MEYER-OLKIN MEASURE OF SAMPLING ADEQUACY (MSA) 50
THE BARTLETT TEST OF SPHERICITY (BTS) 50
3.8.3. CONFIRMATORY FACTOR ANALYSIS (CFA) 51
3.9 REGRESSION ANALYSIS 53
3.9.1 HYPOTHESIS TESTING 53
3.10 LIMITATIONS OF THE STUDY 54
3.11 ETHICAL CONSIDERATIONS 55
3.12 CONCLUSION 55

CHAPTER 4: PRESENTATION OF RESULTS 56

4.1 SAMPLE CHARACTERISTICS 56
4.1.1 SAMPLE CHARACTERISTICS 56
4.1.1.1 GENDER AND RACE 56

4.1.1.2 Age Group 57
4.1.1.3 Number of Years in Business 58
4.1.1.4 Number of Employees 58
4.1.1.5 Annual Turnover 59
4.1.1.6 Awareness about BDS 59
4.1.1.7 Level of Education 60
4.1.1.8 Experience in business 61
4.1.2 Business Characteristics 61
4.2 Exploratory Factor Analysis (EFA) 61
4.3 Reliability of Scale 64
4.4 Correlation Analysis 65
4.5 Confirmatory Factor Analysis (EFA) 67
4.5.1 CFA Results 69
4.5.2 Inferential Statistics – hypothesis Testing 71
4.4.3.1 Hypothesis for Business Development Services 71
4.4.3.2 Hypothesis for Human Capital 75
4.6 Summary of Chapter 79

CHAPTER 5: DISCUSSION OF THE RESULTS 80

5.1 Introduction 80
5.2 Demographic profile of respondents 80
5.3 Discussion of the results pertaining to Research Subproblem 1 81
5.3.1 Hypothesis for BDS 81
5.3.1.1 Results for BDS (MA and INF) jointly on Performance 82
5.3.1.2 Results for BDS_MA 83
5.3.1.3. Results for BDS_IFA 84
5.3.1.4 Results for BDS_Procurement Service 84
5.4 Discussion of results pertaining to Research Sub-problem 2 84
5.4.1 Hypothesis for HC 84
5.5 Conclusion 85

CHAPTER 6: CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS 86

6.1 Introduction 86
6.2 Conclusions of the study 86
6.3 Implications and Recommendations 86
6.4 Limitations of the study 89
6.5 Suggestions for further research 89

REFERENCES..... 91

RESEARCH INSTRUMENT 107

APPENDIX B:..... 113

COVER LETTER 113

..... 113

APPENDIX C: ADDITIONAL RESULTS..... 116

LIST OF TABLES

Table 1: Categories of SMMEs 9

Table 2: Indicators of performance dimensions (Santos & Brito, 2012) 31

Table 3: Summary of the survey 41

Table 4: Pearson coefficient of correlation r value 46

Table 5: Gender 56

Table 6: Race 57

Table 7: Age 57

Table 8: No of years in business 58

Table 9: No of employees 59

Table 10: Annual turnover 59

Table 11: Do you know about BDS 60

Table 12: Level of education 60

Table 13: Experience in business 61

Table 14: KMO and Bartlett's Test 62

Table 15: Convergent validity model 63

Table 16: Cronbach's alpha 64

Table 17: Pearson correlations 65

Table 18: Descriptive statistics of model fit 67

Table 19: Results for Model fit 69

Table 20: The variance results 70

Table 21: Descriptive stats for BDS_MA and BDS_IFA 72

Table 22: Correlation BDS_MA and BDS_IFA and P 72

Table 23: Degree of correlation for BDS factors 73

Table 24: Anova (regression model) BDS and P 73

Table 25: Regression coefficient 74

Table 26: Descriptive stats for HC_MDK and HC_EDU 76

Table 27: Correlation HC_MDK and HC_EDU and P 76

Table 28: Degree of correlation for HC variables 77

LIST OF FIGURES

Figure 1: Dimensions of performance (Santos & Brito, 2012) 31

Figure 2: Conceptual framework (Source: Researcher) 34

Figure 3: Performance measurement model – CFA 53

Figure 4: Scree plot 64

Figure 5: Regression histogram 74

Figure 6: Plot of regression standardized residual (BDS) 75

Figure 7: Regression histogram 77

Figure 8: Plot of Regression Standardized Residual (HC) 78

LIST OF ABBREVIATIONS

BDS – Business Development Services

HC – Human Capital

SMME – Small, Medium and Micro Enterprises

BDS_MA – Business Development Services Market Access

BDS_IFA – Business `Development Services Infrastructure Facility

HC_EDU – Human Capital Education

HC_MDK – Human Capital Knowledge

MA – Market Access

EDU - Education

IFA – Infrastructure Facility

MDK - Knowledge

P - Performance

CHAPTER 1: INTRODUCTION

This chapter looks at the theoretical background and the context of the study, followed by the purpose of the study, problem statement, significance of the study, definition of terms and lastly, the structure of the research.

1.1 Purpose of the study

The purpose of this research is to determine the empirical effect of business development services (BDS) and human capital (HC) on the performance of small, micro and medium enterprises (SMMEs) in Gauteng Province in South Africa. The study is not focused on a specific industry, it looks at SMMEs in general, and the focus is on the support that the SMMEs receive and the human capital of the owner of the business, in relation to the performance of the business. This is important in understanding the role of the support the SMMEs receive and its effectiveness. Furthermore, it also highlights the effect of human capital in the form of education, experience and knowledge of the business owner on the performance of the business. The study sheds light on the policies that support small businesses, their effectiveness and if SMMEs are becoming competitive, creating jobs and alleviating poverty.

SMMEs are forever faced with the dynamic and complex business environment stemming from the need for efficiency and effectiveness characterised by globalisation (Price, Stoica & Boncella, 2013). This puts a lot of pressure in the SMMEs' owners, forcing them to respond to these challenges to become competitive (Raymond, Bergeron & Blili, 2005).

1.2 Background

This research was conducted in Gauteng Province of South Africa. To capture the core of the study, the researcher deemed it important to give the overview of the current socio-economical state of South Africa, with emphasis on Gauteng

province. In order to include the previously excluded in economic participation, in 1995, the first democratically elected South African government introduced an SMME policy for the promotion and development of SMMEs (DTI, 1995, p.363). The main objectives of the policy was to be inclusive, making it possible for the previously disadvantaged to participate in the economy, increase entrepreneurial activity, reduce the high failure rate of small, medium and micro enterprises (SMMEs), create opportunities for access to funding, in the process, growing the small business sector (Brink, Cant & Ligthelm, 2003).

The study is influenced by the role played by SMMEs in economic development, job creation and poverty alleviation, even though they face challenges. SMMEs play an important role in the development of the country's economy, they contribute a large percentage to GDP, reduce unemployment (Meghana, Demirgue-Kunt, & Maksimovic, 2011) and yet they face challenges that make them fail (Fatoki, 2012). In South Africa, SMMEs contribute 43% to the total value of salaries and wages (Chimucheka, 2013).

According to the World Bank, SMMEs contribute the following to the economy; they are the growth engine, they are important for competitive and effective market, poverty reduction and they play an important role in developing countries. Kongolo (2010) explains that in South Africa, SMMEs make up 91% of formal businesses, create about 60% of employment and contribute between 51% and 57% of GDP. Apart from job creation, it is evident that the SMME sector also plays a huge role in innovative product development which results in a competitive and efficient economy (Ayandibu & Houghton, 2017).

The contribution that is made by SMMEs in economic development awards the government the interest to understand and develop this sector by assuming different initiatives to stimulate performance (Kongolo, 2010). In recognising the role played by SMMEs in economic development, the South African government created a host of government initiatives which addresses the financial needs of SMMEs, makes it easier to create new SMMEs, increases and fosters entrepreneurial activities in the country, assists in poverty alleviation, wealth

generation for the previously disadvantaged, and for indigenous entrepreneurs, creates opportunities that are profitable (Fatoki, 2010; Neneh & Smit, 2013).

1.3 Context of the Study

According to the Small Enterprise Development Agency (SEDA), the SMMEs start-ups need unique support in the current economic climate (Seda, 2018). Even though the SMMEs are said to be in a good position to create jobs they also have challenges that impede their performance. Fatoki (2012) confirms that SMMEs continue to experience high failure of 70% to 80% within the first five years. Fatoki (2014) identified the following as some of the challenges facing the SMMEs: lack of training and education, lack of market and financial access, lack of support, lack of access to technology, to name but a few. The failure rate of SMMEs in South Africa is said to be amongst the highest in the world (Olawale & Garwe, 2010).

To ensure the economic contribution of the SMMEs, the entrepreneurs need to be supported. Training of management is important in dealing with high SMMEs failure and in addressing performance (English, 2001). Given the traditionally harsh environment towards SMMEs in most countries, the support will be beneficial to the sector (Tengeh, 2013). There are other areas of underperformance within the SMMEs, even though the government is making support available (Rogerson & Nel, 2016). Tengeh (2013) and Gwija, Eresia-Eke and Iwu (2014a,b) advocate for the necessity to deliver tailored support to SMMEs. One of the support tools entrepreneurs can take advantage of in enhancing the performance of their businesses, are business development services (BDS).

Business development services represents a broad variety of non-financial services offered to SMMEs by both the private and public sector to assist them in improving their performance (Rosa, 2013; Washington, James & Peter, 2014). BDS has seven dimensions: market access, infrastructure facilities, policy advocacy, input supply, training and technical support, technology and product development, alternative financing (McVay & Miehlbradt, 2001; Gupta et al.,

2012) which are used to support SMMEs (Musara & Fatoki, 2010). The employment of these services contributes to the survival, growth, productivity and competitiveness of the SMMEs (Evans & Volery, 2001; Gibson et al., 2001).

Apart from the support SMMEs receive to improve performance for their businesses, the researcher thought it was necessary to also look at the effect of education in the performance of SMMEs. Studies have shown that part of what contributes to the failure of SMMEs is the lack of education, skills, business knowledge and access to resources, restricting the ability to create employment (Kervin, Vialle, Howard, Herrington & Okely, 2016). Investing in education and skills represents human capital. Literature suggests that investing in human capital has created uneven growths in the output of land, labour hours and physical capita (Schulz 1961, p.1). There is empirical evidence that post the first World War, the increased performance of organisations was influenced by the high level of education of employees (Griliches, 1990).The human capital theory has been applied in the field of entrepreneurship, relating the entrepreneurial success to the human capital dimensions (Unger, Rauch, Frese, & Rosenbusch, 2011).

The performance of SMMEs is also examined as it forms part of the core of this research. The owners and managers of SMMEs are expected to implement their business activities to improve the performance of the organisation (Chimucheka, 2013). Research has revealed that there has been a matured literature concentrating on large firms and a significant lack of literature in SMMEs (Taticchi, Tonelli, & Cagnazzo, 2010). In order for enterprises to manage these factors, they require resources. In accordance to the resource-based theory (RBT), an organisation’s performance is determined by both utilisation and possession of resources (Penrose, 1959). The performance of the economy is linked to the performance of the SMMEs. The owners and managers of SMMEs are expected to implement their business activities to improve the performance of the organisation (Chimucheka, 2013). Research has revealed that there has been a matured literature concentrating on large firms and a significant lack of literature in SMMEs (Taticchi, Tonelli, & Cagnazzo, 2010).

1.4 Problem Statement

South Africa is ranked amongst the lowest in the world in creating successful SMMEs; most of the new SMMEs finds it difficult to move from different stages of growth which are from existence, survival, success, then to take-off and maturity (Fatoki & Garwe, 2010). Most of the SMMEs fail in their infancy and some fail within their first three years (Fatoki, 2014). The high failure rate of SMMEs makes it impossible for them to make a meaningful contribution to job creation, economic development and poverty eradication (Fatoki, 2014). The study by Olawale and Garwe (2010) found that SMMEs were thought to be important in solving the developmental issues in South Africa. Research has also shown that developing economies progress when they participate in entrepreneurial activities. Entrepreneur's qualities and social factors in a transition economy contribute to the success of the entrepreneurial business (Georgieva, 2016).

SMMEs are facing both financial and non-financial challenges (Chan, 2008). Business Development Services (BDS) aid in addressing the non-financial challenges facing SMMEs. Studies has shown that SMME development is connected to countries that are experiencing economic growth (UNDP, 2004). Accessing BDS, internationally, has shown an improvement in the development of SMMEs (Dawson, 1997). In an African context, a lively BDS sector is essential in the development of SMMEs as they tend to lack knowledge and professional organisations (OECD, 2004). Ahma and Ageba (2006) observed that in a competitive and global environment, SMMEs obtain new skills and products, knowledge, markets and technology when they have access to high quality BDS. However, it has also been revealed through literature that there has been an overlap between SMMEs and BDS, with SMMEs suffering from expensive inputs and services, poor infrastructure facilities, unable to use technology to develop products, market access, unable to secure low cost finance (Nelson, 1997; Nganga, Onnyanga & Kere, 2011; Fatoki, 2012), resulting in the constraint for resources. The effectiveness of BDS as a tool to enhance performance in SMMEs is still a contentious subject amongst the scholars. Marvel, Davis and Sproul (2014) in their study, recommended that for future research, human capital can

be looked at in conjunction with other theories, paying attention to business milestones in the process. This is what has influenced this research as it provides empirical evidence when investigating the effect of business development services in conjunction with human capital on the performance of SMMEs.

Human capital has been found not always to have a positive effect on the business performance (Chawla, Khanna & Chen, 2010). Research has shown that risk taking is discourage by over-investing in education, resulting in high levels of certification while under-investing in education might encourage risk taking. In developing economies, human capital has revealed a negative or non-linear effect on individuals with higher levels of education as they tend to go for employment in jobs with good salaries (Amaral, Baptista & Lima, 2011). Contrary to this, we still find individuals with high levels of education engaging in entrepreneurial activities, due to external circumstances in a specific country or region. These well-educated individuals tend to be in good positions to exploit opportunities even though their initial journey of entrepreneurship was more of a necessity entrepreneurship (Kervin *et al.,* 2016).

This study sought to establish the effect of business development services and human capital on the performance of SMMEs. The study fills the gaps in the literature by examining the support given to SMMEs in the form of business development services and the effect on human capital and subsequent performance of SMMEs.

Subproblem 1: Determine how the BDS dimensions of market access, infrastructure facilities and procurement services affect the performance of SMMEs in Gauteng.

Subproblem 2: Determine how the human capital dimensions of number of years' industry experience and level of education affect the performance of SMMEs in Gauteng.

1.5 Significance of the study

SMMEs are instrumental in growing the economy in countries around the world, including South Africa. The evidence from data in both developed and developing countries has shown that economic growth, innovation and job creation are the results of an active and vibrant SMME sector (Chodokufa, 2009; Andzelic, Dzakovic, Lalic, Zrnic and Palcic, 2011; Maurice, 2012; Love & Roper, 2013; Stella, 2014).

In developing economies, it is important to give support to SMMEs to enhance their competitiveness and improve economic development, job creation and poverty eradication.

The study sought to provide insights on BDS, human capital and performance of SMMEs. The study should be useful to entrepreneurs, those who have intentions to start their own businesses and policy makers. The study attempts to contribute to the literature of BDS, human capital and performance of SMMEs to entrepreneurs, policy makers in growing the body of knowledge in BDS, human capital and performance of SMMEs. Most of the studies that have been conducted in the past on BDS and human capital were looked at individually, or with other theories. In this study, both BDs and human capital are independent variables with performance as a dependent variable. The combination of the two constructs of business development services and human capital makes the study different to the other studies, as it looks at SMMEs in Gauteng

1.6 Definition of terms

The theoretical roots of the study are in the following domains; the entrepreneurship, business development services, human capital, performance of the business. Key concepts are defined in order to clarify the meaning of the terms used.

Entrepreneur as a business owner - Entrepreneurship is a creation of a new organisation (Gartner, 1990). Entrepreneurs are self-employed individuals and

business owner-managers (Van Praag & Verloot, 2008), compares to being employed or unemployed. Rauch and Frese (2000) define entrepreneurs as those individuals who have founded their businesses. Entrepreneurs are expected to reduce unemployment by creating jobs. The study views the small business owner as an entrepreneur.

SMME – Small, medium and micro enterprises (SMMEs) and small business are used interchangeably in most studies and it is also used interchangeably in this study. In defining small business, the National Small Business Act defines it as business entities that are distinct and separate, managed by one or more people, they also include co-operative and non-governmental organisations. In accordance with the original act, the SMMEs are classified into five categories in South Africa, namely standard industrial and subsector classification, class size, equivalent of paid employees, turnover and value of the asset (South Africa, 2004).

SMMEs encompass a broad range of firms, including formally registered, informal and non-VAT registered organisations (The DTI, 2008). Small businesses range from medium-sized businesses to informal micro-enterprises. Micro-enterprises include self-employed individuals from the poorest population and the upper end is the small and medium sized enterprises (SME) found in developed countries. The large majority of SMMEs are concentrated on the very low end in South Africa, with the majority being survivalist (Berry, 2002). These businesses tend to take the form of street traders, home-based businesses operating in the garage (The DTI, 2008).

Table 1: Categories of SMMEs

Enterprise size	Number of Employees	Annual Turnover (in SA rands)	Gross Assets Excluding Fixed Property
Medium	Fewer than 100 to 200 depending on industry	Less than R4M to R50M depending upon industry	Less than R2m depending on industry
Small	Fewer than 50	Less than R2M to R50M depending upon industry	Less than R2M to R18M depending on industry
Very Small	Fewer than 20 depending on industry	Less than R200 000 to R500 000 depending on industry	Less than R150 000 to R 500 000 depending on industry
Micro	Fewer than 5	Less than R150 000	Less than R100 000

Source: Falkena et al. (2001 p. 26)

BDS – Business Development Services are non-financial support offered to SMMEs to improve their performance (Washington, James & Peter, 2014). BDS represent a comprehensive range of services provided by public and private suppliers to assist entrepreneurs to operate efficiently and grow their businesses, with the aim of contributing to growing the economy, employment creation and poverty alleviation (Rosa, 2013; Washington, James & Peter, 2014).

Market access - Market access consists of marketing business, linkage to market, exhibitions and trade fairs, sample development for buyers, information on markets, outsourcing and subcontracting, meeting and marketing tips, market

research, space development marketing, showrooms, advertisng and packaging (Miehlbradt & McVay, 2002)

Infrastructure facilities - Simple structures that are physical and organisational, giving support for improvement of an organisation or economy (Horby, 2005)

Procurement services - Identification and purchasing of external resources required by the business to fullfill its strategic objectives is the business function that descibes the activities in procurement services (Kidd, 2005)

Human capital - Refers to individual's knowledge, know-how and skills accrued through education and training (Marimuthu *et al*., 2009)

Level of education – The highest level of education an individual has attained (Unger, Rauch, Frese, & Rosenbusch, 2009)

Industry experience - number of years that an individual has been able to work after completing formal education is defined as work experience (Unger, Rauch, Frese, & Rosenbusch, 2009)

Performance of the business - Entrepreneurs places emphasis on the increase in sales, number of employees, assets and profits as important factors to measure performance (Achtenhagen, Naldi & Melin, 2010)

1.7 Research Outline

Chapter 1 starts with the purpose and the background of the study. The context of the study, problem statement and significance of the study are then provided, lastly, the definition of terms is detailed.

Chapter 2 is the literature review which starts from the introduction, definition of entrepreneurship, followed by a detailed review and analysis of literature of the variables of the study. The key concepts discussed are business development services, human capital, resource-based theory and business performance. The conceptual framework was then formulated representing the relationship between variables and this guided the direction of the research.

Chapter 3 provides the followed methodological approach. The research paradigm and design are detailed, followed by sampling method, sample size, research instrument and the procedure for collecting data. The statistical assumptions, validity and reliability of the instrument were tested. In this chapter the limitations of the study and ethical considerations were also discussed.

Chapter 4 is the presentation of the results of the tested hypotheses about the correlation between the IVs and the success of SMMEs. The characteristics of the sample is also presented, followed by the results with the emphasis on EFA, CFA and regression analysis. The model is finally developed and presented.

Chapter 5 is where the findings of the study are discussed in relation to existing theory and literature.

Chapter 6 is the conclusion of the study, implications and recommendations are discussed together with the limitations and suggestions for future research.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

In this chapter, we first look at the literature background of the study, then tackle the individual topics that are key to the study, namely, BDS, human capital and business performance. We then formulate the hypothesis, develop the conceptual framework and lastly, the conclusion.

2.2 Defining Entrepreneurship

Entrepreneurs are expected to reduce unemployment by creating jobs. Even though most businesses fail (Shane, 2008), entrepreneurship is widely viewed as an engine for the growth of the economy. Defining entrepreneurship, Sharma and Chrisman (2007, p. 84) acknowledged two definite points of view, namely, entrepreneurship focusing on characteristics like innovation, creativity, uniqueness and growth and entrepreneurship focusing on outcomes such as the value creation. Entrepreneurship is the creation of a new organisation (Gartner, 1990). Entrepreneurs are self-employed individuals and business owner-managers (Van Praag & Verloot, 2008), compared to being employed or unemployed. Rauch and Frese (2000) define entrepreneurs as those individuals who have founded their own businesses.

Two results-driven definitions of entrepreneurship that Muljadi (2011) came up with are: entrepreneurship defined as an act of being an entrepreneur transforming innovative undertakings to economic goods and the second, entrepreneurship was seen as an opportunity discovery activity in the market, planning, organising and arranging necessary resources for long term gain and exploitation.

Entrepreneur shifts commercial means from an area of low productivity to an area of high productivity for greater returns. Shane and Venkatraman (2000) focus on emerging entrepreneurs and propose that phenomena such as how opportunities

are detected and acted upon or how new organisations come into being should be dealt with in entrepreneurship research. Discovery of entrepreneurial opportunities and exploitation of such opportunities are the two related processes found in entrepreneurship (Shane & Venkataraman, 2000). For the purpose of this study, entrepreneurs are those individuals who have founded their own businesses (Rauch & Frese, 2000).

2.3 Entrepreneurial ecosystems

There is no standard definition of entrepreneurial ecosystems which is universal to all researchers (Cross Boarder Virtual Incubator, 2013), there are some definitions that are helpful in understanding the concept. Entrepreneurial ecosystem is defined by Spilling (1996) as a diverse and complex web of actors, roles and environmental factors interacting to establish the entrepreneurial performance of a region or place. Isenberg (2010) defines it as a convoluted grouping of elements (e.g. leadership, culture, capital market) conducive to entrepreneurship but inadequate to support it. Given the two definitions it is evident that entrepreneurial ecosystem comprises of all the economic actors and environmental factors existing within a geographic space (Spilling, 1996) contributing to enterprise creation and development. According to Mazzorol (2014) entrepreneurial ecosystem it is an interaction between a set of recognised elements and individual actors favourable to entrepreneurship, innovation and growth of SMMEs.

As we have established that entrepreneurial ecosystem does not have a general definition, the literature produces a number of different models. Cohen (2006) proposes a model comprising seven elements: informal network, formal network, universities, government, professional and support services, capital access and talent pool. Isenberg (2011b) suggests elements of entrepreneurial ecosystem can be grouped into six domains: “a conducive culture, enabling policy and leadership, availability of appropriate finance, quality of human capital, venture friendly markets for products, and a range of institutional and infrastructural support”. An eight part model proposed by Suresh and Ramraj (2012): moral

support, financial support, network, government support, social support, technology, market and environment. The World Economic Forum (2013) identifies eight aspects of entrepreneurial ecosystems: accessible markets, human capital and workforce, financing, support system, regulatory framework and infrastructure, education and training, major universities as catalysts, and cultural support. Muzarrol (2014) proposes a model adapted from those of Isenberg (2011b) and the World Economic Forum (2013), made up of nine components: government policies, legislative and regulatory framework, infrastructure, finance, culture, advisory, mentors and support systems, major universities as catalysts, education and training, human capital and workforce, and markets.

2.4 Business Development Services

In addressing the growth challenges facing SMMEs, the Committee of Donor Agencies for Small Enterprise Development was established in 1976. According to White (2004), donor agencies attempted to work with governments to address different challenges facing SMMEs. The study of Business Development Services by Goldmark (1996) found that as far back as the mid-1970s, donor agencies have been active in giving services such as training, mentoring, technology transfer, information, marketing assistance and business advice to entrepreneurs. Traditionally, these services are known as non-financial services and they have been provided in packages with other financial services. The study by Park, Lim and Koo (2008) found that SMMEs are negatively affected by market flaws, in order to survive the competition from large businesses they need support from the government. Scholars like Brijlal (2008) have confirmed that SMMEs need some form of support in order to survive, the support can be either formal or informal provided by individuals, private or public entities, government agencies and non-governmental organisations (NGOs) who are specialists in the creation and delivering of BDS services to SMMEs (Fakhri, Ghanimat, Koopahi & Behnie, 2012; Olomi, 2009)

An extensive study on Business Development Services by the Committee of Donor Agencies (2001) define BDS to comprise providing training, information, consultancy and advisory services, business linkage promotion, technology development and transfer and assistance in marketing. Business development services (BDS) represent a broad variety of non financial services offered to SMMEs to assist them to improve their performance (Rosa, 2013; Washington, James & Peter, 2014). There are three types of BDS namely: *generic, embedded* and *strategic*. The generic services are transactional in nature, they are applied in large numbers like tax consultants' services. Embedded services are services like technical, incubation, micro-financing, services which come bundled with some products or services that are preceeded by training. Lastly, strategic services are strategic in nature, and are used to support most SMMEs. These services include market access, infrastructure facilities, policy advocacy, input supply, training and technical support, technology and product development, alternative financing (McVay & Miehlbradt, 2001; Gupta et al., 2012). In an effective BDS, the types of services are determined by the demand expressed by the business (Fakhri et al., 2012).

For a number of decades, governments, development agencies and reseachers in different countries have recognised that the role of BDS is to stimulate the economy through boosting (Kongolo, 2010) employment and income for the low income earners and the poor majority. The provision of micro-finance (MF) services demonstrated that tailor-made services for SMMEs can reduce poverty and are economically doable. The provision of financial services did not solve all of the SMMEs problems, non-financial factors such as lack of education, inadequate technical skill, poor access to markets, lack of information and unreliable infrustructure (Miehlbradt & McVay, 2002) are constraints that can be resolved through BDS leading to improved productivity, accessible markets and profitability. Economic growth, poverty eradication, job creations are realised through the BDS matrix that entrepreneurs employ during the operation and expansion of their businesses (Miehlbradt & McVay, 2003).

Studies focusing on the relationship between BDS and performance have resulted in arguments that BDS manifest in different forms in organisations. A distinctive school of thought in the literature is the relationship between BDS and SMMEs performance (McCormick, 1999; Van der Ree, 2003). Mengstie (2016) concluded that market access, infrastructure facility, input supply, training and technical support are important variables in the determination of the performance of SMMEs. The same study also argued that there was no significant link of these dimensions with non BDS beneficiary SMMEs. The first four dimensions of BDS are discussed as part of the theory but are not measured in the study.

Taking on the statement that was made on the research by Mengistie (2016), the four variables that were measured jointly have an impact on performance. For this study, we would also like to see if the variables we are measuring, market access, infrastructure facilities and procurement services, have a significant effect on the performance of SMMEs in Gauteng, which resulted in the formation of the following hypothesis:

> ***H1: The BDS variables of market access, infrastructure facility and procurement services jointly have positive significant effects on SME performance in Gauteng province***

2.4.1 Training and technical assistance

According to Basilio and Rodriguez (2010), training and technical assistance comprises the following: feasibility studies and business plans, management training, mentoring, franchising, financial and taxing advisory, bookkeeping and accountancy, counselling/advisory services and technical training. In a pragmatic study by Thaker (2008), training was seen as the acquisition of knowledge and skills for a certain purpose in a planned period. Training is important in the performance of SMMEs in an organised period. Training of SMMEs is important in order to survive the competitive business environment. Increased productivity and attainment of self-fulfilment of personal objectives is observed when employees have access to training; it is also important to acknowledge that any

country's technological growth is strictly dependent on the bulk of trained employees (Oferegbunam & Okorafor, 2010). In the SMMEs, training programmes marketing research, business plan preparation, franchising, management training, are included (Basilio & Rodriguez, 2010).

Training assistance is one of the most important interventions for SMMEs in providing basic skills to run their businesses effectively and efficiently. Huang (2001) advocates training as improving an individual's performance through changes in knowledge, skills or attitudes in organised learning activities. Brijlal (2008) assumed that the chances of survival and performance of an SMME can be enhanced by the training of management. Learning is continuously taking place in the work place and it can be formal or informal. Formal learning is defined as organised learning taking place outside of the working environment in the class room set-up (Marsick & Watkins, 1990, 2001). Collin et al. (2001) advocated that learning in the workplace is an on-going process taking place through normal work systems. Studies have shown that 80% of learning in the workplace is informal; it includes self-directed learning, networking, coaching and mentoring (Yeo, 2008). In the workplace, learning is more concerned with informal learning and can take three forms namely: in-house training, learning opportunities involving coaching and mentoring that are experience based and continuous learning (Sliverman, 2003).

2.4.2 Technology and product development

Enterprises are expected to take advantage of technology to be competitive. SMMEs tend to be left behind in technology adoption due to lack of resources and skilled staff. BDS plays an important role in providing advice and support in innovation and technology. SMMEs need support to cope with the challenges they face, ranging from maturity of technology and minimum information available, and lack of finance to acquire the latest technology (Bozeman & Feeney, 2007).

The study by Pollard (2006) recommended that high quality of information technology is needed by SMMEs and they must also act better than their competitors, especially when it comes to quality, price and services, by delivering goods of higher value. Karadal and Saygin (2011) concluded that product development has a significant positive outcome with adoption and implementation of information and communication technology.

2.4.3 Alternative financing mechanisms

Alternative financing speaks to financing mechanisms, including factoring where capital is provided by factoring companies for confirmed orders, equity financing and facilitation of supplier credit. Harper (2000), in classifying BDS, looked at the following conditions: social, physical, human and natural, as capital assets required by people to live on. Subsequent to that, Carney (1998) described social assets as co-operative development, business associations, groups that are self-help in nature, franchising, networks, clusters and chambers of commerce: physical assets as home-based business space, factory sheds, business incubation, water, power, transport, roadside rights, land tenure; human assets that entail training, technical skills, consultancy, advice, business management and entrepreneurship and natural assets as recycling and sustainable use of raw material. These different classifications can be used by BDS in different development services and can be used to adapt individual needs of a business

2.4.4 Policy/advocacy

Academic literature observes different forms of policy advocacy like lobbying, media work campaigning, but to name two. According to Reid (2001, p. 2), advocacy is something that lacks definition but we recognise it when we see it: “There is no agreement on which activities constitute advocacy, and no one source gives a full account of the many kinds of activities and strategies groups use to leverage influence in the policy process.”.

In professional and academic literature, the words ‘policy advocacy’ have significant appearances in the way it has been used. Individuals initiate policy

advocacy acting individually or as a collective (Reid, 2001), non-profit organisations being the representatives most of the time (Reed, 2006). There are instances when the citizens are unable to represent themselves, like the poor or children (Jansson, 2010; Schlozman & Tierney, 1986). Public hearings, citizen surveys, citizen jury are the “top-down” approach initiated by government bodies and contrasts the “bottom-up” that is initiated by citizens (McLaverty, 2011). Deliberate process is the second form of policy advocacy (Sprechmann & Pelton, 2001) which supports decision makers (Jenkins, 1987) or supports public or community agendas (Schmid, Bar & Health, 2005).

In a democratic society, literature offers both normative and descriptive answers when studying the overall drive of policy advocacy. In order to validate the process of policy making, public participation is prescribed widely on the normative side. The participation of the public is able to balance government’s recommendations for reasonable procedures to decision making (deLeon, 1992); in the process it can identify common interests between the parties (Denhardt & Denhardt, 2000). This in turn, ensures public participation (Bryson & Anderson, 2000) and maybe agreement (Xu, 2005) boosting choice of policy. Public participation can yield enhanced policy outcomes as observed from the narrow body of empirical research, on the descriptive side. The development of policies with public participation has been found to be successful (Kastens & Newig, 2008) with broader benefits deliveries (Galagher & Jackson, 2008) that are very significant to the public (Smith & Huntsman, 1997).

2.4.5 Market Access

There is extensive documentation on market access to organisations in literature (Pollard & Jemicz, 2006; O’Dweyer, Gilmore & Garson, 2009; Price, Stoica & Boncella, 2013). The different ways to access the market are: through management of the market which is said to have the capability to improve the competitive advantage of an enterprise through strengthened market outreach. Another way of market management is done by continuous innovation, products or processes in anticipation of dynamic customer requirements; competitors and

supply analysis is the crux of SMMEs survival and growth (Price, Stoica & Boncella, 2013). Market development done through innovation is said to be important in elevating product and service offering in firms, it is a vital action in market management. Firms, through market development which has been considered as precise to organisations, are allowed to try new ideas, capture opportunities crucial in market access and gain competitive advantage (Mahmoud, 2011).

Market access consists of marketing business, linkage to market, exhibitions and trade fairs, sample development for buyers, information on markets, outsourcing and subcontracting, meeting and marketing tips, market research, space development marketing, showrooms, advertising and packaging, as claimed by the Small Enterprise Education Programme (SEEP), the guide to business development services (SEEP, 2000). Juxtaposed, UNDP (2004) market access is offered as seven component aspects covering market reseach, market information, trade faires, exhibition of products, meetings and marketing trips, advertising, packaging, and outsourcing and subcontracting. In Ghana, as pointed by literature, market access has an influence on performance of businesses (Mahmoud, 2011; Moorthy, Tan, Choo, Wei, Ping & Leong, 2012). In another study by Basilio and Rodriguez (2010), it was concluded that performance is increased in SMMEs when market access was provided through BDS. Contrary to that study Washington, James and Peter (2014) found, in their study, there is no evidence to conclude that market access enhances the performance of SMMEs. Given that there are different viewpoints on market access, for the purpose of this study, market access is viewed as having a positive relationship with performance of SMMEs in formulating the following hypothesis:

H2: There is a significant positive relationship between Market access and SME performance

2.4.6 Infrastructure facilities

As a critical item in understanding SMMEs performance, it is important to study infrastructure facilities because it could contain a set of distinguished topics which may help describe it (Gramlich, 1994; Easterly, 2002; Delmon, 2008; The World Bank, 2008). As described by Easterly (2002), simple structures that are physical and organisational, giving support for improvement of an organisation or economy, are seen as infrastructure facilities. This is considered to be a bridge betweeen the enterprise and its market with the prospect of influencing the firm's income and entire efficiency (Price, Stoica & Boncella, 2013). Delmon (2008) claims that the reduction of influence of inter-regional distances, local market integration and connecting to other markets in other countries and regions at low cost, is achieved through well-built infrastructure facilities. Equally, Izquierdo and Vasallo's (2004) study suggested that there is positive correlation between infrastructure facilities and economic development to the extent that there are results during the construction phase and usage phase of these facilities.

Hornby (2005) confirms that physical structures allowing business to function effortlessly are denoted as organisational infrastructure. Infrastructure facilities in a manufacturing environment consist of the factory, warehouse facilities and equipment. Conferring with White, O'Connor and Rowe (2004), excessive capital investments, support levels and inadequate elasticity in the organisation could be brought about by the absence of suitable infrastructure. Unfavourable consequence for performance in a manufacturing environment may be brought about by strained access to infrastructure factors such as warehousing, leading to the following hypothesis:

H3: There is a significant positive relationship between provision of infrastructure facility and SME performance

2.4.7 Procurement Services

There is extensive literature documented in the role of procurement in organisations (Gramlich, 1994; Easterly, 2002; Koh, Demirbag, Bayraktar, Tatoglu & Zaim, 2007; Delmon, 2008; The World Bank, 2008; Awino, 2010). Procurement services are alleged to have the ability to reduce risk and supply chain services and increase the elasticity of the business by using alternative sourcing of inputs and services (Hong & Jeong, 2006). Identification and purchasing of external resources required by the business to fullfill its strategic objectives is the business function that descibes the activities in procurement services (Kidd, 2005). The buying of raw material and other input supplies are vital ingredients in the manufacturing ingredients. In the facilitation of production of goods and services, input supplies have been noted as important (Koh *et al*., 2007**).**

The inability for SMMEs to negotiate favourable procurement service terms and small scale for input supplies sourcing, SMMEs, compared to their counterparts in large business, are not strong and resistant to business environment effects. Limited resources and capabilities in a small business impedes their performance through the lack of ability to negotiate better prices and terms which may be alleviated when such services are provide in a cluster to SMMEs (Kayanula & Quartey, 2000; Schimitt-Degenhardt, Stamm & Zehdnicker, 2002). According to Miehlbradt and McVay (2003), by connecting SMMEs to suppliers, enabling groups of bulk buying, improved competency of suppliers' to provide quality inputs and providing information on supplier service input, improved terms of procurement services may be achieved. Therefore, the improved performance of the business is dependent on how inputs are procured, even though there have been different views on this relationship. For the purpose of this study, inputs are viewed as the linking of SMMs to raw material and group purchasing arrangements, leading to the following hypothesis:

H4: There is a positive relationship between procurement services and SME performance

2.5 Human Capital

Human capital refers to the individual's knowledge, know-how and skills accrued through education and training (Marimuthu *et al*., 2009). The concept was first introduced in economics by Becker (1964) and Micer (1958) and for three decades was used as a major factor of entrepreneurial success in entrepreneurship (Unger *et al*., 2011). The human capital theory makes it clear that skills come from investing in education, work experience and industry experience (Becker, 1964) and exhibition of skills and knowledge as a way to perform a task, results in economic value creation (Ucbasaran *et al*., 2008; Unger *et al*., 2011). The education and previous experience is important in opportunity discovery and exploitation by entrepreneurs. Throughout the entrepreneurial career, assets and resources that are both tangible and intangible are accumulated, and they are important in building the human capital base (Borchert & Zellmer-Brun, 2010; Matshekga & Urban 2013; Unger *et al.*, 2011). Through education and experience, individuals collect the intangible resources (Shree & Urban, 2012). Risk taking is discouraged by over-investing in education whilst on the contrary, it could be encouraged by under-investing in education.

In the case of small businesses, the entrepreneurship studies focus mainly on the human capital of the founder of the business (Marvel *et al*., 2016; Unger *et al.,* 2011) this is because of the founder's significance to the business (Ireland *et al.,* 2005). The attributes for human capital (education, experience, skills and knowledge) are embedded in the field of entrepreneurship and make it possible for entrepreneurs to raise finance, create businesses that are value creating which can also be applied to the performance of the business (Davidsson & Honig, 2003; Ucbasaran *et al*., 2008; Unger *et. al*., 2011). Fatoki (2011) further explores that the notion of human capital involves investing in people through education and training.

Previous studies have shown that human capital is the main cause of SMMEs performance, compare to other capitals like structural and relational capital (Daou, 2014; Rohana & Razak, 2009; Tovstiva & Tulugurova. 2007). The study by Chawla, Khanna and Chen (2010) has shown that the relationship between human capital and performance of SMMEs is not always positive. In developing economies, where individuals have high levels of education, they tend to seek employment in formal economies with guaranteed income, discouraging entrepreneurial behaviour (Amaral, Baptista & Lima, 2011). On the contrary, 'necessity entrepreneurship' is observed in areas where well-educated individuals with limited opportunities engage in entrepreneurial behaviour and they are able to identify and exploit opportunities (Xavier *et al*., 2013).

The outcome of human capital skills and knowledge can be acquired through investment in formal and non-formal schooling, learning through practice and work experience, contributing to productivity and success (Becker 1964; Silva 2007: Unger *et al.,* 2011). Human capital can be separated into general and specific human capital (Becker, 1993). Skills and knowledge (formal education, general work experience and demographics) transferable across different activities of the economy, represent general human capital and skills and knowledge that are highly focused in their subject matter and less transferable (industry experience, managerial experience, entrepreneurial experience etc.) represents specific entrepreneurship (Gimeno *et al*., 1997).

2.5.1 General human capital

In pursuing education, people have a belief that they will reap the benefits through employment (Van der Sluis *et al.,* 2004) or through their business (Davidsson & Honig 2003). When one invests more in formal education, they expect higher payoff (Van der Sluis *et al.*, 2004). An owner of a business who has invested more in education is more likely to start a business than one who has not (Rauch & Rijsdijk, 2013). According to Marvel *et al*. (2016) for undertaking entrepreneurial activities, education (human capital endowments) contributes to the development knowledge and cognitive abilities and skills (human capital outcome). There is

plenty of research evidence which shows that education has a positive effect on the performance of the business (Cooper *et al.* 1994; Dahlqvist *et al*. 2000; Rauch *et al.* 2005; Block & Sandner, 2000).

❖ *Formal Education*

In order to perform entrepreneurial activities, amongst other things, formal education seems to be a significant source of knowledge and skills (Ucbasaran *et al*. 2008). Knowledge and skills acquired through the educational method could be used by educated entrepreneurs to identify and exploit opportunities (Shane, 2003). There are different views regarding education. Studies have shown that educated individuals have a high propensity of creating their own business (Amoros & Bosma 2014), inversely there are other views that they are unconvincing to create their own businesses (Van der Sluis, Van Praag & Vijverberg 2008). In another first-hand study, the revelation was that entrepreneurs with formal education are good at discovering entrepreneurial opportunities, but they are unable to exploit those opportunities (Davidsson & Honig, 2003). Entrepreneurs with higher levels of education in developing countries have a high propensity to create their own businesses and ensure it is sustainable (Herington, Kew & Kew, 2014).

In the domain of entrepreneurship, the theory was increasingly applied, linking entrepreneurial success to the human capital attributes (Unger, Rauch, Frese, & Rosenbusch, 2011). A number of studies have shown that human capital is very important in the performance of the business (Combo & Grilli, 2005; Gimeno, Folta, Cooper & Woo, 1997) with higher levels of education having a positive relationship with performance (Cooper *et al*., 1994; Gimeno *et al*., 1997). Education is a variable of human capital (Kongo 2014; Barreira 2004), opposing this, Venter, Urban, and Rwigema (2008) suggested investing in education will result in higher salaries payment in return for an individual's variation of skills and training. In high income countries, such as the United States of America, the United Kingdom and Australia, education has been seen to be supporting this claim. In these countries, about 57% of entrepreneurs have post-secondary

education, comparing these to poor countries with 23% (Venter, Urban, & Rwigema, 2008)

In an entrepreneurial context, human capital is measured using mainly two dimensions which are level of education and industry experience (Fatoki, 2011; Segal, Borgia & Schoendfeld, 2009). Level of education and industry experience in the SMME context are always directed to the founder/ owner manager (Fatoki, 2011; Segal *et al*., 2009). Individuals with high levels of education have the ability to solve problems and make decisions regarding the business development. Individuals with high levels of education as employees, on average, tend to command higher income. Resulting in the following formulated hypothesis:

H5: There is a significant positive relationship between Human Capital factor of business education and SME performance

- ***Industry Experience***

In the process of entrepreneurship, work experience is very important and is represented by the implicit knowledge (Davidsson & Honig, 2003; Gabrielsson & Politis, 2012; Polanyi, 1966), with the potential to yield managerial skills to opening new businesses (Ardichvili, Cardozo, & Ray, 2003; Shane, 2000). Work experience is denoted by the number of years of experience, number of prior full-time jobs and position occupied (Gimeno *et al.* 1997; Unger *et al*. 2011). Discovering and the creation of entrepreneurial opportunities is the result of having human capital (Alvarez & Barney, 2014; Marvel, 2013). The human capital theory assumed that having related work experience is important but empirical studies have revealed that having different work experience is an added benefit, making it possible to identify and exploit opportunities in the operation of a prosperous business (Bruns, Holland, Shepherd, & Wiklund, 2008; Dimov, 2010; Ganotakis, 2012). Founders with different work experience in particular managerial experience were found in an empirical study to have a greater chance

to succeed in the start-up phase due to the more likely necessary skills that they may have acquired (Baptista, Karaöz & Mendonça, 2014).

Industry experience has very close ties with education, hence it was included as a variable for human capital. Unger *et al*. (2011) maintain that the number of years that an individual has been able to work after completing formal education is defined as work experience. This variable is dependent on the following assumptions (1) after completing studies, most people will spend their time working for someone or working for self, as in quests of productivity and (2) these productive quests result in learning. Individuals who have performed managerial duties with a number of years in work experience are more likely to create businesses, spot opportunities and raise finance (Colombo & Grill, 2005). In order to enhance the performance of the business, individuals with industry experience come with customers, suppliers and other stakeholders. The value that is brought to the business by individuals with extensive industry experience is recognised when they bring with them knowledge, ranging from technologies, demands of customers, competitors and suppliers (Hefat & Lieberman, 2002). An SMME founder with high industry experience is more likely to succed in setting up and operating the business. Studies on multinationals have revealed that there is a positive relationship between experience in time spent in a position and the performance of the firm (Carpenter, Sanders & Gregerson 2017).

H6: There is a significant positive relationship between Human Capital factor of industry experience and SME performance

2.5.2 Specific human capital

Specific human capital is different to general human capital in a sense that it requires less investment of time and other resources (Rauch & Rijsdijk, 3013). In certain industries, individuals get equipped with context bound abilities, skills and knowledge that are of limit use through positions held and work experience

(Shepherd & Wiklund, 2007). Just like in general human capital, studies have revealed a typically positive relationship between specific human capital and the performance of the business, even though there is very low levels of investment and transferability of human capital (Birley & Westhead, 1994; Unger *et al*. 2011). This might be due to individuals using their work experience to pursue their entrepreneurial journey (Marvel *et al*. 2016). Recent studies have shown that managerial and technical skills denote accumulated high levels of human capital possessed by individuals who have accumulated experience as owners of businesses (Baptista *et al*. 2014; Ucbasaran *et al*. 2008). Established entrepreneurs starting new businesses are able to use their experience to effectively apply knowledge generated from one setting to a new setting (Toft-Kehler, Wennberg, & Kim, 2014). The creation and implementation of knowledge give a firm a competitive advantage over those who did not invest in knowledge creation. Human capital on the performance of the organisation has been found to have a high effect in firms that are highly competitive and less effect in firms that are less competitive (Magoutas, Papadogonas & Sfakianakis, 2012). Assuming that highly competitive firms are dependent on the knowledge possessed by those operating them, the following hypothesis was formulated:

H7: There is a significant positive relationship between Human Capital subdimension of knowledge and SME performance

Human Capital has shown inconsistent results in studies. In studies by Shiu (2006); Appuhami (2007) and Chan (2006), an insignificant relationship between human capital and firm performance was found. However, a study by Fatoki (2011) has confirmed a positive relationship between the human capital of the business owner and the performance of the business. Crook *et al.* (2011) have highlighted that in the SMME environment, the relationship between human capital and performance can be influenced by other moderating effects such as strategy, business acumen, and suitable conditions. Considering the three human capital variables: business education, experience and knowledge, an hypothesis of human capital was formulated:

H8: There is a significant positive relationship between Human Capital (Education, industry experience and knowledge) and SME performance

2.6 Resource based theory (RBT)

In order to conduct research and conclude studies, researchers depend on theories which are critical in explaining the existence of phenomena and how things work (Culver, 2012). Having said that, Costley (2012) postulates that researchers may select relevant theories applicable to their study as no theory is entirely correct in explaining a phenomenon. The resource-based theory (RBT) states that availability of resources assumed to generate uniqueness contributes to the competitiveness and increases the performance of the business (Barney, 1986). Organisations perform and achieve their competitive advantage due the unique characteristics of resources highlighted by the RBT. The unique characteristics of the resources are: difficult to imitate, valuable, non-substitutable, rare and imperfectly mobile (Barney, 1986; Samad, 2012).

According to Hooley, Broderick and Moller (1998), the resources are classified based on 1. Assets - tangible and intangible, 2. Capabilities – individual or human capital, group and corporate. Tangible assets are land, plant, people, machines, etc., intangible assets are knowledge, reputations and brans, procedure and systems, etc., individual or human capabilities are leadership skills, customer care, and individual or group learning organisation, etc., group capabilities are interpersonal skills, group learning, customer centric, etc. and corporate capabilities are portfolio management, innovation, planning process, market orientation, planning process. The unique characteristics that give the organisation the competitive advantage and performance is the human capital with the ability for internal development and cost of obtaining in the market (Samad, 2012). Human capital is very important in contributing to the performance of the business (Swamson & Holton, 2001). Business input and

performance is achieved through employees' unceasing development in terms of knowledge, skills and abilities (Samad, 2010). Better quality of employees, throughput, company endurance, economic growth has been found to be related to human capital (Goetz & Hu, 1996; Samad, 2008). Bontis and Fitzenz (2002) found a significant relationship between human capital management and economic and business outcome.

2.7 Business Performance

There is extensive literature on firm growth starting with Gibrat's Law in 1931.

2.7.1 Defination of perfomance

There has not been unity in defining firm performance in its measurement and attributes (Santos & Brinto, 2012). The lack of clarity in the theoretical development of the construct make it difficult for performance to be applied as a scientific concept rigorously (Miller, Washburn, & Glick, 2013). Steigenberger (2014), due to the lack of an agreed definition from a theoretical perspective, suggests that performance mostly signifies the success of the firm. The enterprise has two types of performance - financial and strategic (Liang, You & Liu, 2010). Consoli (2012) identified efficiency and effectiveness as dimensions for financial performance. Santos and Brito (2012) identified profitability, growth and market value as dimensions for performance. In order to measure performance dimensions, full analysis recommends using identical indicators (Table 2). The study by Console (2012) to measure performance generally covers the same financial aspects as the study by Santos and Brito (2012), the difference is the indirect effects. Enviromental and social performance are the two concrete dimension suggested by Santos and Brito (2012) which differ to the conceptual idea suggested by Console (2012).

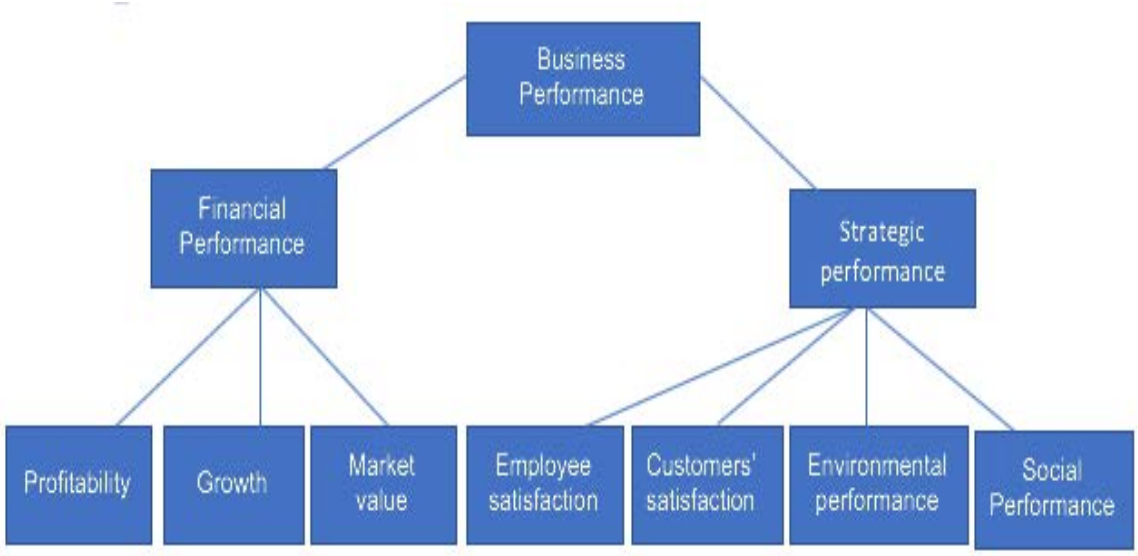


Figure 1: Dimensions of performance (Santos & Brito, 2012)

The table below indicates the indicators for measuring the dimensions of performance of a business.

Table 2: Indicators of performance dimensions (Santos & Brito, 2012)

Dimensions	***Indicators***
Profitability	Return on Assets, Return on investment, Net income/Revenue, Return of equity, Economic value added
Growth	Earnings per share, Stock price improvement, Dividend yield, Stock price volatility, Market value added (market value/ equity)
Market value	Market share growth, Asset growth, Net revenue growth, Net income growth, Number of employee growth
Employee satisfaction	Turn-over, Investments in employees development and training, Wages and rewards policies, Career plans, Organisational climate, General employee satisfaction
Customer satisfaction	Mix of products and services, Number of complains, Repurchase rate, New customer retention, General customer's satisfaction, Number of new products/services launched
Environmental performance	Number of projects to improve / recover the environment, Level of pollutants emission, Use of recyclable materials, Recycling level and reuse of residuals, Number of environmental lawsuits
Social performance	Employment of minorities, Number of social and cultural projects, Number of lawsuits filed by employees, customers and regulatory agencies

Economic and organisational factors are the two phases against which the firms' performance can be seen, claim Hansen and Wernerfelt (1989). Olawale and Garwe (2010) appreciated that economic factors contended as external factors, includes variables as characteristics of the industry, firm position relative to its competitors, access to markets, fiscal monetary policies, inflation, interest rates, quantity and quality of firm's resources. Rate of crime, labour legislation and corruption are other external factors affecting firm's perfomance (Olawale & Garwe, 2010).

There are also internal factors affecting the performance of the business, dealing with the behavioural and sociological paradigm, including manager's influence and performance of employees, planning within the organisation, accessing finance, managerial skills, location and networking and technological capital (Hansen & Wernerfelt, 1989; Olawela & Garwe, 2010). Business growth, which is measured by factors such as sales, assets, productivity, profits and profit margins, is realised when the external and internal environment are balanced (Li, Huang, & Tsai, 2009; Olawale & Garwe, 2010). Xesha, Iwu and Slabbert (2014), in defininig business success advocated the appreciation of commendable objectives, which could be better profits, improved assets, expanssion and other factors signalling growth and development of the business. The success of the business is multidimensional and it is evident in the definition.

As a construct, business performance can be measured both qualitatively and quantitatively (Yildiz & Karakas, 2012). There are many ways to measure business performance. The changes that take place in sales, productivity, profit and employment are the most popular measures of performance (Olawele & Garwe, 2010). The study that was done by Leeuw (2012) shows that performance is measured through changes in number of employees, change in turnover. In the study by Neneh and Van Zyl (2014), performance is measured using the following constructs: the employment growth, sales growth and asset growth. Entrepreneurs place emphasis on the increase in sales, number of employees, assets and profits as important factors to measure performance (Achtenhagen, Naldi & Melin, 2010). This study measures performance based on the instrument

used by Achtenhagen, Naldi and Melin (2010) since this measure is in line with what entrepreneurs view as a measure of performance.

2.8 Conceptual framework of hypotheses

Below is the conceptual framework of the study, illustrating the relationship between business development services dimensions (market access, infrastructure facilities and procurement services) and human capital dimensions (level of education, industry experience and knowledge) to performance of SMMEs. The relationships in this conceptual framework was developed by reviewing the literature relating to business development services, human capital, and an individual entrepreneur's factors on the performance of the business.

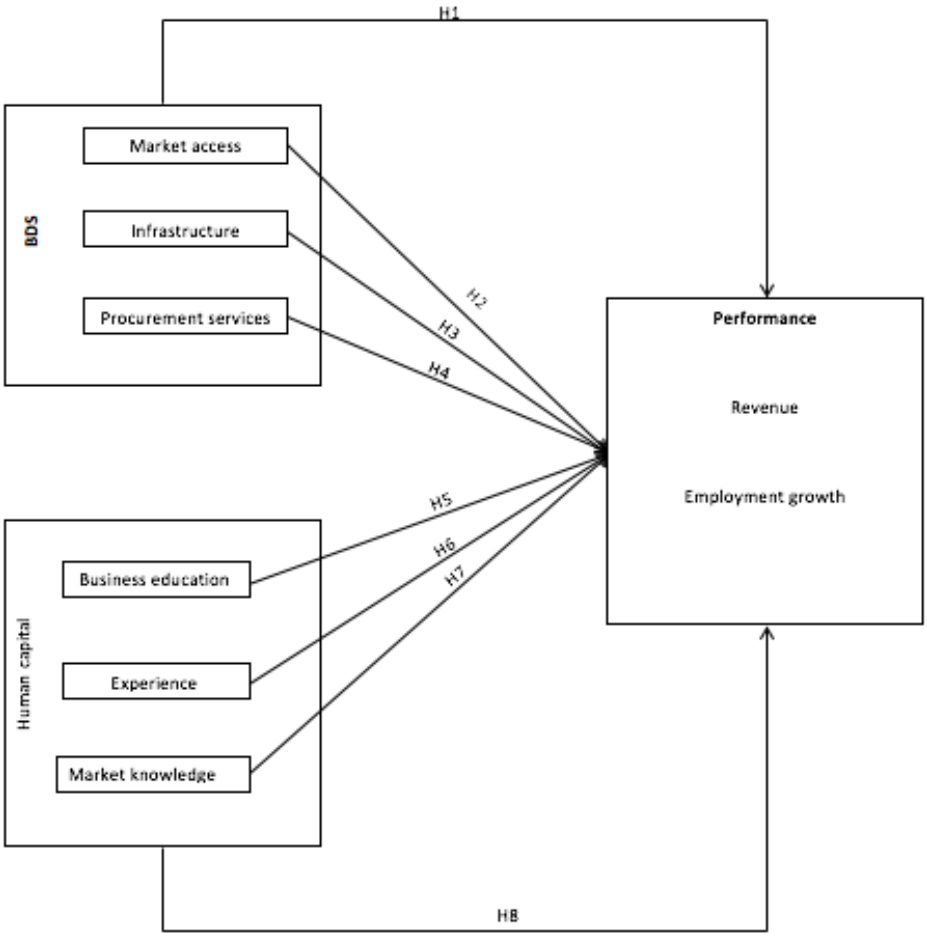


Figure 2: Conceptual framework (Source: Researcher)

The following hypotheses were formulated based on the literature review.

2.8.1 Hypotheses for business development services

H1: The BDS variables of market access, infrastructure facilities and procurement services jointly have positive significant effects on SME performance In Gauteng province

H2: There is a significant positive relationship between Market access and SME performance in Gauteng province

H3: There is a significant positive relationship between provision of infrastructure facilitity and SME performance in Gauteng province

H4: There is a positive relationship between procurement services and SME performance in Gauteng province

2.8.2 Hypotheses for human capital

H5: There is a significant positive relationship between Human Capital factor of business education and SME performance in Gauteng province

H6: There is a significant positive relationship between Human Capital factor of industry experience and SME performance in Gauteng province

H7: There is a significant positive relationship between Human Capital subdimension of knowledge and SME performance in Gauteng province

H8: There is a significant positive relationship between Human Capital (Education, industry experience and knowledge) and SME performance in Gauteng province

2.9 Conclusion of Literature Review

The literature looked at an entrepreneur as a self-employed individual (Van Praag & Verloot, 2008) with the task of participating in economic development through job creation. Entrepreneurs have to recognise and exploit opportunities (Shane & Venkataraman, 2000) and yet the SMMEs continue to fail (Shane, 2008).

The BDS are offered to SMMEs so that they can assist in improving their performance (Washington, James & Peter, 2014). In addressing the challenges faced by SMMEs, the BDS provide information and support that is expected to make them competitive. The market imperfections negatively affect SMMEs, forcing them to be competitive to survive the competition from large enterprises (Park, Lim & Koo, 2008). Support is important for SMMEs to survive the harsh environment and it comes in the form of government or donor support (Brijlall,

2008). In the study conducted by Mengstie (2016), it was concluded that market access, infrastructure facility, input supply, training and technical support are important variables in the determination of performance of SMMEs, on the other hand, there was no significant link of these dimensions with non-BDS beneficiary SMMEs. There are studies that have shown that the relationship between the BDS dimensions and performance can go in either a positive or negative direction.

A number of studies have shown that human capital is very important in the performance of the business (Combo & Grilli, 2005; Gimeno, Folta, Cooper & Woo, 1997) with higher levels of education having a positive relationship with performance (Cooper *et al*., 1994; Gimeno *et al*., 1997). Individuals with high levels of education have the ability to solve problems and make decisions regarding the business development. Human capital construct, industry experience has shown to have inconsistent outcomes when measured against performance.

Performance is viewed as a multidimensional construct and for the purpose of this research, it is defined and measured according to the entrepreneur's urgency. The study measures performance using turnover (revenue) and changes in number of employees (employee growth).

CHAPTER 3: RESEARCH METHODOLOGY

In this section, the approach that was taken in the research methodology is discussed. The chapter looks at the following research methodology concepts; research paradigm, the research design, population and sampling, the research instrument, data collection, analysis and interpretation. Furthermore, it looks at the validity and the reliability of the instrument used, study limitations and ethical considerations.

3.1 Research Paradigm

The set of principles directing the researcher's actions is the research paradigm (Lincoln, Lynham & Guba, 2011). Positivism is the world to research with its ground in the scientific method of investigation. It measures the relationships that look at the causal effect in nature. It is dependent on the deductive logic, hypothesis formulation and testing, with operational definitions on offer, equations that are mathematical calculations, extrapolations and expressions (Cohen, Manion & Morrison, 2013).

This study has its roots on the positivist philosophy which follows the quantitative approach (Creswell, 2013), searching the effect relationship between the variables and constructs, applying scientific principles to understand, assess and analyse the inter-relationships amongst variables and constructs (Cohen, Manion & Morrison, 2013).

Positivists make the assumption that, in the social world, the reality and its subsequent meaning may be recognised, discovered, measured and analysed using various scientific approaches. The reality or observation in the social world is independent of the researcher which is the objective ontological perspective (Cohen *et al*., 2013; Cooper & Schindler, 2014).

Random sampling has minimal complications and is the most precise probability sampling strategy. This is said to be the most popular method of sample mining from the population and pertinent to a variety of purposes. Using the simple

sampling method guarantees that the whole population has an equal opportunity to be selected to be part of the sample. In order to reduce the researcher's bias, random sampling is the most accurate sampling technique. The problem with random sampling is that it requires a large sample satisfying the members of the appropriate population (Hair et al., 2010).

Through following a quantitative method, structured questionnaires were completed for obtaining data. The use of the structured questionnaire was instrumental in answering the research questions in relation to the relationship between the two dependent variables (DV) BDS and HC against the Independent variable (IV) performance of SMMEs and testing the theory. This method was thought to be applicable as it desired to test the hypotheses that were formulated using the raised theories (Creswell, 2014). The hypotheses were created, based on the presented literature of BDS, HC and performance of the business were used to formulate the hypotheses and determined the different constructs' analytical power. The high credibility of the quantitative approach (Onwuegbuzie, Johnson & Collins, 2011) was instrumental in following this direction.

3.2 Research Design

In this study, research design is dictated by the type of inquiry that follows the quantitative approach. Seizing a certain moment in time by employing non-experimental cross-sectional tactic denotes a quantitative research design (Cooper & Schindler, 2014). A survey in a form of online self-administered questionnaires was used in the study. Surveys enable the researcher to collect data within the short time limit and they are the most optimum and most used method for quantitative studies (Field, 2009; St-Jean & Mitrano-Méda, 2016).

One of the advantages of using surveys is that they are cost effective, making it possible for the researcher to reach the number of participants at once, in this case being the entrepreneurs. The research needs to look for common bias and

the dearth of detailed insights about the construct being studied, which are some of the disadvantages of using surveys (Creswell, 2013; Field, 2009).

A researcher needs to consider ethical issues when collecting data using a questionnaire. The participants were asked to complete a consent form prior to participating in the study to ensure gathering of data in an ethical manner. Only the questions that were relevant to the study were asked, and irrelevant questions were omitted so as to waste the participants' time.

The participants were clearly made aware that they were not obligated to participate in the study. Their participation was going to be kept anonymous as their identifying information was not required (Cooper, Schindler & Sun, 2006). The researcher applied for and was granted clearance by the Wits ethical committee before conducting the research. See Appendix A for the clearance copy.

3.3 Population and Sample

3.3.1 Population

The population for the research was made up of SMMEs in Gauteng Province in South Africa. According to SEDA (2018), there were 8,9 million jobs created by SMMEs in South Africa. It is difficult to quantify the number of SMMEs in South Africa, given that different institutions had different recordings which are not linked or shared with each other. Finscope (2010) estimates about 5,6 million SMMEs and the DTI,(2008) claim there are just over 800 000 SMMEs. Ramukumba (2014) found that the number of SMMEs are estimates and excludes the unregistered SMMEs which cannot be accounted for.

In defining SMMEs according to the sector, one has to consider the number of employees, turnover and the total of the gross assets value. To be classified as SMMEs, the number of employees in the business must not exceed 200 and turnover is not more than R50M per annum. These two categories are used

mostly to determine if the business falls within the SMME sector (South Africa, 1996).

In order for the business to be considered for the study, it has to be registered with employees less than 200 and with a turnover of not more than R50M with financial records (DTI, 2008; South Africa; World bank, 2012).

3.3.2 Sample and sampling method

Sampling entails selecting a representative element of a population from which empirical analysis can be conducted and make inference about the whole population (Cooper & Schindler, 2014). In quantitative research, there are two types of sampling method - probability and non-probability sampling. Probability sampling is the most ideal method because it makes it possible to generalise the results to the population. A non-probability convenient sample was adopted for this study due to the cost effectiveness and ease to conduct (Cooper & Schindler, 2014). The sample was taken from SMMEs around Gauteng. Initially, the study hoped to reach about 5000 through an online survey using Qualtrics.

Different organisations which deal directly with SMMEs in Gauteng were contacted to distribute the questionnaire to their networks. Organisations like Seda, Alexander Chamber of Business and a number of incubators were contacted to distribute the questionnaire. Platforms like WhatsApp, Facebook and LinkedIn were also used to distribute the questionnaire.

The founders and owner/managers of SMMEs around Gauteng made up the population in which the sample was taken from. Seda distinguishes between the small and medium enterprise based on the number of employees with a small business having (0 – 50) employees and medium enterprise with 51 – 200 employees (www.seda.org.za).

The sample size helps to generalise the results and should not be results specific. In determining a sample size, a minimum of 5:1 ratio is the minimum requirement (Field, 2013). The survey was conducted through Qualtrics due to the time limitations and a sample of 137 was used for data analysis. The survey was quick,

taking just less than 10 minutes to complete but there were some participants who did not answer the questionnaire fully. Data collection was not easy, it was very slow and required more time than the available time. Some of the respondents were not co-operative and did not fully answer the survey. The lower response rate is as a result of non-co-operative respondents (Cooper & Schindler, 2014; Field, 2009).

Table 3: Summary of the survey

Variable	Description
Target population	SMMEs in Gauteng
Population size	All SMMEs in Gauteng
Geographical survey	Gauteng Province SA
Target sample size	300
Sampling unit	SMMEs
Sampling error (Confidence level)	95%
Respondents	Founders and owners/managers of businesses

Source: (Researcher)

3.4 The research instrument

The primary data was collected using an online self-administered questionnaire (see Appendix A for the full instrument) which was administered to the founders and owner/managers of SMMEs in Gauteng. The online questionnaire allows for a wider geographic reach, they are efficient and quick to administer (Cooper & Schindler, 2011). A pilot study was conducted earlier to determine the suitability of the instrument and the instrument was adjusted accordingly (Wiklund et al., 2009).

The questionnaire was divided into four sections labelled A to D: Section A is made up of the demographics relevant to the study. In accordance with research

conducted previously (Rauch, Frese & Utsch, 2005), it contains information on demographics such as gender, age, number of years in business, number of employees. Section B measures the dimensions of business development services and section C measures the dimensions of human capital - level of education, industry experience and knowledge. Finally, section D was measuring performance using the variables suitable to measure performance like revenue growth, growth in employment (Ainin, Kamarulzaman, Farinda, & Azmi, 2010).

The BDS scales were adapted from the study that was performed by Ombi, Ambad and Bujang (2018) in determining the effect of BDS on SMEs performance. The human capital scales were adapted from the study performed by Matshekga (2012) which was about the entrepreneur's human capital variables as factors leading to accessing funding. Performance was measured using employee growth and revenue growth which are widely used to measure performance in the entrepreneurial environment (Achtenhagen, Naldi & Melin, 2010). Factual and perceptual questions were asked (ratio and interval data respectively) including items such as: the perceived importance of education of both owners and employees in their success, the importance of education in general and frequency of attendance at seminars or short courses to enhance their education. In terms of work experience, they included questions also factual and perceptions and included items such as quantity of experience working for others before starting own business and relevance of previous work experience to current venture (Urban & Kongo, 2015). Section D measures the performance of the business using four financial indicators, namely sales, number of employees, assets and profit (Achtenhagen, Naldi & Melin, 2010).

A 7-point Likert scale was used to measure independent variables BDS and HC and dependent variable performance. Bertram (2006) defines the Likert-scale as a psychometric answer scale used mostly in questionnaires with statements or sets of statements to obtain partaker's partiality or degree of agreement. Likert scale are unidimensional in nature and are a non-comparative scaling technique. Respondents were asked to respond by how much they agree or disagree. Summative scale is another name used for Likert-scale. In practice, researchers

use the scale as interim data criteria but for successful use of the scale, individual answers are to be treated as ordinal data (Bertram 2006). Jameson (2004) stipulates the pros and cons of the scale, simple to construct, reliable scale, easy to read and complete for respondents.

3.5 Procedure for data collection

Using an online software, Qualtrics, a questionnaire in the form of a survey was created for data collection. The most commonly used method of data collection in research are the questionnaires (Field, 2009). The questionnaire was divided into four sections (A to D). The aim of the instrument was to collect data on the following: demographics, BDS (Market access, Infrastructure facility and Procurement services), HC (Education, experience and knowledge) and performance as the dependent variable.

Data was collected during the month of January and February 2019. Ideally, one would have liked to collect a larger sample, but due to the time constraints, a sample of 137 was collected. In social science, it is common practice for researchers to collect data using surveys (Ramukumba, 2014). SMME owners and business managers in Gauteng were targeted, using an online questionnaire, to collect data. Business managers were targeted since they were perceived to have knowledge of the business. A link of the survey was forwarded to the entrepreneurs and they were also encouraged to forward it to other entrepreneurs. It was also sent to contacts in incubators to forward to entrepreneurs and the Chamber of Business in Alexander was used to distribute the survey.

3.6 Data analysis and interpretation

3.6.1 Transformation of data and cleaning

In transforming and cleaning the data, these are the steps that were taken: data was exported from Qualtrics in csv format. After an inspection of the data in Excel non-value adding columns were removed e.g. timestamps and cell phone numbers, email addresses, etc. The data was imported into SPSS v25 were the file was transformed from .csv to .sav. Data coding was done using the transform function and the coding can be found in the code book.

The Likert scale values which ranged from strongly disagree to strongly agree were coded from 1 to 7 respectively.

3.6.2 Missing Value Analysis

Surveys usually come with missing data due to various reasons, including data collection process, long questionnaire, respondents not willing to finish survey (Field, 2013). The research instrument was programmed such that respondents could not proceed to the next question before answering the present question and this could have also added to missing values.

In order to describe the pattern of missing data and where they are located, it was necessary to do a missing value analysis. The missing value analysis also enabled us to correct the data through imputation of the missing values and/or discarding variables that have more than 10% of their values missing (RJa & Rubin, 1987). In transforming and cleaning the data, these are the steps that were taken:

1) Data was exported from Qualtrics (2018) in csv format. After an inspection of the data in Excel, non-value adding columns were removed e.g. timestamps and cell phone numbers, email addresses etc.
2) The data was imported into SPSS v25 where the file was transformed from .csv to .sav. Data coding was done using the transform function and the

coding can be found in the code book.

3) There were 28 variables that had missing data and expectation maximisation method from SPSS was used as the imputation method; this was done in order to ensure that all variables had complete data. Maximum likelihood estimation employs all available values to generate maximum likelihood-based statistics (Moon, 1996). The main advantage of using this method is that it does not affect the slope of the line of best fit.

4) The Likert scale values which ranged from strongly disagree to strongly agree were coded from 1 to 7 respectively.

5) Of the 33 variables in the dataset only five did not have any missing values. 95 out of 137 respondents completed the survey without skipping a question.

6) Given this scenario, it was necessary for the researcher to perform an imputation to fill in the missing value. Figure 3.1 below illustrates a summary of missing values.

3.6.3. Descriptive Statistics

It is necessary to do an exploratory data analysis using descriptive statistics in order to understand who the respondents were, how frequently they responded to each question and general demographics (Cooper, Schindler & Sun, 2006). Descriptive statistics uses tables and graphs to profile the respondents.

3.6.4. Statistical Assumptions

A bivariate correlation analysis was performed on the research variables in order to ascertain the existence of linear relationships among them. In order to assess the relationship between two variables, the Pearson coefficient of correlation, r, which is the measure of the strength of the linear relationship between paired data was used (Field, 2013; Tabachnick & Fidel 2003). In a sample, it is denoted by *r.* Table 4 below illustrates the absolute value of r and their interpretation.

Table 4: Pearson coefficient of correlation r value

ABSOLUTE VALUE OF R	INTERPRETATION
< 0.19	Slight; almost no relationship
0.20–0.39	Low correlation; definite but small relationship
0.40–0.69	Moderate correlation; substantial relationship
0.70–0.89	High correlation; strong relationship
0.90–1.00	Very high correlation; very dependable relationship
≥ 0.30	Practically significant relationship

Source: Evans (1996)

In order to calculate the Pearson's correlation coefficient and later significance the following data assumptions must hold

- Interval or ratio level
- linearity related
- bivariate normally distributed

A statistical software SPSS (n.d.) was used to measure the relationship between BDS, HC, Performance. When correlation coefficient analysis was performed, a Pearson correlation matrix was produced with significant bivariate correlations, revealing that all the variables have a relationship with each other, given that there were all non-zero correlation coefficient. The multivariate regressions were conducted to assess the effect of BDS and HC on the performance of SMMEs, using regression analysis.

3.7 Validity and Reliability

It was necessary to test for construct, scale and instrument validity since the study used a multi-items questionnaire. Performing these tests assist the researcher to assess whether the study is measuring exactly what it has intended to measure. Testing for reliability and validity is important for minimising measurement error (Field, 2009).

3.7.1 Reliability Testing

The capability of the instrument to measure the recurrence of the research findings and produce results refers to reliability (Cooper & Schindler, (2001). Reliability is concerned with the degree estimates to which a measurement is free of random error (Field, 2009). A reliable instrument is robust when t is working well during different times and conditions (Cooper & Schindler, 2011). The reliability of the test can be threatened by questions with poor wording, questions requiring two answers in one question, unclear statements (Creswell, 2013, Weiner 2007).

3.7.1.1 Internal Consistency

Internal consistency focuses on measure of multi-item scale reliability, used for evaluation of results, this requires consistency across items within a test (Field, 2009). This study used Cronbach Alpha to test for convergence. Cronbach alpha uses a group of correlation coefficients ranging from zero to one measuring multi-item scale where a coefficient close to one represents high internal reliability but not unidimensional (Cronbach & Meehl, 1955; Field 2013)

Construct reliability = (sum of standardised loadings) 2/[(sum of standardised loadings) 2 + sum of indicator measurement error].

George and Mallery (2003 p. 231) provide the following rules of thumb of Cronbach's alpha:

> .9 – Excellent

> .8 – Good

> .7 – Acceptable

> .6 – Questionable

> .5 – Poor

< .5 – Unacceptable

Excellent internal reliability is realised if the Cronbach alpha of a multi-item set is more than 0.8. Cronbach's alphas ranging between 0.6 and 0.7 is not much of a problem. Content validity can be lost by the deletion of relevant questions to increase Cronbach alpha. A more sensible approach is to use SEM to measure composite reliability test (Nunnally & Bernstein, 1994).

The composite reliability is the combined reliability of all the factors. This method is used to mitigate the shortcomings of Cronbach's Alpha as a measure of reliability, unlike Cronbach's Alpha which assumes unidimensional and equality of the relation between variables and the construct. Instead it takes into consideration the individual factor loadings.

Inter-item correlation matrix: It is the comparison of all pairs of questions testing the same construct by calculating the mean of all paired correlations. It is therefore the average of all the correlations. It indicates related items measuring the same construct. The scale is reliable and convergent if the correlation coefficient (r>0.2) (Field, 2013).

3.7.2 Validity Testing

This is the degree to which the instrument measures concepts it tries to measure and not other concepts not meant for measured (Field, 2009). Meaningfulness and accuracy of research components is mainly what validity is all about (Drost, 2011).

3.8 Statistical techniques and procedures

The aim of this study was to examine the relationship between BDS (IV), HC (IV) and quantify their effects on P(DV). The following topics are discussed: the Pearson correlation analysis, then factor analysis and regression analysis.

3.8.1 Pearson Product Moment Correlation

The degree of relationship that exit between the IVs and DV was determined using the Pearson correlation (Creswell, 2013). Using SPPS, the direction, strength, and significance of different relationships was observed. The outcome of this analysis helped us to figure the existence of any linear relationships to satisfy the multivariate analysis of the study (Field, 2009).

3.8.2 Factor Analysis (EFA and CFA)

A method used to identify a group of variables measuring the same construct is factor analysis. Factor analysis was used in this study for the determination of the latent variable, merging of the collinear variable which resulted in data set reduction to a controllable size without losing important information (Field, 2009). To test and confirm both the construct reliability and validity, exploratory and confirmatory factor analysis were used in past studies (Bornstedt, 1977).

3.8.2.1 Exploratory Factor Analysis (EFA)

EFA is a statistical analysis technique used for dimension reduction, based on the data's underlying theoretical structure (Field, 2009). Given that the research instrument has never been used in the current configuration, it was necessary that the researcher uses EFA to construct factors, based on the underlying patterns of the data. The EFA produced the correlation matrix, suitable factor extraction method identification for easy interpretation of data set (Field, 2013; Tabachnick & Fidell, 2003). To check if EFA can be used on the data, assumptions have to be satisfied.

Checking for appropriate correlations

The correlation matrix of the variables under analysis should be positive definite i.e. the determinant has to be greater than zero. This is because factor analysis techniques group variables together into constructs as a result of their correlations (Holzinger & Swineford; Norman & Sreiner; Tabachnick & Fidell,

2001). As a rule of thumb, a cut off point for factor loadings is 0,3 meaning that the correlation between the factor and the variable should be at least 0,3.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy (MSA)

The MSA tests for adequacy of the data to be meaningfully analysed using EFA. The MSA contributes towards the production of the p-value which is the statistical measure that is used to make decisions. The MSA should be above 0,7 for the data to pass the test (Field, 2009)

The Bartlett Test of Sphericity (BTS)

BTS compares the correlation matrix with the identity matrix, resulting in the generation of a p-value in conjunction with MSA. From this test, it is desirable that the p-value is small, indicating statistical significance. A p-value of less than 0,05 indicates that the data has passed the test (Field, 2009) implying that EFA can be used for analysis.

For factors to be constructed by EFA, there is need to use the principal component analysis algorithm (PCA) to extract the factors that have Eigenvalues greater than 1 whilst discarding those that are less than 1 (Field, 2009). PCA ensures that variables that are correlated load onto the same factor whilst ensuring that two factors are as dissimilar as possible. This guarantees the uniqueness of the factors.

The EFA process produces variance which can be explained by the extracted factors. This is represented diagrammatically using a scree plot that has the components as the X-axis and Eigenvalues as the Y-axis.

Once the factors have been extracted using PCA there is a need for rotation in order to guarantee uniqueness of the factors. Varimax rotation is used to achieve this (Field, 2009). The rotated components matrix is arranged such that the most influential factor is to the left and decreases towards the right. Each factor has to have at least three variables to be valid.

Correlations: Correlation matrix is a table showing correlation coefficients between variables. The correlation matrix of the variables under analysis should be positive definite i.e. the determinant has to be greater than zero. This is because factor analysis techniques group variables together into constructs as a result of their correlations (Habing, 2003, Tabachnick & Fidell, 2003). As a rule of thumb, a cut off point for factor loadings is 0,3 meaning that the correlation between the factor and the variable should be at least 0,3.

3.8.3. Confirmatory Factor Analysis (CFA)

CFA is a type of structural equation modelling (SEM); it seeks to validate the research instrument by systematically checking whether the model fits the data (Hair et al., 2010). The aim of CFA is to test the hypothesis so as to establish the existence of the relationship between the observed variables and underlying latent variables. There are a number of fit indices that are used to ascertain whether this is the case. The most used fit indices are listed below:

CFI (Comparative fit index) – An instability function adjusted for sample size. CFI value of more than 0,9 is desirable and indicates that the model fits the data better than a more restricted baseline model (Hu & Bentler, 1999).

TLI (Tucker-Lewis Index) – the TLI is similar to the CFI in that it compares the model to a baseline model. It also penalises overly complex models in line with the need for simpler models. A TLI value of greater than 0,9 is desirable (Hu & Bentler, 1999).

AIC (Akaike's information criterion) – the AIC is a parsimonious algorithm that choses the most efficient representation of data. The lower the value of AIC the better (Hu & Bentler, 1999).

BIC (Schwarz's Bayesian information criterion) – the BIC is similar to AIC in its attempt to select the most efficient representation of data. The lower the value of AIC the better (Hu & Bentler, 1999).

RMSEA (Root mean square error of approximation) – RMSEA measures how closely the model reproduces data patterns. It seeks to minimise the error of approximation, also known as residuals. A good value of RMSEA should be less than 0,06 (Hu & Bentler, 1999).

Once all the fit indices have been satisfied there is justification to accept the model as valid and the researcher can move on to look at the list of parameter estimates.

In the event that the fit indices are not satisfied, CFA has modification indices that can be used to tune the model and improve its performance.

In the beginning of the study, a conceptual framework was formulated due to the hypotheses that were formulated. The relationship that was from the hypotheses was as follows: the three BDS (IV) with variables: Market access (MA), Infrastructure facility (IIFA) and Procurement services were going to be measured against performance P (DV) and the second construct HC (IV) with variables: Education (EDU), Experience (EXP) and Knowledge (MDK) were also going to be measured against Performance (P) which is a (DV).

However, after the CFA, the model was observed (illustrated in figure 3 below). The model confirmed that procurement services and experience were no longer part of the study since they were absorbed by other variables. The observed model was used to test the new hypotheses. The new factors are made up as follow:

IFA =~ Q16+Q13+Q12

EDU =~ Q18+Q19+Q22+Q23

MDK =~ Q20+Q21+Q24

Q27 ~ MA + IFA + EDU + MDK

Q28 ~ MA + IFA + EDU + MDK

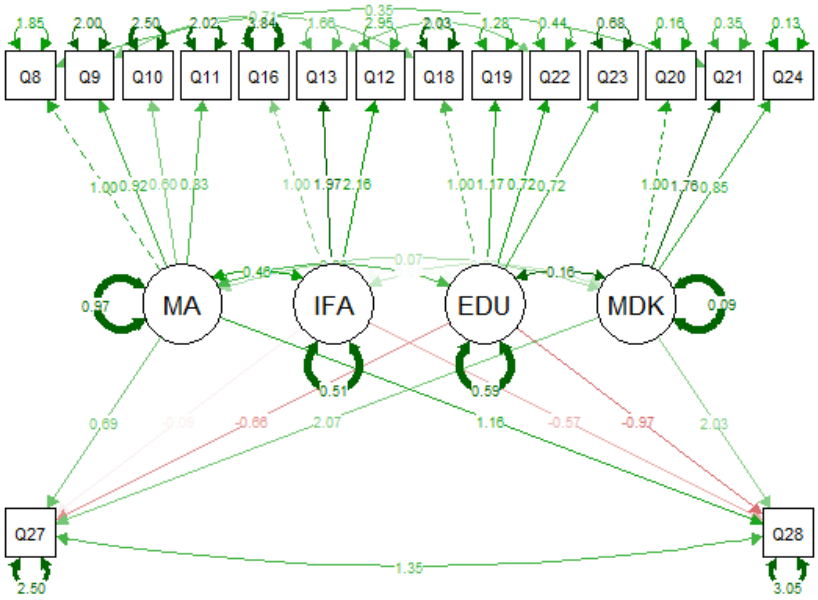


Figure 3: Performance measurement model – CFA

3.9 Regression Analysis

3.9.1 Hypothesis testing

Now that the research instrument has been validated through CFA, it is possible to do hypothesis testing. The three dependant variables are results from Likert scale with seven levels, therefore it can be used as ordinal or continuous variables. Given this fact, it is ideal to use multiple linear regression to test the effect of the constructs on the dependant variables.

For the eight hypothesis tests, the researcher used linear regression to test the effect of business development services and human capital on performance as measured by revenue (Q27), employment growth(Q28), business as a composite variable (Composite).

Since the researcher chose to analyse the collected data using linear regression, part of the process involved checking to make sure that the data could actually be analysed using linear regression.

To use linear regression, the data should satisfy six assumptions that are required for linear regression to give a valid result.

Recursively, the researcher tested the assumptions for each of the 8 hypotheses in order to justify the use of linear regression in each instance.

These are the assumptions for linear regression that were tested:

Assumptions for linear regression

1. There needs to be a linear relationship between the dependent and independent variables (Pearson's correlation) - each hypothesis test produced a correlation table and all independent variables had a linear relationship with the respective dependent variable.
2. There should be independence of observations, which you can easily check using the Durbin-Watson statistic – The Durbin Watson test was performed for all the hypothesis tests and there was independence of observations. All the Durbin Watson statistics were between 1.5 and 2.5
3. There were no significant outliers in the dataset.
4. Your data needs to show homoscedasticity. The variance around the regression line is the same for all values of the predictor/independent variables. This is also known as homogeneity of variance. The assumption was checked using scatter plot between residuals and predicted or independent variables.
5. The residuals (errors) of the regression line were approximately normally distributed for all hypothesis tests.
6. The variables were measured at the **continuous** level (i.e., they are either **interval** or **ratio** variables).

3.10 Limitations of the study

The causal relationship cannot be determined because the study was a quantitative survey therefore missed out on the emotions of respondents and cross-sectional (snap in point in time). There was not enough time to go back a probe further after receiving the results (Segal, Borgia & Schoenfeld, 2005). The

study was compromised by using incorrect variables and having questions that were nor clear and easy to understand (Lee, 2015). During analysis, we were able to pick up that the instrument did not have consistency in some of the scales.

3.11 Ethical Considerations

Ethical considerations are very important when collecting data. It is important to let the respondents know that their participation is voluntary and also guaranteeing the confidentiality of their participation. Consent form and cover letter are attached in Appendix B. Participants were provided with a copy of the ethics clearance form from Wits Business School. The collected data will be kept for five years, should there be a need for further analysis.

3.12 Conclusion

The focus of this chapter was on the research methods that were implemented during the study. The study followed a quantitative, positivism paradigm. Data collection was done using an online questionnaire in a form of a survey. Data was exported from Qualtrics to Excel, data cleaning was performed and missing value analyses. Data was then imported to SPSS v25 software for data analysis. The reliability and validity of the instrument was tested, using the Cronbach's alpha coefficient. Data analysis and interpretation were performed, the descriptive statistics, correlation, CFA and regression analysis were performed.

CHAPTER 4: PRESENTATION OF RESULTS

The focus of this chapter is data presentation and results interpretation. The characteristics of the sample is presented, followed by the testing of the scales, exploratory and confirmation factor analysis, lastly, the validity of scales measurement and regression analysis is used to test the hypotheses.

4.1 Sample Characteristics

4.1.1 Sample Characteristics

In this section, we look at the characteristics of the respondents, being the entrepreneurs, then the characteristics of the businesses. The sample was made of 137 respondents after data cleaning and missing data analysis.

4.1.1.1 Gender and Race

As can be seen from table 5 below, there was an equal distribution between male and female respondents. The survey question included a third gender type called “Other” but no respondent chose that one.

Table 5: Gender

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	69	50.4	50.4	50.4
	Male	68	49.6	49.6	100.0
	Total	137	100.0	100.0	

The respondents were predominately black i.e. 92,7% were black.

Table 6: Race

Race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Black	127	92.7	92.7	92.7
	Indian	3	2.2	2.2	94.9
	White	7	5.1	5.1	100.0
	Total	137	100.0	100.0	

4.1.1.2 Age Group

Table 7 represents the age groups of the respondents. The age group 36-45 was the most common among respondents constituting 48,2%. The rest of the respondents were distributed around this age group. As expected, the age group 36-45 is more viable economically as confirmed by the GEM report (Herrington, Kew & Mwanga, 2017). They were followed by the 46-55-year age group at 19%. The youth made up a small number of 6.6% of the sample in line with the low entrepreneurial activity of the youth in South Africa (Herrington, Kew & Mwanga, 2017).

Table 7: Age

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 - 25	9	6.6	6.6	6.6
	26 - 35	25	18.2	18.2	24.8
	36 - 45	66	48.2	48.2	73.0
	46 - 55	26	19.0	19.0	92.0
	Over 55	11	8.0	8.0	100.0
	Total	137	100.0	100.0	

4.1.1.3 Number of Years in Business

Table 8 represents the number of years respondents have been in business. 81,7% of the respondents were between three months and 20 years in business of which 30% of these were 3,5 years and below.

Table 8: No of years in business

Q4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	11	8.0	8.0	8.0
	2	34	24.8	24.8	32.8
	3	43	31.4	31.4	64.2
	4	35	25.5	25.5	89.8
	5	14	10.2	10.2	100.0
	Total	137	100.0	100.0	

4.1.1.4 Number of Employees

Table 9 represents the number of employees in the business. It was denoted by Q5 in the questionnaire. Q5 asked the number of employees and 99 out of 137 respondents have less than 10 years or have between 10 - 50 employees, indicating that the majority of the respondents are in the SMME sector, as defined by the South African government.

Table 9: No of employees

Q5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	71	51.8	65.1	65.1
	2	28	20.4	25.7	90.8
	3	7	5.1	6.4	97.2
	4	3	2.2	2.8	100.0
	Total	109	79.6	100.0	
Missing	System	28	20.4		
Total		137	100.0		

4.1.1.5 Annual Turnover

This question asked the annual turnover and as can be seen in Table 10 below, 81,8% of respondents are below 10m. Almost half (47,4%) of all respondents are less than 1M. This shows that the respondents belong to the SMMES sector.

Table 10: Annual turnover

Q6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	65	47.4	47.4	47.4
	2	47	34.3	34.3	81.8
	3	11	8.0	8.0	89.8
	4	4	2.9	2.9	92.7
	5	10	7.3	7.3	100.0
	Total	137	100.0	100.0	

4.1.1.6 Awareness about BDS

Table 11 represented a question that was trying to find out if the respondents were aware of BDS. It was evident that 62,4% respondents confirmed that they

knew about business development services offered by the public and private sector. This means 37,6% of the respondents did not know about BDS.

Table 11: Do you know about BDS

Q7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	44	32.1	37.6	37.6
	2	73	53.3	62.4	100.0
	Total	117	85.4	100.0	
Missing	System	20	14.6		
Total		137	100.0		

4.1.1.7 Level of Education

Table 12 represents the level of education of the respondents. The majority of the respondents, at 72,6%, had some form of formal tertiary education, indicating that the majority were educated.

Table 12: Level of education

Q17

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	9	6.6	7.8	7.8
	2	6	4.4	5.2	13.0
	3	39	28.5	33.9	47.0
	4	21	15.3	18.3	65.2
	5	34	24.8	29.6	94.8
	6	6	4.4	5.2	100.0
	Total	115	83.9	100.0	
Missing	System	22	16.1		
Total		137	100.0		

4.1.1.8 Experience in business

Table 13 was trying to figure out how much experience the respondents had. With respect to the experience in the business, it can be seen that there is an even distribution from the inexperienced to respondents with lots of experience.

Table 13: Experience in business

Q26

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	35	25.5	30.4	30.4
	2	25	18.2	21.7	52.2
	3	14	10.2	12.2	64.3
	4	41	29.9	35.7	100.0
	Total	115	83.9	100.0	
Missing	System	22	16.1		
Total		137	100.0		

4.1.2 Business Characteristics

The SMMEs were the main focus of the study. The majority of the sample have been in business for 3,5 years or less. As per the SMME definition by the South African government, the sample was made of mainly micro at (47,5%) with a turnover of less than R1M per annum, followed by the very small at (34,4%) small was (8%), the medium was made of (2,9%).

4.2 Exploratory Factor Analysis (EFA)

The determination of correlation in a dataset among the variables is Exploratory Factor Analysis (EFA) EFA is used to examine the internal reliability of a measure, it looks for theoretical constructs that might be represented by the same set of data. EFA group variables according to strong correlations. It is to be used only for nominal items belonging to reflective latent factors. Three main decisions of EFA: (1) decide number of factors, (2) decide an extraction method, (3) decide

rotation method (Field, 2009).

To use EFA, the data has to pass three tests. Below are the results of the three tests

Determinant test: To use EFA, the determinant of the correlation matrix of the independent variables should be positive definite and in this case the Determinant is 0,031 implying that the data has passed the determinant test.

As illustrated in table 14 representing KMO and Bartlett's test. The second test is the **KMO test** where the KMO value has to be at least 0.7 and in this case, it is 0.707 implying the `KMO test was passed. The third test is the **Bartlett's test of sphericity** which has a p-value (Sig) of 0.00 meaning that the data has passed all requisite tests and can be used for EFA.

Table 14: KMO and Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.707
Bartlett's Test of Sphericity	Approx. Chi-Square	374.118
	df	105
	Sig.	.000

In this study, there are two constructs that are (IV) BDS and HC(IV). BDS has the following variables (Market Access, Infrastructure Facility and Procurement Services) and HC has the following variables (Education, Experience and Knowledge). Performance is (DV) with two variables (Revenue growth and employee growth). The EFA produced the following Rotated Component Matrix: as shown in Table 15. Four constructs were produced namely: Market Access (MA). Infrastructure Facility (IFA), Education (EDU) and Market/Product Knowledge (MDK)

Table 15: Convergent validity model

Rotated Component Matrix[a]

	Component			
	1	2	3	4
Q19	.653			
Q18	.649			
Q25	.647			
Q22	.609			
Q23	.585			
Q24		.725		
Q21		.724		
Q20		.671		
Q12			.800	
Q13			.769	
Q16			.548	
Q10				.773
Q8				.702
Q9				.581
Q11				.458

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

Measurement outer model

Convergent Validity (Reliability):

The scree plot as represented by figure 4 show the number of factors corresponding to last point before flattening of the curve.

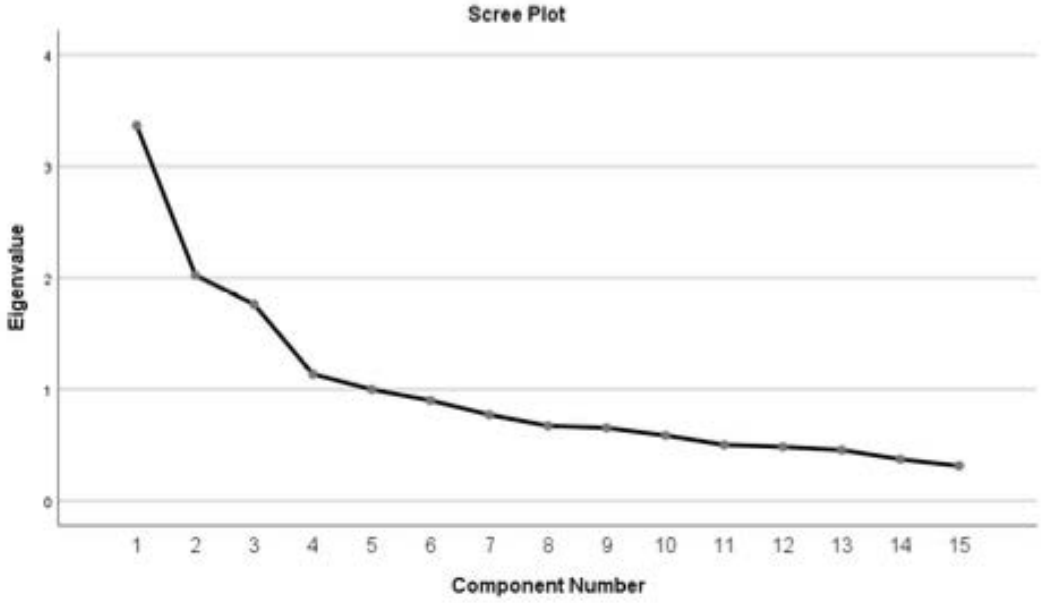


Figure 4: Scree plot

4.3 Reliability of Scale

Table 16: Cronbach's alpha

	MA	IFA	EDU	MDK
Cronbach Alpha	0.633	0.586	0.638	0.634

The Cronbach's alpha is used to test the reliability of the scales in multiple Likert questions in a survey. Cronbach's alpha is used to measure the internal consistency. The extent to which all items in a test measure the same describes internal consistency. Cronbach alpha is a number between 0 and 1. In a research setting in order to ensure validity, the internal consistency should be determined first (Nunnally & Bernstein, 1994).

As can be seen from Table 16, all the independent variables have a relationship with each other (because they are all non-zero correlation coefficients) but they are not strongly correlated, thus there is no evidence of possible multi-collinearity. Four constructs were measured, and the Cronbach's alpha ranged from 0.586

(IFA) to 0.638 (EDU) showing a weak correlation. Low Cronbach alpha value could be due to low number of questions.

The higher reliability of the measurement scale is represented by the higher level of Cronbach's coefficient (Cronbach, 1951). In Social science research, the Cronbach alpha of 0.7 or higher is more acceptable (Nunnally & Bernstein, 1994).

4.4 Correlation Analysis

The correlation analysis focused on the IV, BDS and its variables (market access and infrastructure facility), IV, HC and its variables (education and knowledge) and composite performance which is the combination of both (revenue growth and employment growth). In explaining the correlation between (IV) and (DV), the Pearson table is used to explain the existence of correlation amongst the variables. P-value determine the level of significance of the results. If the (p-value <0.05), the correlation coefficient is statistically significant. As per table 17 the variables had a relationship with each other.

Table 17: Pearson correlations

	MA	IFA	EDU	MDK
MA	1.000	-	-	-
IFA	0.694	1.000	-	-
EDU	0.472	0.092	1.000	-
MDK	0.255	0.146	0.681	1.000

- Market access has a moderately strong relationship with Infrastructure facility with a correlation coefficient of 0.694
- Education and Market access moderately strong relationship 0.472

- Market Access and Marketing/Product Knowledge have a weak positive of 0.255
- IFA – EDU 0.092 (extremely weak relationship)
- IFA – MDk very weak
- EDU – MDK 0.681 moderately strong

Intra BDS relationships are strong, similar to intra human capital relationship. Across the two constructs of human capital and BDS there are weak relationships.

The descriptive statistics of the variables from the instrument are represented in Table 18. The questionnaire used a seven-point Linkert scale with one representing strongly disagree to seven being strongly agree. For BDS the mean was found to be (4.32) and BDS_ Performance was found to be (6.65). For HC the mean (6.18) which was higher than the one for BDS and HC_ Performance was (4.32) which was less that BDS_Performance

Table 18: Descriptive statistics of model fit

Constructs	Variables	Variable Type	Number of questions	Valid N	Mean	Std. Deviation
BDS		IV	7	113	4.327	1.3442
	MA	IV	4	113	4.6814	1.1443
	IFA	IV	3	113	3.9145	1.5441
BDS_Composite Performance		DV	7	113	6.6549	1.5465
HC		IV	7	113	6.1849	0.6539
	EDU	IV	4	113	5.7150	0.8559
	MDK	IV	3	113	6.6549	0.4519

4.5 Confirmatory Factor Analysis (EFA)

The confirmatory factor analysis is done to verify the factor structure of observed variables allowing the researcher to test the hypothesis to establish the relationship between the observed variables and their underlying latent constructs. CFA seeks to validate the research instrument by systematically checking whether the model fits the data (Hair et al., 2010). CFA reduces overall number of variables observed into latent factors based on commonalities in the data.

In this section, testing of the hypothesis is done to see the existence of a relationship between the factors and their underlying latent constructs. The test also helps to see that all the manifest variables load highly on correct variables

and load low on latent variables. The objective of CFA is to test if the data fits the hypothesised measurement model.

Assumptions:

Note that because CFAs (and all SEM models) are based on the covariances among variables, they are prone to the effects of infringements to the assumption of normality (especially skew and outliers), strongly affecting covariances (Hair *et al.*, 2010). Before running the model, the researcher examined the variables to check that there are no serious deviations from normality.

```
model <- 'MA =~ Q8+Q9+Q10+Q11
IFA =~ Q16+Q13+Q12
EDU =~ Q18+Q19+Q22+Q23
MDK =~ Q20+Q21+Q24
Q27 ~ MA + IFA + EDU + MDK
Q28 ~ MA + IFA + EDU + MDK
Q33 ~ MA + IFA + EDU + MDK'
```

4.5.1 CFA Results

Table 19: Results for Model fit

```
lavaan 0.6-3 ended normally after 106 iterations

  Optimization method                           NLMINB
  Number of free parameters                         48

  Number of observations                            95

  Estimator                                         ML
  Model Fit Test Statistic                     102.667
  Degrees of freedom                                88
  P-value (Chi-square)                           0.136

Model test baseline model:

  Minimum Function Test Statistic              386.679
  Degrees of freedom                               120
  P-value                                        0.000

User model versus baseline model:

  Comparative Fit Index (CFI)                    0.945
  Tucker-Lewis Index (TLI)                       0.925

Loglikelihood and Information Criteria:

  Loglikelihood user model (H0)              -2438.607
  Loglikelihood unrestricted model (H1)      -2387.274

  Number of free parameters                         48
  Akaike (AIC)                                4973.214
  Bayesian (BIC)                              5095.800
  Sample-size adjusted Bayesian (BIC)         4944.254

Root Mean Square Error of Approximation:

  RMSEA                                          0.042
  90 Percent Confidence Interval          0.000  0.073
  P-value RMSEA <= 0.05                          0.635

Standardized Root Mean Square Residual:

  SRMR                                           0.077

Parameter Estimates:

  Information                                 Expected
  Information saturated (h1) model          Structured
  Standard Errors                             Standard
```

As per table 19, the model fit was excellent, with a CFI of 0.945 observed. CFI value of more than 0,9 is desirable and indicates that the model fits the data better than a more restricted baseline model (Hu & Bentler, 1999). TLI of .910 was observed which fit the model excellently as well, CFI value of more than 0,9 is

desirable and indicates that the model fits the data better than a more restricted baseline model (Hu & Bentler, 1999). RMSEA was found to be 0.042 which was also acceptable as a good value of RMSEA should be less than 0,06 (Hu & Bentler, 1999) and finally, SRMR of 0.077 which is below 0.08 which was expected. As expected, the indicators all showed significant positive factor loading, with standardised coefficient ranging from .327 to.707 (see table 20).

Table 20: The variance results

Covariances:

	Estimate	Std.Err	z-value	P(>|z|)	Std.lv	Std.all
.Q9 ~~						
.Q18	0.714	0.248	2.881	0.004	0.714	0.354
.Q8 ~~						
.Q21	0.353	0.112	3.143	0.002	0.353	0.437
.Q13 ~~						
.Q22	0.311	0.127	2.446	0.014	0.311	0.363
MA ~~						
IFA	0.458	0.203	2.249	0.024	0.649	0.649
EDU	0.363	0.163	2.232	0.026	0.483	0.483
MDK	0.072	0.054	1.343	0.179	0.240	0.240
IFA ~~						
EDU	0.015	0.085	0.173	0.862	0.027	0.027
MDK	0.033	0.035	0.943	0.346	0.153	0.153
EDU ~~						
MDK	0.159	0.056	2.812	0.005	0.680	0.680
.Q27 ~~						
.Q28	1.353	0.464	2.918	0.004	1.353	0.490

Variances:

	Estimate	Std.Err	z-value	P(>|z|)	Std.lv	Std.all
.Q8	1.854	0.353	5.254	0.000	1.854	0.657
.Q9	2.000	0.351	5.692	0.000	2.000	0.710
.Q10	2.503	0.386	6.485	0.000	2.503	0.878
.Q11	2.023	0.342	5.913	0.000	2.023	0.753
.Q16	3.835	0.585	6.553	0.000	3.835	0.882
.Q13	1.665	0.496	3.359	0.001	1.665	0.454
.Q12	2.948	0.668	4.414	0.000	2.948	0.551
.Q18	2.030	0.329	6.176	0.000	2.030	0.776
.Q19	1.281	0.243	5.273	0.000	1.281	0.615
.Q22	0.439	0.087	5.045	0.000	0.439	0.593
.Q23	0.679	0.118	5.752	0.000	0.679	0.692
.Q20	0.157	0.030	5.256	0.000	0.157	0.628
.Q21	0.352	0.078	4.516	0.000	0.352	0.549
.Q24	0.132	0.024	5.498	0.000	0.132	0.663
.Q27	2.495	0.464	5.378	0.000	2.495	0.837
.Q28	3.054	0.670	4.560	0.000	3.054	0.828
MA	0.967	0.372	2.601	0.009	1.000	1.000
IFA	0.514	0.348	1.475	0.140	1.000	1.000
EDU	0.585	0.272	2.153	0.031	1.000	1.000
MDK	0.093	0.034	2.717	0.007	1.000	1.000

ANOVA

The model allowing covariances among the four factors fits data significantly better than a model treating the factors as independent, $\chi 2(3)=65.318$, $p<.001$.

4.5.2 Inferential Statistics – hypothesis Testing

At the beginning of the study, eight hypotheses were formulated but after EFA, two variables, procurement services and industry experience, were absorbed by other variables. The study is now going to test six hypothesis using linear regression to test the effect of business development services and human capital on the performance, as measured by revenue and employment growth.

Since the researcher chose to analyse the collected data using linear regression, part of the process involved checking to make sure that the data could actually be analysed using linear regression.

To use linear regression, the data should satisfy the six assumptions that are required for linear regression to give valid results.

Sub-problem 1: Determine how the BDS dimensions of market access, infrastructure facilities and procurement services affect the performance of SMMEs in Gauteng.

Sub-problem 2: Determine how the human capital dimensions of number of years industry experience and level of education affect the performance of SMMEs in Gauteng.

4.4.3.1 Hypothesis for Business Development Services

The test performed for BDS is related to three hypothesis and they are broken down to H1, H2 and H3 when presenting the results.

Hypothesis 1:

Composite Performance:

Null Hypothesis: *The dimensions of business development services (BDS) do not have an effect on composite performance of SMMEs in Gauteng province, South Africa*

Alternative Hypothesis: *The dimensions of business development services (BDS) have an effect on composite performance of SMMEs in Gauteng province, South Africa*

Table 21 shows that the average response for Composite as 4.33 (almost 4) whilst Market Access and Infrastructure Facility had means of 4.68 and 3.91 respectively.

Table 21: Descriptive stats for BDS_MA and BDS_IFA

Descriptive Statistics

	Mean	Std. Deviation	N
Composite	4.3274	1.54655	113
Market_Access	4.6814	1.14430	113
Infrastructure_Facility	3.9145	1.54418	113

Table 22 confirms the linearity. All the correlations between the dependent and independent variables are not zero therefore there is a linear relationship, satisfying the assumption of linearity.

Table 22: Correlation BDS_MA and BDS_IFA and P

Correlations

		Composite	Market_Access	Infrastructure_Facility
Pearson Correlation	Composite	1.000	.262	.250
	Market_Access	.262	1.000	.355
	Infrastructure_Facility	.250	.355	1.000
Sig. (1-tailed)	Composite	.	.003	.004
	Market_Access	.003	.	.000
	Infrastructure_Facility	.004	.000	.
N	Composite	113	113	113
	Market_Access	113	113	113
	Infrastructure_Facility	113	113	113

Table 23 provides the R and R^2 values. The R value represents the simple correlation and is 0.311 which indicates a low degree of correlation. The R^2 value

indicates how much of the total variation in the dependent variable can be explained by the independent variables. In this case, 8% can be explained, which is very small.

Table 23: Degree of correlation for BDS factors

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.311[a]	.097	.080	1.48313	1.867

a. Predictors: (Constant), Infrastructure_Facility, Market_Access

b. Dependent Variable: Composite

Table 24 indicates that the regression model predicts the dependent variable significantly well. The Sig value of 0.004, which is less than 0.05 indicates the statistical significance of the regression model that was run. It indicates that, overall, the regression model statistically significantly predicts the outcome variable.

Table 24: Anova (regression model) BDS and P

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25.920	2	12.960	5.892	.004[b]
	Residual	241.965	110	2.200		
	Total	267.885	112			

a. Dependent Variable: Composite

b. Predictors: (Constant), Infrastructure_Facility, Market_Access

Table 25 provides us with the necessary information to predict the dependent variable from the independent variables, as well as to determine whether the independent variables contribute statistically significantly to the model as indicated in the **Sig** column.

The regression equation using the standardised coefficients is as follows:

Composite = 2.370 + 0.198*Market_Access

As a result of the Sig value for Infrastructure Facility being more than 0.05, it implies that it affects overall (composite) performance but the effect is not statistically significant, hence it is removed from the model whereas Market Access is statistically significant with a sig value of 0.043

Table 25: Regression coefficient

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	2.370	.612		3.872	.000		
	Market_Access	.268	.131	.198	2.045	.043	.874	1.144
	Infrastructure_Facility	.180	.097	.180	1.852	.067	.874	1.144

a. Dependent Variable: Composite

Figure 5 shows a normally distributed variables (overall performance – Q27) which satisfies the relevant assumption for regression.

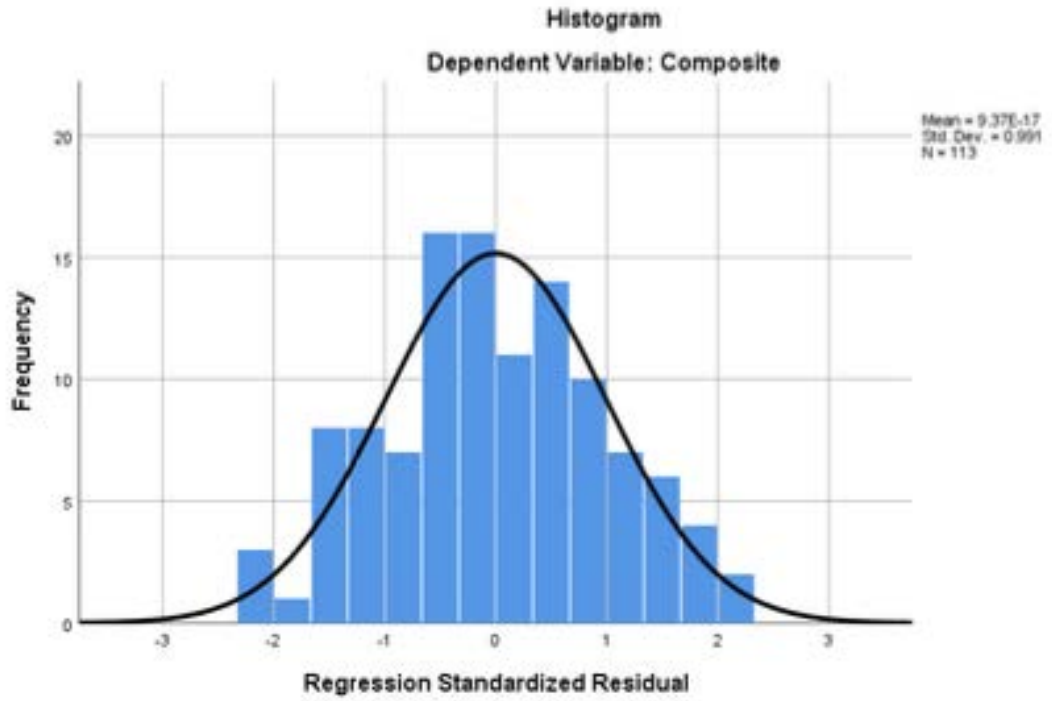


Figure 5: Regression histogram

Figure 6 below shows that the points on this normal probability plot form a nearly linear pattern, which indicates that the normal distribution is a good model for this data set.

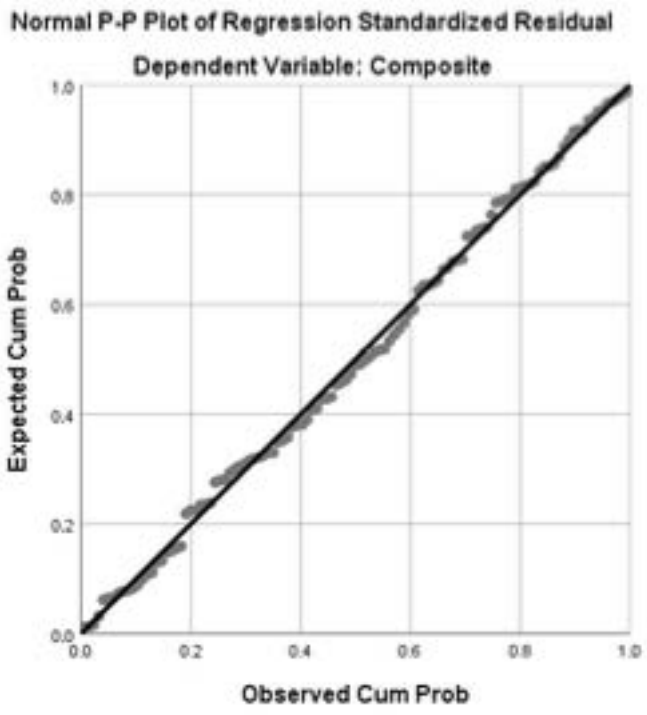


Figure 6: Plot of regression standardized residual (BDS)

Conclusion: We reject the null hypothesis therefore conclude that market access has a statistically significant effect on composite performance whilst infrastructure facility does not have statistically significant effect on performance.

4.4.3.2 Hypothesis for Human Capital

The test performed for HC is related to three hypothesis and they are broken down to H4, H5 and H6 when presenting the results.

Hypothesis 2:

Null Hypothesis: *The dimensions of human capital do not have an effect on composite performance of SMMEs in Gauteng province, South Africa*

Alternative Hypothesis: *The dimensions of human capital have an effect on composite performance of SMMEs in Gauteng province, South Africa*

Table 26 below shows that the average response for Composite as 4.33 (almost 4) whilst Market Access and Infrastructure Facility had means of 6.65 and 5.72 respectively

Table 26: Descriptive stats for HC_MDK and HC_EDU

Descriptive Statistics

	Mean	Std. Deviation	N
Composite	4.3274	1.54655	113
Market_Knowledge	6.6549	.45191	113
Business_Education	5.7150	.85599	113

All the correlations between the dependent and independent variables are not zero therefore there is a linear relationship, satisfying the assumption of linearity.

Table 27: Correlation HC_MDK and HC_EDU and P

Correlations

		Composite	Market_Knowledge	Business_Education
Pearson Correlation	Composite	1.000	.223	.085
	Market_Knowledge	.223	1.000	.334
	Business_Education	.085	.334	1.000
Sig. (1-tailed)	Composite	.	.009	.185
	Market_Knowledge	.009	.	.000
	Business_Education	.185	.000	.
N	Composite	113	113	113
	Market_Knowledge	113	113	113
	Business_Education	113	113	113

Table 28 provides the R and R^2 values. The R value represents the simple correlation and is 0.223 which indicates a low degree of correlation. The R^2 value indicates how much of the total variation in the dependent variable can be explained by the independent variables. In this case, 3.2% can be explained, which is very small.

Table 28: Degree of correlation for HC variables

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.223[a]	.050	.032	1.52124	2.011

a. Predictors: (Constant), Business_Education, Market_Knowledge

b. Dependent Variable: Composite

Figure 7 shows a normally distributed dependent variable (Revenue – Q27) which satisfies the relevant assumption for regression.

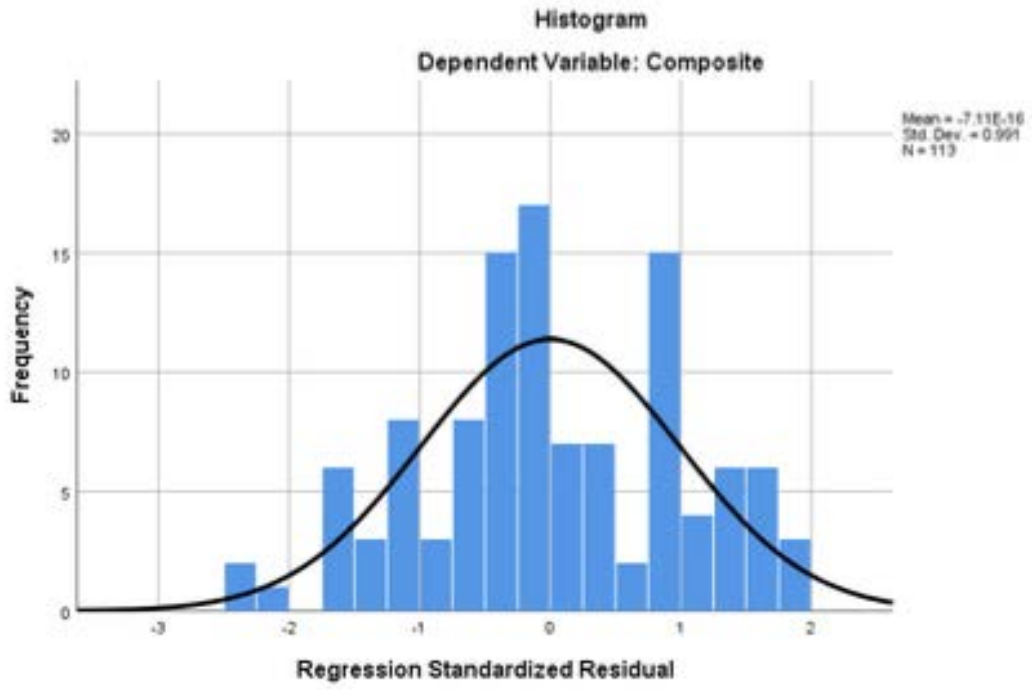


Figure 7: Regression histogram

Figure 8 shows that the points on this normal probability plot form a nearly linear pattern, which indicates that the normal distribution is a good model for this data set.

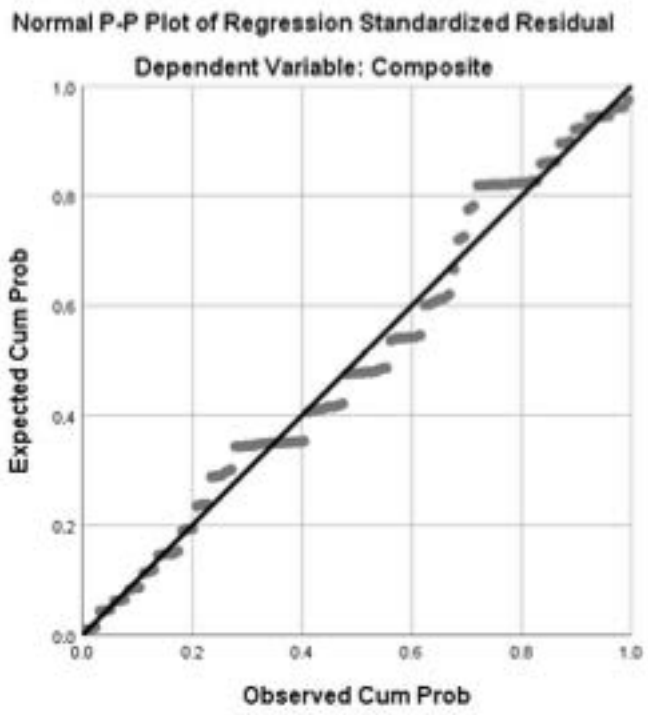


Figure 8: Plot of Regression Standardized Residual (HC)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.266	2	5.133	1.460	.237[b]
	Residual	386.742	110	3.516		
	Total	397.009	112			

a. Dependent Variable: Q28

b. Predictors: (Constant), Business_Education, Market_Knowledge

Conclusion: The sig value which is more than 0,05 indicates that the regression model that was run is not statistically significant therefore the researcher could not proceed to analyse the coefficient as a result. The regression model is not significant.

4.6 Summary of Chapter

The study was made of a sample of 113 which was lower than the targetted sample of 300. The sample was predominately black at 92,7% with an almost 50/50 split between male and female, the most popular age group was the 36-45. Most of the respondents had a tertiary qualification at 72,6%.

The EFC was conducted and all three tests were passed, meaning that there was no violations. The EFA produced four factors (MA, IFA, EDU, MDK). In assessing the reliability and validity of the observed constructs, the Cronbach alpha was used to measure the internal consitency and they converged. The variables were found to correlate with each other intra BDS relationshps were strong and intra HC relatioships were also found to be strong.

The model for the CFA did have a fit and the hypothesis were tested; the results are discussed in chapter 5.

CHAPTER 5: DISCUSSION OF THE RESULTS

5.1 Introduction

In this chapter, the empirical evidence as observed in chapter four is discussed. The demographic statistics as presented from the data are discussed, then followed by discussion of results for subproblem 1 followed by subproblem 2, then finally the conclusion.

5.2 Demographic profile of respondents

The study was based in Gauteng and only the SMMEs in Gauteng were participating in the study. The SMMEs were confirmed in the study according to the number of employees and annual turnover as defined by the South African government. The study was not industry specific; any SMME in Gauteng was a prospective respondent. The population was made of founder and owner/managers of SMMEs around Gauteng.

The respondents were reached by sending the link of an online questionnaire to the individual entrepreneurs, others were accessed by sending the survey link to managers in incubators to distribute to the entrepreneurs and a database from the Alexandra Chamber of Business was also used. Social media like Facebook, WhatsApp and LinkedIn were also used to reach the respondents.

A sample of 300 was targeted but the researcher could only reach 137 respondents due to the time constraints. After data cleaning and missing value analyses, the final sample for the analysis was made of 113 respondents.

The respondents were predominately black making up 92,7% and almost split 50/50 between male and female which is different to the norm. GEM reports that men are more entrepreneurial than women. The majority of the participants are 36-45 years in age which is expected, as confirmed by the GEM report (Herrington, Kew & Mwanga, 2017). The majority of the sample were educated, comprising of about 73% with some form of tertiary education.

The study was interested in SMMEs, the majority of the respondents were found to be mainly operating micro enterprises at 47% with a turnover of less than 1M as per the definition of small businesses in South Africa.

5.3 Discussion of the results pertaining to Research Subproblem 1

Subproblem 1: Determine how the BDS dimensions of market access, infrastructure facilities and procurement services affect the performance of SMMEs in Gauteng.

As illustrated in chapter 4, after CFA the BDS constructs were market access and infrastructure facilities. Performance was measured using the revenue growth and number of employee growth and lastly, composite employment.

5.3.1 Hypothesis for BDS

MA – has a statistically significant relationship with SME Performance

INF - Employee Growth Performance has no statistically significant relationship

Looking at these findings as presented by the study, one is able to make inferences for H1, H2 and H3

H1: The BDS variables of market access, infrastructure facilitity and jointly have positive significant effects on SME performance in gauteng province

H2: There is a significant positive relationship between Market access and SME performance in Gautenf province

H3: There is a significant positive realtionsh between provision of infrastructure facilitity and SME performance Gauteng province

5.3.1.1 Results for BDS (MA and INF) jointly on Performance

H1: The BDS variables of market access, infrastructure facility jointly have positive significant effects on SME performance in Gauteng province

Business development services has seven dimensions (McVay & Miehlbradt, 2001); for the purpose of this study the researcher was interested in only three dimensions which are market access, infrastructure facility and procurement services. At the beginning of the study, it was assumed that all these three variables are part of the construct BDS, but after EFA, it was discovered that procurement services was incorporated in other variables and therefore it was not applicable to this study.

The hypothesis states that BDS constructs market access and infrastructure facilities have a significant positive relationship with performance of SMMEs. The researcher framed this statement as a direct relationship where one leads to another, meaning that BDS constructs market access and infrastructure facility individually or combined leads to performance.

Performance was measured using revenue and employee growth which is used to measure performance in the entrepreneurial environment (Leeuw, 2012).

The findings of the study revealed that the association between BDS market access, infrastructure facility and performance exists. The results for BDS_MA and BDS_IFA jointly on performance revealed that only MA has a statistically significant positive relationship with performance. BDS_INF was found not to have a statistically significant relationship with performance. For BDS as a construct to have a statistical significance on performance, both variables (MA and INF) must have a statistical significance to performance. So BDS has no statistical significance to performance in this study

These results are confirming the results of previous studies which showed that non-financial support given to entrepreneurs have no effect on the performance of SMME (Ombi, Ambad & Bujang, 2018). Other studies by Jourijah (2014), Yusob and Yaacob (2010), Denun (2008) and Wren and Storey (2002) also had similar findings.

The Committee of Donor Agencies (2001) highlights that BDS is important as a non-financial support for SMMEs. The BDS constructs were expected to have a positive relationship with performance, but the study has proven otherwise. A study by Mengstie (2016) has shown that market access, infrastructure facility, input supply, training and technical support are important variables in the determination of performance of SMMEs. Studies have also shown that SMMEs are affected by market flaws and they need some form of support to survive (Park, Lim & Koo, 2008). Rosa (2013) found that SMMEs need support to improve their performance.

5.3.1.2 Results for BDS_MA

H2; There is a significant positive relationship between Market access and SME performance in Gauteng province

Market access: In previous studies, market access has shown mixed results with a study by Washington, James and Peter (2014) showing that there was no evidence showing that market access enhances performance and contrary to that the study by other authors (Mahmoud, 2011; Moorthy, Tan, Choo, Wei, Ping & Leong, 2012) in Ghana that showed that market access influences the performance of the business. In drawing the conclusion, one is tempted to believe that market access support is regional and also dependent on the age of the business. Giving support at the early stage could be more beneficial than supporting a business that is well established.

Market access individually showed positive significant effect on overall performance.

5.3.1.3. Results for BDS_IFA

H3: There is a significant positive realtionsh between provision of infrastructure facilities and SME performance in Gauteng province

For Infrastructure facility, the results showed that there was no significance on performance.

Infrastructure facility: In a study by Izquierdo and Vasallo (2004), it was found that infrastructure facilities have a positive relationship with economic development.

5.3.1.4 Results for BDS_Procurement Service

H4: There is a significant positive realtionsh between procurement services and SME performance in Gauteng province

Procurement services was integrated in other variables during the confirmatory factor analysis. It was therefore eliminated in the study.

5.4 Discussion of results pertaining to Research Sub-problem 2

Sub-problem 2: Determine how the human capital dimensions of education, experience and knowledge affect the performance of SMMEs in Gauteng.

5.4.1 Hypothesis for HC

When the study started, there were three variables for human capital namely: education, experience and knowledge. During the EFA, experience was lost as it was absorbed by the other variables.

Findings:

The regression coefficient could not be performed due to Sig value greater than 0.05.

5.5 Conclusion

The empirical findings of data collected were discussed in this chapter. The results revealed that BDS_MA has shown a correlation on the performance. Literature did support that MA has a correlation with performance. The second construct BDS_IFA was to have no correlation with performance measurements. In conclusion, BDS has no correlation with the performance of SMMEs in Gauteng.

For HC the sig value which is more than 0,05 indicates that the regression model that was run is not statistically significant, therefore the researcher could not proceed to analyse the coefficient as a result. The regression model is not significant.

CHAPTER 6: CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter looks at the conclusion of the study followed by implications and recommendations, limitation of the study and suggestion for future research.

6.2 Conclusions of the study

In conclusion, BDS as a construct (MA and IFA) has association with performance. The results for BDS_MA and BDS_IFA jointly on performance revealed that only MA has a statistically significant positive relationship with performance. BDS_INF was found not to have a statistically significant relationship with performance. For BDS as a construct to have statistical significance on performance, both variables (MA and INF) must have a statistical significance to performance. So BDS has no statistical significance to performance in this study. For this study, it was not possible to perform the regression coefficient due to high sig value therefore the study has no results for HC.

6.3 Implications and Recommendations

The purpose of the study was to determine the effect of BDS and HC on the performance of SMMEs in Gauteng. The empirical evidence from the study contributes to the literature of BDS, HC and performance of SMMEs in Gauteng. South Africa is desperate for economic development through job creation. Various stakeholders like entrepreneurs, BDS providers, government, policy makers, etc. could benefit from the information gathered in the study. The challenges facing SMMEs are still there and need to be addressed continuously which makes it impossible for them to make a meaningful contribution in the economy (Fatoki, 2014). The study by Olawale and Garwe (2010) found that

SMMEs are instrumental in solving developmental issues in South Africa. This sector needs to be supported in many ways, including financially, and there must be a political will to make the environment conducive for the development of the sector.

It is very important for a country like South Africa to get people working and the SMME sector is in need of support or intervention that will lead to job creation. The lack of skills and training which are part of the challenges can be looked at.

6.3.1 BDS

The findings for BDS were in support of the previous studies which also found that there was no relationship between non-financial support given to entrepreneurs and the performance of their businesses (Ombi, Ambad & Bujang, 2018). In literature, it is evident that SMMEs need support. The implications of the BDS result is that SMMEs need to be supported and the support must be looked into holistically. Non-financial support on its own, is not enough to change the economic prospects of SMMEs. Government and other agencies are aware of the role played by BDS in stimulating growth and create employment (Kongolo, 2010).

6.3.2 Human Capital

Investing in education and economic development has been proven to have a correlation. Studies by Ucbasaran *et al*. (2008); Unger *et al*. (2011) have shown that education, exhibition of skills and knowledge as a way of performing a task, results in economic value creation. This study has shown that there is no relationship in education and SMME performance but has revealed that knowledge does have a relationship with revenue performance. This is expected because if one has know-how they are able to use what they know to create jobs and market and sell their products. Entrepreneurs are able to raise finance and create employment (Davidsson & Honig, 2003; Ucbasaran *et al*., 2008; Unger *et al*., 2011). The study could not perform regression analysis for HC and composite performance and that makes it confusing to know what the relationship would have been. We do know though, that even though HC is embedded in

entrepreneurship, there are studies that have shown that in the entrepreneurial environment, HC does not lead to performance. In studies by Shiu (2006); Appuhami (2007) and Chan (2006), an insignificant relationship between human capital and firm performance was found. However, a study by Fatoki (2011), has confirmed a positive relationship between the human capital of the business owner and the performance of the business. Cook *et al.* (2011) have highlighted that in the SMME environment, the relationship between human capital and performance can be influenced by other moderating effects such as strategy, business acumen, and suitable conditions.

6.3.3 Business Performance

There was no statistical significance between (IV)BDS, (IV)HC and (DV)Performance. In order to create jobs, develop the economy and alleviate poverty, there needs to be a vibrate SMME. The continued failing of SMMEs makes it impossible to realise economic growth and with no economic growth, thee is no alleviation of poverty. Performance of a business is affected by both internal and external factors and economic development. Rate of crime, labour legislation and corruption are other external factors affecting the firm's perfomance (Olawale & Garwe, 2010). There are also internal factors affecting the performance of the business that deal with the behavioural and sociological paradigm, including manager's influence and performance of employees, planning within the organisation, accessing finance, managerial skills, location and networking and technological capital (Hansen & Wernerfelt, 1989; Olawela & Garwe, 2010).

This research has been significant in highlighting the plight of the struggling SMME sector. The SMMEs are expected to compete in an environment that is not suitable for them. They are expected to create jobs and reduce unemployment. The recommendations from this study is that literature has shown the importance of supporting SMME. The findings were that there was no relationship between BDS and performance and it is important for the government agencies and all those who are in the field of giving SMME support to continue

supporting SMMEs. Support should be tailormade to suit the individual's needs. The one-size-fits-all solution is not going to work.

6.4 Limitations of the study

The study was cross-sectional and that was a problem as there were time constraints. The study was based in Gauteng which is the economic hub of South Africa but also has high inequalities. The study was not concentrated in a specific area of Gauteng like in a specific township. The respondents were not homogeneous, and this could have affected the outcome of the study.

The study was not industry-specific, any entrepreneur was welcome to participate and yet the issues in the manufacturing sector are not the same as the issues in the service sector. The study did not capture the different industries so one could not make inferences as which industry was doing better than the other in terms of BDS, HC and Performance.

The data collection was very slow, and it was also affected by the closing of companies during the festive season. Another problem in the collection of data was that some of the questions were not easy to understand and required more than one answer.

6.5 Suggestions for further research

The concentration was on what could be done to support the SMME in Gauteng. Given that this study was looking at three variables for BDS, for future research one could look at investigating all seven variables for BDS. For HC on the performance of SMMEs as suggested in literature, it is important that HC must be looked at with other moderating factors like strategy.

The study was cross-sectional, and the recommendation is that one can do a longitudinal study which might yield different results. Performance was measured

using two variables, in future it will be interesting to see how the study will go when performance is measured using revenue only.

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APPENDIX A

Research instrument

SECTION A: GENERAL INFORMATION

This section is asking your demographic information. Please indicate your answer by ticking (X) on the appropriate box. All reference to "Business" relates to your specific business throughout the questionnaire. The questions are strictly for research purpose only.

1. Gender: Male/ Female/ Other

Male	
Female	
Other	

2. What is your age group?

18 - 25	
26 - 35	
36 - 45	
46 - 55	
Over 55	

3. Race:

Indian	
Coloured	
Black	
White	
Other	

4. Years in business

Less than 3 months	
3 – 42 months	
5 -10 years	
11 – 20 years	

5. No of employees

Not applicable	
Less than 10	
10 - 50	
51 -200	
More than 200	

6. Annual turnover

Less than 1M	
IM – 10M	
11M – 20M	
21M - 50M	
More than 50M	

SECTION B: BUSINESS DEVELOPMENT SERVICES

Please answer with Yes or No

7. Are you aware of the following business development services: market access, infrastructure facilities, procurement services, technology and product development, policy and advocacy?

Yes
No

The following statements are meant to measure the effect of business development services. Please indicate which response most closely matches the business development service that applies to your business:

Please indicate the extent to which you agree or disagree with the statement by ticking the appropriate number in the 7 point scale below

Market Access:	**Strongly Disagree**	**Somewhat disagree**	**Disagree**	**Neither agree nor disagree**	**Agree**	**Somewhat agree**	**Strongly agree**
8. Information from market research gives your business an opportunity to know your competitors' strength and weaknesses							
9. Your business takes advantage of market linkage to enhance economies of scale							
10. Trade fares are a cost-effective way of marketing your business							
Infrastructure Facilities							
11. The environment is conducive for employees to develop, design products							
12. Storage and warehousing facilities are adequately available in your business							
13. Your business has adequate transport and services							
Procurement Services							
14. The linkage to raw material supply is required to make your business profitable							
15. Your business requires reliable information on procurement service sources							
16. Your business access discounts through group purchasing arrangements							

SECTION C: HUMAN CAPITAL

Could you please tell us about your educational background, business knowledge and work experience:

17. What is your level of investment in education? Tick the appropriate box

No schooling	
Matric	
Informal training	
Diploma/ Degree	
Honours/ Equivalent	
Masters/ Equivalent	
Doctorate	
Other. (Specify):……	

Please indicate the level of importance of each of the following statement as it applies to your perception on education

	Absolutely Not important At All	**Not Important**	**Slightly Not Important**	**Neither Not Important Nor Important**	**Slightly Important**	**Important**	**Absolutely Important**
18. Entrepreneur's formal education importance							
19. Entrepreneur's ability to write a comprehensive business plan							
20. Entrepreneurs confidence in managing the business							
21. Good market analysis and competitor's assessment							

Business Knowledge

Please indicate the extent to which you agree or disagree with each statement as it applies to your perceptions on business knowledge

	Strongly Disagree	Somewhat disagree	Disagree	Neither agree nor disagree	Agree	Somewhat agree	Strongly agree
22. The entrepreneur is expected to have managerial knowledge and the ability to demonstrate good business knowledge							
23. The entrepreneur to have knowledge to read and interpret financial statements (ability to perform financial analysis							
24. The entrepreneur to have good knowledge of market analysis and competitor's assessment							
25. The entrepreneur to have a good track record of running previous businesses							

a. ***WORK EXPERIENCE***

26. How many years' experience do you have in the current business?

1 – 3 years	
3 – 6 years	
6 – 9 years	
10 years and above	

SECTION D: PERFOMANCE

Please indicate the extent to which you agree or disagree with each statement as it applies to your business performance.

	Strongly Disagree	Somewhat disagree	Disagree	Neither agree nor disagree	Agree	Somewhat agree	Strongly agree
27. Enterprise has grown in terms of sale in the past year							
28. Enterprise has grown in terms of employees in the past years							
29. Enterprise's net income margins have grown in the past years							
30. Our market share has improved in the last two years							
31. Our labour expenses has grown in relation to sales revenue							
32. Our balance sheet has increased, in relation to net assets and liabilities							
33. In the event of a severe crisis, our enterprise will survive							

APPENDIX B:

COVER LETTER

The Graduate School of Business Administration



Wits Business School
Sculpting global leaders

Annexure A: Cover Letter

The University of Witwatersrand

Graduate School of Business Administration

Cell:……

Email:……

Date:……

"The effect of Business Development Services and Human Capital on the Performance of SMMEs in Gauteng South Africa

Dear Sir/Madam,

My name is **Veronica Duduzile Shezi.** A Master of Management student in Entrepreneurship and New Venture Creation at the University of Witwatersrand Business School (its Business School), Johannesburg. You are herewith invited to participate in my research by completing the accompanying questionnaire.

My research title is "The effect of Business Development services and Human Capital on the Performance of SMMEs in Gauteng South Africa". The purpose of

this research is to determine the effect of Business Development Services and Human Capital on the performance of SMMEs. The questionnaire is divided into Section A, B, C and D. Consisting of the cover letter and Annexure B the consent form. Annexure C, is the questionnaire. Section A covers the general information questions. Section B includes questions and different measurement scales on Business Development Services. Section C different measurement scales on Human Capita. Section C It also covers measurement scales on Performance. These questions will take approximately 10min of your time. The questions are straight forward and would like you to answer all of them and the best way you can.

Your participation in the study:

1. Please understand that **your participation is voluntary**
2. Any study records that identify you will be kept confidential to the extent possible by law. The records from your participation may be reviewed by people responsible for making sure that research is done properly, including my academic supervisor/s. (All of these people are required to keep your identity confidential.)
3. The study does not present any risk if you participate
4. In the next section you are requested to accept the consent form to indicate your voluntarily participation in the study.

The Wits Business School research panel approved the research. Should you have queries related to the research, please feel free to contact my supervisor. Dr McEdward Murimbika on Email: murimbika@mftt580.com. You may directly request copies of the results of the study to me on vdshezi@icloud.com.

I hereby agree to participate in research on *Human capital and entrepreneurial success in the Context of South African informal economy*. I understand that I am participating freely and without being forced in any way to do so. I also understand that I can stop participating at any point should I not want to continue and that this decision will not in any way affect me negatively.

I understand that this is a research project whose purpose is not necessarily to benefit me personally in the immediate or short term.

I understand that my participation will remain confidential.

Signature of participant:	**Date**:
……	…..……

I hereby agree to the tape-recording of my participation in the study.

Signature of participant:	**Date:**
……	……...

APPENDIX C: ADDITIONAL RESULTS

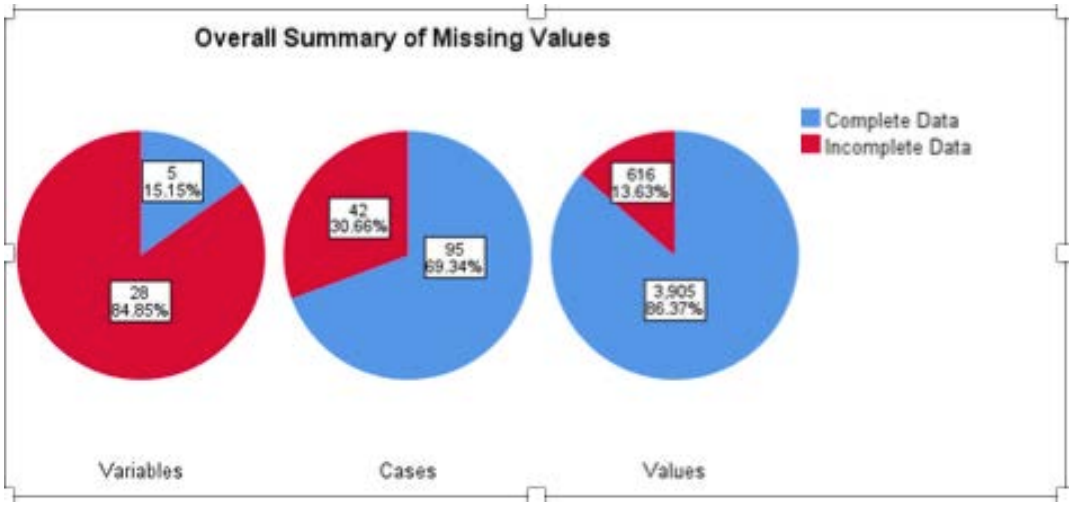


Figure 6.1: Overall Summary of Missing Values

Table 6.1: Cronbach's Alpha for MA

Reliability Statistics

Cronbach's Alpha	N of Items
.633	4

Table 6.2: Cronbach's Alpha for IFA

Reliability Statistics

Cronbach's Alpha	N of Items
.586	3

Table 6.3: Cronbach Alpha for EDU

Reliability Statistics

Cronbach's Alpha	N of Items
.638	5

Table 6.4: Cronbach's Alpha for MDK

Reliability Statistics

Cronbach's Alpha	N of Items
.634	3