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# The relationship between service and product quality, and SME success in South Africa

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# The relationship between service and product quality, and SME success in South Africa

**Mugiya Leon Sithole**

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

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# ABSTRACT

Small, micro and medium enterprises (SMEs) are perceived to be the solution for economic growth and unemployment in South Africa. However, the failure rate of SMEs within the first three years is between 70 and 80 percent, which in most cases is attributed to lack of support from government, financial institutions and multi-national enterprises. This failure is usually assessed from the SMEs perspective, where SMEs are seen to be receiving assistance or favours. The study aimed to investigate the contribution the SMEs make towards their own failure and how they view themselves. SMEs believed that they are properly equipped to provide services to the mining industry, whereas mining companies have the opposite opinion.

This was done by conducting a survey and reviewing existing literature on the challenges faced by SMEs in the current economy. A factor analysis was used to determine important factors regarding the prosperity of the SMEs. This was a cross-sectional study and depended on a completed survey and questionnaire collected from the SMEs.

The focus of the study was SMEs within the mining industry, which is a major player in the South African economy, thus measuring the effectiveness of the SMEs survival within this context is beneficial.

The results of the study indicated that resources, service and product quality, and the environment of the SME played a major role in the success of the SMEs. Respondents to the survey were neutral about the resources they have in their companies, however they strongly believed that they provided quality service and products. Their location had an impact on their business success. The results also highlighted that there may be racial bias in the mines when dealing with SMEs, although this had no impact on their prosperity.

# DECLARATION

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

_____

Mugiya Leon Sithole

Signed at ……

On the ……day of …….…… 20…..

# DEDICATION

I dedicate my dissertation to my late parents Khazamula Samuel and Mihlaba Paulina Sithole.

I would like to extend a special feeling of gratitude to my wife Litlallo, son Amukelani and daughter Rhandzu who are my encouragement.

My mentors:

Moses Thokwane, Richard Curtis, Gordon Bruins and Clinton Ephron. Thank you for providing opportunities and advice in my career.

I also dedicate this dissertation to my friends who have supported me throughout the process; I will always appreciate all they have done.

# ACKNOWLEDGEMENTS

"You might not write well every day, but you can always edit a bad page. You can't edit a blank page."

(Jodi Picoult)

This dissertation was not perfect from inception; it has taken much effort and time to bring it to a near perfect piece of writing. Through this process, there are people and institutions that have assisted me and without them, it wouldn't be possible to complete this research in time.

- I wouldn't have finished my dissertation without the guidance of my dedicated supervisor Dr Robert Venter; he first sought to understand me as an individual then guided and supported me accordingly.
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# ABBREVIATIONS

| | |
|---|---|
| AEE | Afrikaner Economic Empowerment |
| ANC | African National Congress |
| B-BBEE | Broad Based Black Economic Empowerment |
| DMR | Department of Mineral Resources |
| DTI | Department of Trade and Industry |
| ED | Enterprise Development |
| EEE | English Economic Empowerment |
| GDP | Gross Domestic Product |
| HDI | Historically Disadvantaged Individual |
| IDC | Industrial Development Corporation |
| MNE | Multinational Enterprise |
| SME | Small and Medium Enterprise or Small, Medium and Micro Enterprise |
| SPV | Special Purpose Vehicle |

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# CHAPTER 1. INTRODUCTION

## 1.1 Introduction

When the new government took office in 1994, they investigated and introduced programmes, aimed at empowering formerly disadvantaged South Africans (black, coloured, and Indian South Africans as well as women and the disabled as stated by the Employment Equity Act (RSA, 1998). One of the crucial pieces of legislation they introduced was the Broad-Based Black Economic Empowerment (B-BBEE) Act 53 of 2003 (RSA, 2003).

Although the B-BBEE legislation sought to introduce and integrate historically disadvantaged individuals (HDIs) into the economy, sub-codes such as enterprise development (ED) were for the creation of small businesses. The aim of the ED was to stimulate the economy, which in turn would create the much needed employment for the more uneducated majority (Berry, von Blottnitz, Cassim, Kesper, Rajaratnam, & van Seventer, 2002; Chalera, 2007; Chetty, 2012; Fatoki & Asah, 2011; Jinabhai & Kadwa, 2007; Mukole, 2010; Rogerson, 2005). The support and development of small and medium enterprises (SMEs) is a way of fast tracking the realisation of wider economic goals in which poverty alleviation and job creation will be realised (Cook & Nixson, 2000). However, preceding research proved that there are more closures than expansions of SMEs; only one percent of SMEs grow from employing five to employing 10 and more employees (Mead & Liedholm, 1998). Some scholars attribute this dismal performance with racial distortion in services provided to the majority of South Africans to the previous regime (Berry et al., 2002). However, the failure of the SMEs should not only be attributed the previous regime; part of the responsibility should be afforded to the SMEs themselves.

The main development of government was to establish institutions to support SMEs. The private sector has also developed support systems for the SMEs; however, more that 80 percent of them fail in the first three years of their inception (Abor & Quartey, 2010) and prior research has ascribed this

phenomenon to several factors, such as environment, financial support and management knowledge. Recognising all this, it is evident that challenges cause failure, however most research points to external factors and government strategies to support SMEs as cause for failure.

In South Africa, SMEs are hindered by a structural problem in that, unlike in other countries, they do not complement multinational enterprises (MNEs) by manufacturing products and services that are required by MNEs, but try to replicate them. This creates a problem, as the SMEs have no technical knowhow, and fail to compete in terms of productivity and pricing, which leads to failure (Rogerson, 2004).

Most SMEs, especially those started by HDIs have been used as political patronage, fronting and narrow-based empowerment (Herrington & Overmeyer, 2006) and this has led to an attitude of entitlement by SMEs; that every institution must ensure the SMEs profitability without them working hard. This has created rich but un-entrepreneurial individuals with organisations that do not expand and create employment because they do not manufacture any goods; they rely on MNEs to create opportunities for them. Figure 1 is a depiction of the current situation of SMEs in South Africa, where the government, MNEs and the environment are expected to create a perfect working relationship for the SMEs to prosper.

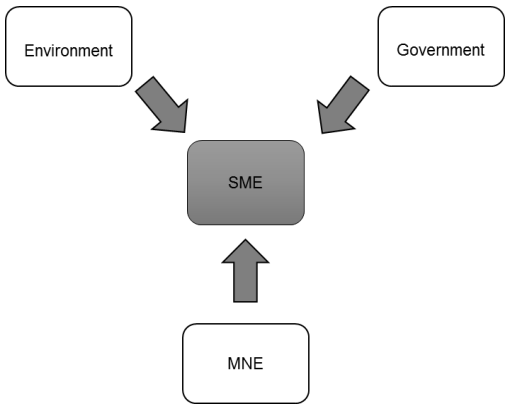



**Figure 1: SMEs as currently perceived**

Various scholars, such as Rogerson (2004), Abor and Quartey (2010), Olawale and Garwe (2010), have established the value that SMEs can add to the economy. However, for the SMEs to be successful in South Africa they need to be part of the value chain and relevant to the market that they are targeting. For this to occur, SMEs need to change the perception of their existence and start creating two-way relationships with all stakeholders (Figure 2). There are substantial business linkages that SMEs can exploit between themselves and the MNEs (McEwan & Bek, 2006).

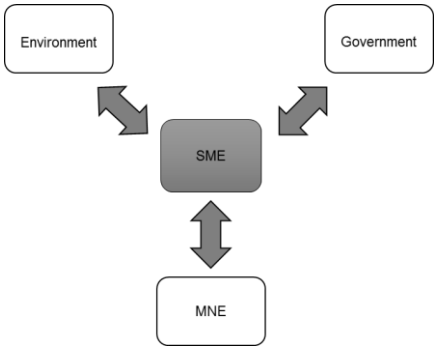



**Figure 2: Value adding SMEs**

Besides being suppliers, SMEs are also consumers that can grow the footprint of the MNE (Abor & Quartey, 2010). To be more specific the guiding questions in this research were:

[1] Do SMEs have adequate resources to participate meaningfully in ED and preferential procurement provided by the mining industry?
[2] Do SMEs provide good quality and reliable service?
[3] What strategies do SMEs have to ensure that they have an effective value-chain between themselves and mining MNEs, which will assist in growing their companies and result in the growth of the economy and the creation of employment?
[4] Do environmental factors, such as location, hinder SMEs capability for growth?
[5] Does racial bias play a major role in the prosperity of the SME and does discrimination in issuing tenders or subcontracting opportunities still exist.

[6] Are mining MNEs resistant to supporting ED or SME initiatives in South Africa?

The aim(s) of the study was to investigate linkages between SMEs and mining MNEs therefore providing an understanding for the current failure rate, from the SMEs internal perspective.

## 1.2 Purpose of the study

The purpose of this study was to present empirical and theoretical information to provide an understanding of the main internal and external factors that limit SMEs success. This includes the perceptions that SMEs have of themselves, regarding their performance and contribution to ED within the South African mining industry. Further to this, the research sought to establish the reasons for the perception that mining MNEs are resistant to engage in business with SMEs.

## 1.3 Context of the study

The research was conducted in the South African mining industry. The research focused on SMEs that support MNEs in the mining industry. The mining industry in South Africa plays an important role in the economy of the country dating back to 1911 (Ryan, 2012). Furthermore, the mining industry has been blamed for the lack of investment in and around the communities in which they operate (Rogerson, 2011).

In 1996, South Africa had black people comprising the majority of the population; with the breakdown as 89 percent black people (this includes Indians and coloureds) and eleven 11 percent white people (John, 2011). In 2014, the population is 91.5 percent black and 8.4 percent white (Stats SA, 2014). These statistics, indicated by Statistics South Africa (Stats SA, 2014) and John (2011), do not filter down to business ownership, because during the apartheid era blacks were prevented from owning certain types of business in the country. They were limited to either taxi operation or shops with small consumables and

sometimes, depending on the operation, black owners would need a white partner for them to be allowed to operate (Sanchez, 2006).

This changed with the dawn of democracy in 1994, South African business was integrated into the global economy and at the same time, the South African government established a drive to include HDIs in the mainstream economy. Although globalisation was good for the economy it created a challenge for the new SME entrants as they had to be competitive from inception.

To expedite the inclusion of black people into the mainstream economy the government introduced policies such as the preferential procurement policy framework Act of 2000, (RSA, 2000) which was a means to promote the support of SMEs. This was to encourage MNEs to procure from SMEs, thereby assisting in the development of the economy and job creation. The second policy was the black economic empowerment (BEE) framework published by the Department of Trade and Industry (DTI) in 2003 (RSA, 2003), which focused on three pillars; ownership, human resources development and indirect empowerment. The BEE framework was followed by the B-BBEE Act 53 of 2003 (Sanchez, 2006). The B-BBEE Act deals with three codes of measurement:

- Ownership (26 percent);
- Employment equity (management level); and
- Preferential procurement (from HDIs).

The B-BBEE Act is in revision, and the amendments (RSA, 2013) will see the merging of skills development and preferential procurement among other criteria. Table 1 indicates the generic scorecard. ED and procurement started to take centre stage with regard to the BEE codes of good practice and initially had high weightings, with 20 percent and 15 percent respectively. However, the revised codes to be published in March 2015 will see ED and procurement combined to score 40 percent, which will be the highest (RSA, 2013).

**Table 1: Generic B-BBEE scorecard**

| Element | Weighting Points |
|---|---|
| Ownership | 20 + 3 Bonus |
| Management and control | 10+ 1 Bonus |
| Employment Equity | 15 + 3 Bonus |
| Skills Development | 15 |
| Preferential Procurement | 20 |
| Enterprise Development | 15 |
| Socio- Economic Development | 5 |

(RSA, 2003)

## 1.4 Problem statement

### 1.4.1 *Main problem*

Scholars such as Agupusi (2007), and Olawale and Garwe (2010) maintained that constraints such as poor infrastructure, lack of business management skills, crime, negative public perception and access to capital and bureaucracy hinder the success of the SMEs. All these factors focused on the external constraints. However, there is limited literature on the part played by SMEs regarding their failures. This is in relation to performance and the environment in which they find themselves. This study served as an important step to evaluating the SMEs contribution to their own failure and their view of themselves in relation to the mining MNEs in South Africa.

The main problem was to investigate the correlation of SMEs' resources, reliability, service and product quality, environment, and racial bias with the prosperity of the SMEs. Furthermore, the effect on the perception of ED by large corporates in South African needed to be ascertained.

### 1.4.2 *Sub-problems*

The first sub-problem was to investigate whether SMEs have adequate resources to deliver effectively on what large corporate require.

The second sub-problem was to investigate whether the quality of service and product supplied, and the reliability of SMEs to the South African mining industry had an impact on their success.

The third sub-problem was to investigate whether the environment of the SMEs had an influence when dealing with the mining industry and on the performance of SMEs in South Africa.

The fourth sub-problem was to investigate the existence of racial bias when mining companies conduct business with SMEs.

## 1.5 Significance of the study

SMEs are seen as the remedy to eradicate unemployment and revitalise the economy of the country. It is believed that support for SMEs will reduce unemployment; which is currently at 25 percent and grow the economy by the required rate of five percent. The former president of South Africa, Mr Thabo Mbeki, in his 2003 state of the nation address expressed the importance of small business within the BEE strategy: “Development and support for small and medium business, remains a priority for our government. Therefore more financial and other resources will be committed to the development of this sector of our economy” (RSA, 2003, p. 18)

To achieve this it was emphasised that the government must emphasise BEE which would be associated with “growth, development and enterprise development and not merely redistribution of existing wealth” (RSA, 2003, p. 18). Further to this, the government will work in partnership with the private sector to ensure that government actions are coordinated and monitored (RSA, 2003).

Mr Mbeki recognised SMEs as a crucial part of economic growth in South Africa (Sanchez, 2006). With SMEs being seen as the entities to solve most socioeconomic ills, in most cases blame was directed at large business for their lack of support; the SMEs were never seen as part of the problem or as having pitfalls and shortcomings (Castel-Branco, 2003).

The study provided a contribution to the process of understanding the status of the performance of the SMEs and the challenges they face, which further impacts on their growth prospects. In addition, the study provided SMEs perceptions of their own capabilities and the corporate world perceptions of SMEs when they conduct business with them.

## 1.6 Delimitations of the study

As the initial step in developing the linkage between large business and SMEs, specifically the performance of SMEs with regard to quality and prosperity, the following factors were taken into consideration:

- The study was conducted in the South African mining industry.
- Only eight out of nine provinces were selected due to the location of mining activities.
- The research focused on SMEs. Micro enterprises (survival businesses) were excluded because this sector was a challenge to survey as they were not formally accessible and they did not deal with mining companies.
- The database provided by the Department of Mineral Resources (DMR) and the Industrial Development Corporation (IDC) was limited to the available data at the time of the study, which formed the basis for this research.
- There are currently amendments proposed to the B-BBEE Act, which will see significant changes to the existing Codes. These were published in the Government Gazette on 11 October 2013 (RSA, 2013) and are due to take effect in April 2015 (October, 2015). In this amendment, the

seven elements will be reduced to five and ED will from part of new enterprise and supplier development and will be allocated 40 plus four bonus points making it the highest scoring element in the new scorecard. It should be noted that despite these amendments, this research focussed on the existing codes given that the new codes had yet to be released.

## 1.7 Definition of terms

- *Black economic empowerment (BEE):* This is defined as an integrated and coherent socio-economic process. It is located within the context of the country's national transformation programme, namely RDP. It is aimed at redressing the imbalances of the past by seeking to substantially and equitably transfer and confer the ownership, management and control of South Africa's financial and economic resources to the majority of the citizens. It seeks to ensure broader and meaningful participation in the economy by black people to achieve sustainable development and prosperity (Gqubule & Brown, 2001, p. 2).
- *Historically disadvantaged individual (HDI):* This means a South African citizen who, due to the apartheid policy, had no franchise in national elections, prior to the introduction of the Constitution of the Republic of South Africa, 1983 (Act No 110 of 1983) or the Constitution of the Republic of South Africa, 1993 (Act No 200 of 1993) (the Interim Constitution); and/or who is a female; and/or who has a disability. Persons that obtained South African citizenship on or after the coming to effect of the Interim Constitution, are deemed not to be an HDI (RSA, 2000).
- *Special purpose vehicle (SPV):* A special purpose vehicle is an authorised entity that has been set up for a specific, limited purpose by a firm. SPVs are typically used by companies to separate the firm from financial risk (Carey & Stulz, 2007).
- *Enterprise development (ED):* Is a strategy for supporting economic growth and reducing poverty in developing countries by building private

small enterprises, membership organisations to represent them, and competitive markets that are stronger and more inclusive (October, 2015).

- *Small, medium and micro-sized enterprise (SME):* A separate and distinct entity, including cooperative enterprises and non-governmental organisations, managed by one owner or more, including its branches or subsidiaries, with business carried out in any sector or sub-sector of the economy and classified as a SME by satisfying the criteria mentioned in the schedule of size standards (RSA, 2003).

## 1.8 Research outline

This dissertation has been divided into six chapters.

Chapter 1 provides the background to the study, including the applicable research questions, purpose of the study, problem statement and the significance of this study.

Chapter 2 deals with the literature review; this begins with the introduction to the literature followed by the background discussion, which comprises the history of economic empowerment, the understanding of ED, the importance of SMEs. The challenges faced by SMEs in South Africa are detailed in this chapter, which leads to the literature for the presented hypotheses. This is summed up in the conclusion.

Chapter 3 presents the research methodology. It commences with the approach, followed by the research design. The population and sample is detailed; this encompasses the population, sampling method and demographic profile. The chapter details all passable limitations, validity and reliability of the study. This is followed by ethics and summed up in the conclusion.

Chapter 4 presents a summary of the sample, followed by the demographics analysis presented in graph and table formats. Each question in the questionnaire is analysed separately first, then as constructs. The internal consistency and the constructs reliability are determined using correlation

analysis and Cronbach's alpha test respectively. The hypothesis test results are presented in this chapter in figure and table form and summed up in the conclusion.

Chapter 5 discusses the results as presented in Chapter 4, which will encompass a comparison with the literature in Chapter 2, thereby drawing the similarities and differences with other scholars. This chapter describes in detail whether each presented hypothesis is accepted or rejected and replaced with the alternative.

Chapter 6 presents original insights and recommendations that are explicitly based on the information that has been presented in the earlier sections of the study. These insights will include gaps in the literature, new solutions to problems and suggestions for future research.

## 1.9 Assumptions

The dissertation assumed that since the survey was a combination of web-based and manual, all respondents would answer the questionnaire.

All respondents were sufficiently literate to complete and understand the questionnaire.

The dissertation assumed that environment, as defined by Mahadea and Pillay, (2008) includes the location of the SME.

The dissertation assumed that due to the current sensitivity in the mining industry caused by incidents such as the Marikana strike and its aftermath, the SMEs would respond to the questionnaire honestly.

## 1.10 Conclusion

Although there are different legislations introduced by the new dispensation since 1994 to develop black entrepreneurs, the results or outcomes of this has been mixed. One such legislation, the BEE act 53 of 2003 in which preferential procurement and ED is embedded, has yielded SMEs that are more dependent

on other institutions to provide for them. However, that mindset has hindered their growth. This chapter highlights the need for this research to establish the factors that hinder the SMEs growth and the reason for the SMEs not complementing the mining companies supply chain. The next chapter details the literature with regard to the problem statement and purpose of the study thereby introducing the hypotheses.

# CHAPTER 2. LITERATURE REVIEW

> Small, medium and micro-enterprise (SMMEs) represent an important vehicle to address the challenge of job creation, economic growth and equality in our country. Throughout the world, one finds that SMMEs are playing a critical role in absorbing labour, penetrating new markets and generally expanding economies in creative and innovative ways. We are of the view that with appropriate enabling environment – SMMEs in this country can follow these examples and make an indelible mark on this economy. The stimulation of SMMEs must be seen as part of an integrated strategy to take this economy onto a higher road- one in which our economy is diversified, productivity is enhanced, investment is stimulated and entrepreneurship flourishes (RSA, 1996, p. 3).

## 2.1 Introduction

This chapter briefly discusses the history of economic empowerment in South Africa. First, the in-depth review considers the types of economic empowerment that took place in South Africa. This will include an era in which Cecil John Rhodes' influence led to what is called English economic empowerment, followed by Afrikaner economic empowerment, which later led to black economic empowerment. Before ED and SMEs, which are embedded in the B-BBEE Act (RSA, 2013), are dealt with, an understanding of its origin and the types of economic empowerment that have been before is very important.

The second part looks at ED, as implemented through BEE in South Africa, followed by SMEs as part of ED and the performance and challenges of SMEs, which is dealt with in detail. This includes examining the same system in countries such as the United States of America (USA).

The third part examines the context of SMEs, the role they play in the economy of South Africa and their contribution. It looks at the role of the government, the

link between mining companies and resources, service and product quality, the environment and the perceived racial bias in relations to the success of the SME.

## 2.2 History of empowerment and SMEs

To understand the topic under discussion, the origin of economic empowerment from the South African perspective is examined. A brief history of the English and Afrikaner economic empowerment, as described by Meredith (2007), ED as the custodian of SMEs and the impact of preferential procurement in fast tracking the participation of SMEs is provided.

### 2.2.1 *A brief background to empowerment in South Africa and its role in promoting the involvement of specific groups in the economy*

The English Economic Empowerment (EEE), when Cecil John Rhodes was prime minister of the Cape Colony, introduced laws that favoured mines and industry, introduced educational reform and the Glen Grey Act to push African people from their land (Meredith, 2007). The National Party followed the same precedent when introducing Afrikaans Economic Empowerment (AEE). The Afrikaner nation was liberated from English rule in 1948 ,which was followed by the National Party's (NP) programmes that saw the marginalised Afrikaner fast tracked to enable them to participate in the economy (Meredith, 2007).

This led to legislation such as the Marketing Act of 1937 (Terrazzas, 2000), which established unfair price control for rural produce that artificially kept rural incomes at a level proportionate with those of urban manufacturers. Further to this, boards were established that would work with white farmer co-operatives as sole purchasers of a number of commodities and by the 1950s around 90 percent of white farmers belonged to these co-operatives. For AEE to flourish, ED to assist Afrikaans speaking individuals to participate in the economy was required, consequently the establishment of entities like, Iscor, Eskom, Sanlam, Telkom, Gencor (Trans-Natal and Rand Mines) (Wilkins & Strydom, 2012). For

all these years, black South Africans were not allowed to participate in the mainstream economy. Those who participated were limited to certain products and services in specific areas. Coloured and Indian South Africans were allowed to own business in urban areas only if they did not compete with white owned business (Ponte, Roberts, & Van Sittert, 2007).

Since the advent of South African democracy in 1994, the country has embarked on programmes aimed at empowering previously disadvantaged South Africans (black, coloured, and Indian South Africans, as well as women and the disabled as per the Employment Equity Act (RSA, 1998)), while at the same time reducing unemployment. One of the pieces of legislation introduced was the B-BBEE Act (RSA, 2003). This legislation was meant to assist participation of HDIs in the Republic's economy (Ponte et al., 2007).

The initial BEE strategy concentrated on ownership, where it was gazetted that black people must own 26 percent of the companies operating in the country. Not only was the legislation aimed at empowering previously disadvantaged individuals, but also at creating small enterprises that were going to absorb most of the unemployed population with limited education.

This created the first wave of empowerment where entities such as Johnnic, Nail, Metropolitan, African Rainbow Minerals and Eyesizwe (Eyesizwe later became Exxaro). Although this created 'black' business people, the feeling of the public was that this only benefited politicians and those who were close or connected to the ruling party. Politicians were being favoured by big corporates as their 26 percent partners.

The former President of South Africa, Mr Thabo Mbeki, highlighted a fatal flaw to the BEE strategy, which he concluded enriched a small number of well-connected politicians (Ponte et al., 2007). As the first wave of BEE strategy initiatives concentrated on ownership, most BEE strategy initiatives were done as tick box exercises, which led to the neglect of procurement, ED and other aspects of economic empowerment. This started the questioning of the legitimacy of the strategy. The 'collapse' of this strategy occurred at the decision-

making level of the organisation, which encouraged rent seeking by many black owned SMEs (Herrington & Overmeyer, 2006).

During the 1998 economic meltdown, most of the BEE deals were unravelled. This was because of the way the deals were structured where BEE partners used debt through a special purpose vehicle (SPV) to fund the transactions. Dividends from these deals were used to pay back the debt. With this and the discontent of the people with a growing sense that BEE should be expanded, in 1999, the BEE commission was established and in 2001, the report was presented to government. One of the findings was to broaden the nature of BEE consequently B-BBEE (Acemoglu, Gelb, & Robinson, 2007).

In 2003, the BEE codes were revised and that led to the revised B-BBEE Act. These codes included supplier development and ED and aimed to promote SMEs establishment and encourage growth, which in turn would create much-needed jobs. SMEs are embedded in ED and are major role players. Although the legislation encourages it, there is reluctance within established business to procure products and services from SMEs sighting quality, trust, delivery or reliability, SME staff professionalism, institutional weakness and lack of skills; all of which lead to compromised management performance (Herrington & Overmeyer, 2006; Rogerson, 2012).

### 2.2.2 *ED as a significant arm of B-BBEE*

ED included the support and growth of SMEs and was implemented as part of B-BBEE in South Africa. As indicated, the target compliance for companies was to spend three percent of their earnings after tax in helping to establish sustainable SMEs. There are clear guidelines in the B-BBEE codes that guide the business on how to do business or engage with SMES.

ED is one of the seven elements that form part of the B-BBEE scorecard. On the scorecard, 15 points are allocated to ED and have a strong link with preferential procurement. When any large company utilises an ED beneficiary within their supply chain they get to recognise 20 percent more BEE spend in procurement

(October, 2015; Rogerson, 2012). Since the initial implementation, BEE has targeted only politically connected individuals.

The introduction of ED into the BEE scorecard was seen as a way to broaden the beneficiaries of BEE and this prompted the GEM report to state that although the South African government's policy of B-BBEE invited heavy criticism from many stakeholders for its failure to distribute wealth across a broad range of the population. Some experts welcomed the higher weighting allocated to ED and preferential procurement as positive development, as this has a higher impact potential to open up the market to new and growing businesses (Turton & Herrington, 2012).

Currently amendments proposed to the B-BBEE Act (RSA, 2013) are before parliament. Significant changes to the existing codes, which were published in the Government Gazette on 11 October 2013, will take effect from April 2015 (October, 2015).

In this amendment, the seven elements are reduced to five and ED will from part of new enterprise and supplier development and allocated 40 plus 4 bonus points making it the highest scoring element in the new scorecard (Table 2).

It should be noted however, that despite these amendments, this research focussed on the existing codes given that the new codes had yet to be released at the time of submission.

**Table 2: Amended and current B-BBEE codes**

| Element | Amended codes weighting points | Current codes weighting points |
|---|---|---|
| Ownership | 25 | 20 + 3 bonus points |
| Management control | 15 + 4 bonus points | Management control 10 +1 bonus point, Employment equity 15 + 3 bonus points |
| Skills development | 20 + 5 Bonus points | 15 |
| New enterprise and supplier development | 40 + 4 bonus points | Preferential procurement 20; Enterprise development 15 |
| Socio-economic development | 5 | 5 |
| **Total** | **118** | **107** |

(October, 2015)

The concept of ED (in which corporate social investment, SME and preferential procurement is rooted) is not a new phenomenon. The concept of enterprise and supplier development is in existence in the USA, known as 'supplier diversity', and is designed to include the minority in the economy (Adobor & McMullen, 2007).

ED, as recognised in South Africa today, has been in existence since the 1980s, before the concept of BEE was documented. Mining companies such as Anglo-American and De Beers introduced initiatives to support small ED. Today this initiative is known as Anglo-Zimele (Anglo-American, 2009, 2010, as cited in Rogerson, 2012). However, this was done by companies on their own initiative, making ED a very rare occurrence until it was legislated into BEE strategy in 1996 and followed by the BEE Act 53 of 2003 (RSA, 2003).

### 2.2.3 *The role of preferential procurement in the B-BBEE*

In the B-BBEE Act, one of the main contributors is the preferential procurement Policy Framework Act, 2000 (RSA, 2000). This is included in the South African Constitution (RSA, 1996b) and was done in order to protect or advance groups

disadvantaged by apartheid (Pauw & Wolvaardt, 2008). The preferential procurement was seen as one of the pillars to create jobs (Rogerson, 2004). Watermeyer (2003) defines procurement as, “The process that creates, manages and fulfils contracts relating to the provision of supplies, services or engineering and construction works, the disposal of property, the hiring of anything and the acquisition or granting of any rights or concessions” (p. 5), Preferential procurement he defines as, “A preferential procurement policy that promotes socio-economic objectives in addition to those associated with the immediate objective of procurement policy” (Watermeyer, 2003, p. 5).

This was done to bring competent HDI companies into mainstream business in a fair manner. However when this policy was applied most contactors that secured tenders, did so without the required expertise, which in turn caused major uncertainty for the clients and contractors (Rogerson, 2004). The awarding of tenders was to companies that were virtually non-existent (Pauw & Wolvaardt, 2008, as cited in Magoro & Brynard, 2010). The South African government wanted an environment that is conducive to emerging contractors, however these contractors attempted to operate in formal business systems while still in an informal state.

Rogerson (2004) states that including emerging contractors in the MNEs procurement system was constantly characterised by non-responsiveness with regard to meeting deadlines, quality of service and fair costing.

### 2.2.4 *The impact SMEs on the overall economy*

In South Africa, SMEs contribute an average of 56 percent towards employment and 36 percent towards GDP (Luiz, 2002; Olawale & Garwe, 2010; Rwigema & Karungu, 1999). This indicates that the estimated total contribution to South African economy is approximately 90 percent. South Africa has high levels of unemployment, which have recently risen to 25.5 percent (Stats SA, 2014); this is correlated with the diminishing number of businesses and formal employment. To combat increasing unemployment the creation and support of SMEs is needed (Rust, 2006) and it is very evident that for B-BBEE to succeed in South

Africa there is great emphasis on SMEs to be successful. It is accepted that SMEs must play an important role in the South African economy; however, the definition generally does not reflect such sentiments (Sanchez, 2006).

The government of South Africa, by legislating ED, realised that SMEs have the capacity to absorb unskilled labour and include HDIs in the mainstream economy. Maas and Herrington (2006) argued that SMEs play an important role in resolving South Africa's developmental problems and the sustainability of these SMEs is very important for the economy of South Africa; however, the participation of HDIs in SMEs and the economy has not improved since the implementation of the Preferential Procurement Act of 2000 (RSA, 2000).

As the strategy component within the B-BBEE, SMEs are increasingly playing an important role in many economies in the world; therefore, many countries have placed more effort in developing and supporting them (Agupusi, 2007; Olawale & Garwe, 2010).

Rogerson (2011) emphasised the importance of SMEs with regard to economic growth and job creation in developing countries. Their significance is recognised in most developing African countries such as South Africa, Uganda and Nigeria (Smit & Watkins, 2012). SMEs also play a very important role in the economy of first world countries, contributing 33 percent towards employment in the USA, for example (Rwigema & Karungu, 1999).

In 2003, the BEE strategy codes were revised and that led to the B-BBEE Act. In the revised codes, creating jobs through supplier development and ED was emphasised. Furthermore, procurement and ED was stressed and when combined weighed the highest on the scorecard. This was done on an understanding that supporting small-scale enterprises is a way to create job opportunities, thus absorbing many unskilled people or unemployable people.

Even though there have been stories of success, like the programme Anglo Zimele introduced by de Beers and Anglo-American in the 1980s, there is a perception from other South African corporates that they are being forced to participate in ED and that at least three percent of income after tax be spent on

both supplier development and ED. This perception has led to corporate resistance in supporting ED even though the literature highlights the economic benefits of supplier diversity, as depicted in the model used in the USA. In the USA, they introduced a model where business use SMEs as their suppliers, this program encourages the use of groups such as, women-owned, minority-owned, underutilised business and disabled-owned, historically underutilized business, as suppliers (Rogerson, 2012). Further reasons for corporate resistance are quality and reliability of service and product (Islam, Mian & Hasmat Ali, 2008, as cited in Chittithaworn, Islam, Keawchana & Yusuf, 2011), and the professionalism of SMEs, all of which play an important role in the success of SMEs business.

To limit the definition and scope of research for this dissertation the definition of SMEs from the National Small Business Act of 1996 (RSA ,1996) was adopted. It should be noted that a category of survivalist enterprise was added as defined by Sanchez (2006), which is in contradiction with the DTI definition that includes survivalist in the micro-enterprise (Table 3).

**Table 3: SME definition**

| SME category | Description |
|---|---|
| *Survivalist enterprise* | In this category, the income generated is less than the minimum income standard or the poverty line. They are considered pre-entrepreneurial, and include hawkers, vendors and subsistence farmers. |
| *Micro enterprise* | This category has an annual turnover of less than the VAT registration entry and employs between one to five employees. It is an informal business without license. |
| *Very small enterprise* | This category is part of the formal economy, has access to technology employs less than ten people, except in the manufacturing, mining, construction and electrical sector where they employ the minimum of 20 employees. |
| *Small enterprise* | This are more established enterprises with a minimum of 100 employees. They are owner managed however they have complex management structure, have business premises and they are registered. |
| *Medium enterprise* | This are mainly owner managed, employ up 200 employees. Operates from fixed premises with all legal requirements in place. |

(RSA, 1996; Sanchez, 2006)

## 2.3 Resources challenges faced by SMEs in South Africa

The first sub-problem is to investigate whether SMEs have adequate resources to participate in meaningful supply chain initiatives provided by mining industry.

### 2.3.1 *SME resources*

Although scholars have dealt with aspects that may cause SME failure, they do not contextualise these factors in terms of resources and service (skills, management knowledge and technical experience). The consolidation of this would assist SMEs to package this factor and provide a more directed strategy for their entities.

The failure rate of SMEs in South Africa is very high, at least 75 percent of start-up SMEs do not grow to be established companies (Brink, Cant, & Ligthelm, 2003; Olawale & Garwe, 2010) and only one percent of SMEs grow from 10 to more employees (Mead & Liedholm, 1998). Von Broembsen, Wood, and Herrington (2005) indicated that the survival probability of an SME beyond 42 months is very low in South Africa, lower than that of any country surveyed by GEM. Indications are that due to constraints, SMEs are not playing the role as expected (Agupusi, 2007). Most of the literature attributes SME failure to lack of resources, such as management skills and training, however Rogerson (2008) cautioned that these may not be the only reasons (Smit & Watkins, 2012).

Management skills and technical an industry specific competencies are crucial to the prosperity of SMEs, however SMEs ignore this (Urban & Naidoo, 2012). Sahlman (1996) and Hart, Stevenson, and Dial (1996, as cited in Austin, Stevenson & Wei-Skillerm, 2006), noted that two critical factors determine the success of the entrepreneur:

[1] Knowing their industry and the availability of resources, and
[2] Know suppliers and their capabilities.

Based on the preceding discussion of the perceived impact of resources of SMEs, the following proposition is thus formulated:

**Proposition 1:**

- SMEs have adequate resources to participate in a meaningful supply chain initiatives provided by mining industry.

## 2.4 Service and product quality as a link between the mining industry and SMEs

The second sub-problem is to investigate the effect of the environment on SMEs in dealing with the mining industry in South Africa in terms of service and product quality, and reliability of the SMEs.

The main purpose of establishing the National Minority Supplier Development Council (NMSDC) in the USA was to manage or create the link between large organisations and the minority suppliers. The private sector was reluctant to do business with SMEs because of quality problems. The NMSDC represented good practice thus encouraging the business linkages with developing SMEs. This was done through certification of minority products and services and introducing SMEs to prospective buyers (Rogerson, 2012).

Rogerson (2012) states, the problems faced by SMEs in South Africa are quality, trust and delivery. Because South African mines were experiencing the same problem as their American counterparts, to counter this challenge the South African International Business Linkage (SAIBL) was established (Herrington & Overmeyer, 2000). This was not especially defined as a problem, because of the political implications with legislators; mines would rather continue doing business with SMEs that have substandard quality products to maintain the B-BBEE points.

The SAIBL objective was to enable corporate South Africa to broaden and deepen its business opportunities by integrating with SMEs (Rogerson, 2012). Other institutions such as the Chamber of Commerce of South Africa (CHAMSA) were created to support SMEs with fund raising and provide support to these organisations (Cant & Erdis, 2005). Although South Africa has tried to improve

the quality of services provided by SMEs, in many instances, the mining industry has doubts about the SME's reliability and ability to deliver quality product and service and prefer to deal with other MNEs (Herrington & Overmeyer, 2006).

Based on the preceding discussion of the perceived impact of service and product quality supplied by SMEs particularly with reference to supply chains, the following proposition is thus formulated

**Hypothesis 1:**

- The quality of service and product supplied by SMEs to the mining industry is correlated with their prosperity.

## 2.5 Location, environment and the ethnicity of SME owners

The third sub-problem is to investigate the effect that environment has on the SME's prosperity.

Environment consists of a vast range of factors, in this section the discussion focusses on the influence of both the internal and external environment, with reference to factors such as location and legislation, and their overall effect on the prosperity of the SME.

### 2.5.1 *Environment of the SMEs and business*

SMEs encounter the same challenges as all business in South Africa since they operate in the same environment. However, although SMEs flourish in their adaptability, openness towards customers, risk taking and agility, due to globalisation they face great pressure with regard to skills, finance and legislation (Smit & Watkins, 2012). This is aggravated by the location, demography and background of some of the SMEs. Cuss (2003) indicated a number of macro-environment issues that can influence the decision-making by business owners, which are location, electricity rates, employment, inflation, interest rates and rental rates.

The business environment plays a significant role in the growth of the SME. The business environment is defined by Olawale and Garwe (2010) “as factors both inside and outside the organisation that may influence the continued and successful existence of the organisation” (p. 5).

Beck and Demirguc-Kunt (2006, as cited in Olawale & Garwe, 2010) state that for the SME to prosper, it needs to strengthen both the external and internal environment. Visagie (1999) alluded to the fact that internal and external culture plays a crucial role in the success of the SME. Any change in this environment, whether positive or negative, may result in the failure of the SME. This makes it apparent that for the SME to thrive in South Africa, they need to pay attention to the environment in which they operate.

### 2.5.2 *Internal environment’s influence on the prosperity of SMEs*

The business environment has a great impact on the prosperity of small enterprises (Delmar & Wiklund, 2008, as cited in Olawale & Garwe, 2010). Insufficiencies in the internal environment, which involves knowledge in financial management, management skills and marketing to name a few, is cited as the major cause of SME failure (Ligthelm & Cant, 2002). As in the any other business, SMEs operate in an ever-changing environment be it internal or external. Mahadea and Pillay (2008) refer to the internal environment as human resources, innovation and technology, and financial support (funding) and the external environment as issues regarding tax, crime and regulation, which may lead to the failure or success of the SME.

The location of an SME has an impact on the potential to growth opportunities. Their geographical position in relation to either customers or producers of raw materials improves their environmental scanning which in turn enables SMEs to easily identify and exploit any growth opportunities in the market; this will in turn influence the market’s view of the SME (Dahl & Sorenson, 2007, as cited in Olawele & Garwe, 2010). Geographical closeness to either buyers or suppliers improves environmental scanning that enables SMEs to more easily recognise and exploit growth opportunities in the market (Fatoki & Asah, 2011).

### 2.5.3 *External environment's influence on the prosperity of SMEs*

External factors that affect the prosperity of the SME in South Africa are identified as economic and market factors; these are the factors that will hinder SME's prosperity and include, but is not limited to, the 2008 financial crisis (Olawale & Garwe, 2010). The external environment influences the supply and demand of goods (Ehler & Lazenby, 2007, as cited in Olawale & Garwe, 2010) and refers to issues relating to tax, crime and corruption Mahadea and Pillay (2008); crime increases the expenditure of small business as they will have to increase the security of their assets (Olawale & Garwe, 2010). Corruption in both public and private sectors has a great impact on SMEs.

Transparency International has indicated that South Africa is ranked 43$^{rd}$ with a CPI of 5.1. The reason that SMEs engage in corruption activities is due to government legislation, regulatory compliance and the lack of bargaining power that compels the SME to pay solicited bribes even if it cannot afford them (Gaviria, 2002).

SMEs need a very flexible and suitable labour legislation to be able to grow. The South African legislation set minimum salaries and working hours for employees and this makes it difficult for the SME's to hire expensive labour (Mahadea & Pillay, 2008). In addition to these external factors, Barnard, Kritzinger, and Kruger (2011) argued that business owners should acquaint themselves with the impact that location has on the success of their business, including the visibility and accessibility, location zoning and future growth of the business, but more critically the location of competing businesses. The location can affect the final product cost therefore making business uncompetitive.

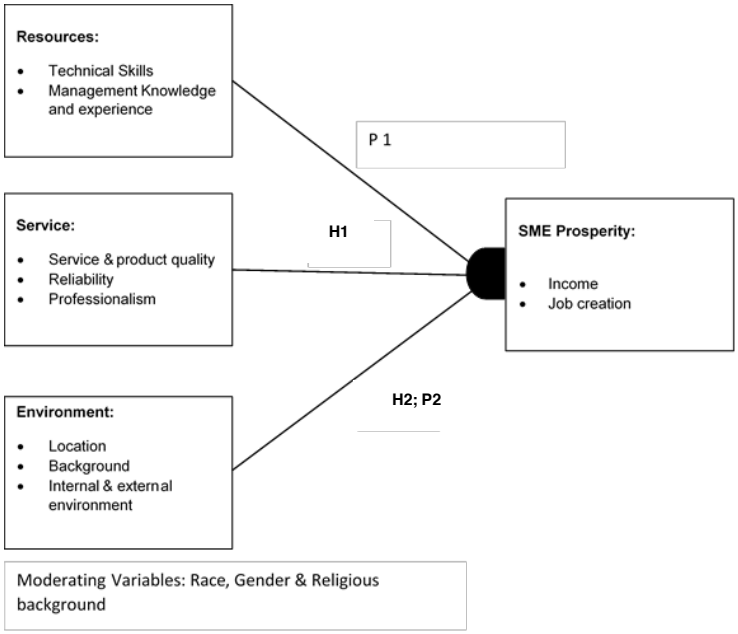



**Figure 3: Conceptual model**

Based on the preceding discussion of the perceived impact of the environment on SMEs particularly with reference to supply chains, the following hypothesis is thus formulated:

**Hypothesis 2:**

- The environment of SMEs is positively correlated to its prosperity.

## 2.6 The racial bias of the mining industry

The fourth sub-problem is to investigate the existence of racial bias when the mining industry allocates tenders to SMEs.

Given the history of South Africa, in which the black majority was excluded from participating in any meaningful entrepreneurial activity, better education and property, it is crucial to understand the progress that has been made in this regard. The GEM report estimates that in 2001, 76 percent of the emerging entrepreneurs were black. According to Ntsika Enterprise Promotion Agency (1997), 71 percent of the mining SMEs were in the hands of HDIs.

The mining industry has a bad reputation of doing as little as possible in the areas in which they operate (Eweje, 2005). Some of the reasons provided for mining procurement failures is the lack of support they provide to SMEs and the presence of “discrimination pockets” (Herrington & Overmeyer, 2006, p. 8) of racism, which still exist. Other reasons would be the long established relationship networks within procurement departments, which were designed to exclude black owned businesses (Shah & Ram, 2006). Institutional racism is believed to be between white and black, however it should be noted that there is discrimination between blacks as well, where black-owned companies do not trust services from other black-owned companies.

Based on this discussion of the perceived impact of racial bias by mining companies on SMEs, particularly with reference to supply chains, the following proposition is thus formulated:

**Proposition 2:**

- The racial bias in the mining industry is associated with the prosperity of the SMEs.

## 2.7 Conclusion of literature review

In conclusion, economic empowerment is not a new phenomenon ascribed only to South Africa. The only feature that may be unique to South Africa is the incorporation of ED and preferential procurement, in which the SMEs play a major role.

Although it has been identified, by scholars such as Olawale and Garwe (2010) that a high percentage of SMEs fail within three years of their inception most of the blame is directed at legislation and the private sector. The above studies, while tracing the difficulties that SMEs face in the business world, do not address the reasons for the failure, which could be from the quality of work SMEs provide.

Chapter 3 explores the research design in detail. This will then provide the impetus for the collection of data in order to test propositions and hypotheses set out in Chapters 1 and 2.

# CHAPTER 3. RESEARCH METHODOLOGY

## 3.1 Introduction

The research methodology to address the propositions and hypotheses that are surmised to be the solution to the main problem statement and the sub-problems, as discussed in Chapter 1 is described in detail.

The methodology for data collection, including the population targeted and the sampling methodology is explained. Furthermore, the methods to be applied to analyse the data and the method applied to justify the validity and reliability of the methodology as well as its potential limitations is detailed

## 3.2 Research design

The problem statement prompts a need for learning more about the dominant concepts of service and product quality, reliability and the environment in a South African context; it defines the research domain.

A quantitative research approach, based on document studies and surveys was done to meet the research purposes. Quantitative research refers to traditions that base research on quantitative data and do not actively and deliberately manipulate the occurrence being investigated (Goddard & Melville, 2004).

Quantitative research is designed to explain how and why things happen, this method is used to find and build theories to explain the relationship of one variable with another. A quantitative study will:

- Allow for comprehensive research with data collected from a survey involving a large number of questions, thus increasing the generalisation of the results of the research.
- Enhance impartiality and accuracy of results of the research. Usually, quantitative research methods are intended to provide a summary of data

that supports generalisations about the occurrence under research. To achieve this, quantitative research generally contains few variables and many cases, and uses prescribed procedures to ensure validity and reliability.

- Makes it possible for large amounts of data to be analysed and compared (Kruger, 2003), this means that the research can be replicated, and then analysed and compared with similar studies.
- Prevent researcher bias by a distinct separation between the researcher and the questionnaire respondents. The researcher has neither control over nor physical contact with any of the respondents and their companies.

This study relied on primary data, which makes the study detailed. The ontology on black economic empowerment is readily available in the public domain; however the information about the performance of SMEs is limited and to affirm that information a survey was conducted.

## 3.3 Population and sample

### 3.3.1 *Population*

Population is an aggregate of all the objects, subjects or members that be consistent with a set of condition (Cooper & Schindler, 2011). In this research the population was SMEs operating within the mining industry in South Africa, with a minimum of five or more employees and that have a revenue of R700 000 per year.

The sample for the research was n=150 SMEs operating in the mining industry in South Africa.

### 3.3.2 *Sample and sampling method*

Quota sampling method was used. This sampling method collects data from a group, where representatives are chosen; compared to collecting data from a

random sample (Cooper, Schindler, & Sun, 2006). The sample comprised those SMEs with a total monthly income of not less than R50 000.

The companies were selected through DMR procurement committee and from a database from the IDC. The provinces that have mining activities total seven of the nine provinces in South Africa namely, Gauteng, Mpumalanga, Free State, North West, Limpopo, Northern Cape and Kwa-Zulu Natal. To make the sample representative, 40 SMEs were targeted from each province totalling 280 SMEs, a minimum of n=150 was the aim with an anticipated 50 percent response rate from the selected sample. The sample selection was done to make sure the total sample represented all seven provinces, which will assist in making an unbiased conclusion.

The SMEs were selected as defined in Chapter 1, according to the number of employees. The questionnaire was distributed to the selected sample electronically or by hand.

## 3.4 Demographic profile of the sample

The research concentrated on SMEs that employ a minimum of five employees and have a revenue of at least R700 000 per year. The reason for selecting this population was that mining, by its nature, is an industry that engages in large operation and the micro and survivalist enterprises are, in most cases, are not registered, employ fewer than five employees and have revenue below the threshold of R700 000.

## 3.5 The research instrument

The research instrument was a survey questionnaire, which was both hand delivered and mailed to the targeted sample within the mining industry supply chain. The first section dealt with the resources that the SME has at its disposal such as skills, service quality and reliability. The second section dealt with the understanding of service, the third section looked at the participation of the SMEs in ED in their area and the last part dealt with the background of the SME

The questionnaire was accompanied by an introductory letter (Appendix A) asking the participants for co-operation. The letter described the research and its significance and considered ethnic concerns. The letter also explained to the respondents that the survey is not mandatory and if at any point they feel they no longer wish to participate in the survey, they should feel free to withdraw. The survey was entirely anonymous and any information attained from the survey was only used for this research. No individual person or organisation was affected in any way by any responses.

Finally, a telephone number was provided for any person with questions or who may need support and clarification in completing the questionnaire. Anyone who phoned in a need for assistance in completing the forms was assisted.

## 3.6 Procedure for data collection

The main technique for collecting data for quantitative research will be a questionnaire. The questionnaire will be self-assessment that will be measured on a five-point Likert scale. The questionnaire consisted of 29 questions divided into three sections.

The questionnaire was designed using MS Word and Wits Qualtrics; a letter to invite the respondent was attached. This letter also catered for ethics and declared the voluntary nature of the survey ensuring the privacy of the data collected. The survey was web-based, however printed questionnaires, distributed where necessary. The questionnaire was sent to respondents in early September 2014 and they were asked to respond within one month (Appendix A).

The advantages of web-based questionnaires and surveys were that responses were easily stored in a database, which was easy to analyse and manipulate. The disadvantage was the reliability of the response rate (Cooper et al., 2006).

A week after this first distribution, follow-up was made by phone call or email, either to thank those who had completed the survey or remind those whose

surveys were outstanding. The response rate of the initial survey sent was less that 25 percent after two months, which prompted the distribution of printed copies of the survey. The advantage of the hard copy was that it compelled respondents to complete and return the questionnaire.

The disadvantage was that some of the copies delivered were lost and had to be replaced and the time taken to distribute to remote areas proved a challenge (Cooper et al., 2006).

## 3.7 Data analysis and interpretation

The data collected was screened to identify possible multicollinearity in the data. This is the constant of the multivariate analysis, which explores the relationship between the dependent variable and independent variables. Multivariate statistics react to high correlation among predictor variables (Suhr, 2008; Suhr, Gil, Senut, & Gage, 1998). Outliers may be excluded if they force the analysis of results to be biased.

After screening, patterns in the data were established, by looking at variables, and their distribution around perceptions of SMEs and ED. The inferential statistical analysis method was used in this research. Inferential statistical analysis makes extrapolations or interpretations about a population from observations and analyses of a sample.

The statistical technique used was statistical means, averages and standard deviations for the propositions and the analysis of variance, or ANOVA for the hypotheses. ANOVA is used if there are more than one independent variables and the research has moderating variables (Gelman, 2005).

This research consisted of three independent variables, resources, service and environment and one dependent variable, with race, gender and religion as the moderators.

The sample will be more than two groups, as indicated by Howell and Boies (2004) for research that is quantitative and for the use of factor analysis. The

preferred programme for statistical analysis is SPSS 20 as it allows data management, analysis, and reportage tasks irrespective of how the data is presented.

## 3.8 Limitations of the study

- Respondents may not answer all questions forcing a reduction of data, leading to lost information.
- The study dealt with the BEE strategy and Act of 2003. The revised act to be published in March 2015 could have an impact on the results of this study.
- Inaccuracies in the selection of processes for determining statistical significance could result in flawed findings regarding the impact of the perceptions of SME.

## 3.9 Validity and reliability

### 3.9.1 *External validity*

External validity is the degree to which the results of a study can be generalised to other circumstances and to other studies (Cooper et al., 2006). The validity and contrast validity of the content of the survey tool was established, and showed the degree to which the survey items and the scores are demonstrative of all questions. It assumed that the sample selected, could be generalised throughout the SMEs in the manufacturing and mining industry.

The external validity of this research was determined by the size of the sample per province and could only be replicated in the mining sector since this was a pre-selected group.

### 3.9.2 *Internal validity*

Cooper et al. (2006) referred to internal validity as the degree to which a study can rule out or make doubtful alternate explanations of the results. Effects other than the independent variable that might explain the results of a study are called threats to internal validity.

Even though the current political paradigm within the mining industry has tensions, it should be noted that this did not have any impact on this study.

### 3.9.3 *Reliability*

Reliability is the extent to which the research could be repeated and the results of the new study replicated (Thorndike, 1997) and refers to reliability as the accuracy of measurement procedure. Due to time constraints, the pilot study was not conducted .The internal consistency reliability analysis of the constructs was measured using Cronbach's alpha. According to Cooper and Schindler (2011), a Cronbach's alpha below 0.6 is very low and unacceptable. The results of the research Cronbach's alpha are presented in Chapter 4 (Table 15).

## 3.10 Ethics

Permission to proceed with the research was granted and the topic selected was approved by the Wits Business School research panel.

Further to this, the questionnaire was accompanied by a consent letter to the respondent, which explained the purpose of the research and clearly stated that the results would be used for research purposes only. Contact details of the research supervisor were provided for any queries relating to the research (Appendix A).

## 3.11 Conclusion

This chapter presents the strategy/methodology that was followed to enable the compilation of this research report; following is the critical part of the methodology.

This research uses a quantitative, descriptive survey design. A questionnaire was done through Wits Qualtrics to collect data from a minimum of 150 SMEs. All questions asked were closed-ended questions on a five-point Likert scale. The defining sample characteristic was SMEs that operate within a specific threshold of income, dealing with the mining industry in eight different provinces in South Africa.

The department of mineral resources director of information approved permission to approach the SMEs and supplied the contact database. Consent was obtained from the subjects themselves. Anonymity, autonomy and confidentiality were ensured during management of the questionnaires and report writing.

The statistical technique used to test the data was factor analysis.

Chapter 4 deals with the results of the study with reference to the literature review in relation to the tested hypotheses.

# CHAPTER 4. PRESENTATION OF RESULTS

## 4.1 Introduction

This chapter presents the survey results and findings from the research conducted. The data received was analysed and findings presented as specified in the research methodology chapter of this report.

First, the chapter presents an analysis of the sample; a detailed synopsis of the sample's background, the cleaning of the respondent's information in addition, a detailed analysis of the demographics of the respondents and any observations is discussed.

Internal consistency and reliability is preserved with figures and tables reflecting the results of the tests. A brief discussion of the constructs and adjustments made to maintain the relevance of the research survey is presented. Results based on each hypothesis are presented and the chapter is concluded.

## 4.2 Sample analysis

The number of respondents was 138, making it a response rate of 49 percent. It should be noted that due to the request, late in the process, that respondents can refer the questionnaire to any SMEs operating in their area and any other area; the provinces represented increased to eight with the exception of Northern Cape.

The analysis revealed that six respondents had spoiled the questionnaire by either manually providing two answers for one question or not answering more than five questions. These respondents were excluded from the final data analysis resulting in the number of respondents being n=132.

Although questionnaires were proportionally distributed to 40 SMEs in each province, with the exception of Northern Cape, the response from some was very low. Mpumalanga comprised the most respondents at 61.4 percent, this was

more than the 40 SMEs targeted and was caused by the referrals that targeted SMEs. Mpumalanga is followed by Gauteng, Limpopo, KwaZulu-Natal, Eastern Cape, North West, Western Cape and Free State respectively. Mpumalanga has the highest number of mines and was the province with the most minerals (gold, coal, chrome, platinum, lime etc.). Follow up was easily done through the chamber of commerce in the Mpumalanga region. The province with the second highest number of mines was Gauteng where most of the mines that bordered both Gauteng and the Free State (Klerksdorp, Carltonville area) were represented (Figure 4).

The two provinces that have a substantial mining community although their response rate was low were North West and Limpopo. This was because of difficulty in communication, distances between the mines, and the DMR's SME database being limited.

**Table 4: Results statistics: Location**

| Province | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| | **10** | **7.6** | **7.6** |
| Eastern Cape | 5 | 3.8 | 11.4 |
| Free State | 2 | 1.5 | 12.9 |
| Gauteng | 15 | 11.4 | 24.2 |
| KwaZulu-Natal | 5 | 3.8 | 28 |
| Limpopo | 7 | 5.3 | 33.3 |
| Mpumalanga | 81 | 61.4 | 94.7 |
| North West | 4 | 3 | 97.7 |
| Western Cape | 3 | 2.3 | 100 |
| Total | 132 | 100 | |

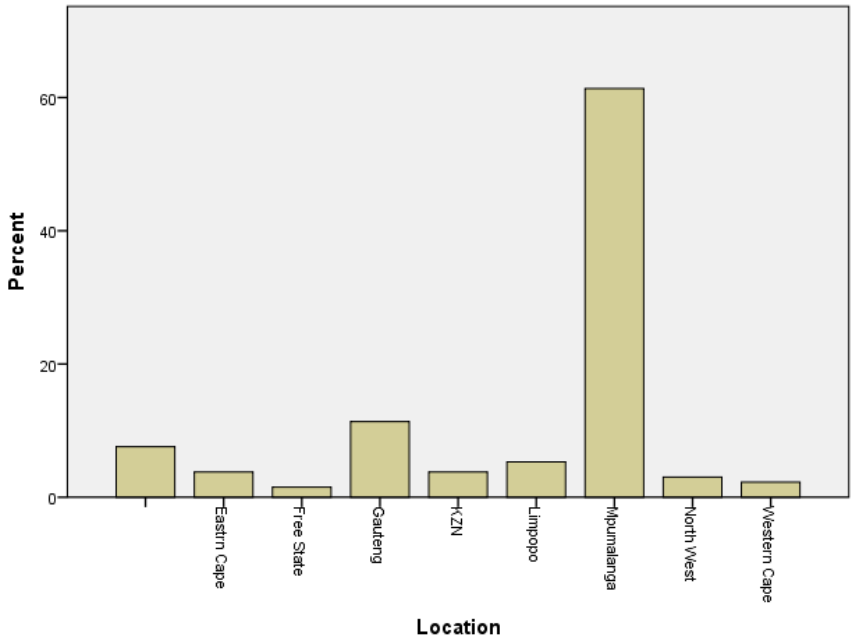



**Figure 4: Location histogram**

The majority of respondents were black (74 percent) followed by white (17.9 percent), Indian (7.3 percent) and coloureds (0.8 percent). When compared with the figures published by Statistics South Africa, the figures are a little skewed, in 2014, Statistics South Africa reported blacks at 80.2 percent; coloureds at 8.8 percent, Asian and Indian at 2.5 percent and white at 8.4 percent (Stats SA, 2014). The difference may have been caused by the location of the mines and the number of people who participate in the mining industry; however, the sequence of majority to minority prevailed (Figure 5).

Amazulu (18.8 percent) followed by English (10.6 percent) and Amaxhosa (9.1 percent), dominated the ethnic representation of the sample. Vatsonga and Amaswazi are both represented by an equal frequency of 8.1 percent and lastly Afrikaans, Amandebele, and Batswana, have frequencies of 6.1 percent each. The total of these majority groups was 81.7 percent leaving 18.3 percent that represented India, Hindu, Chinese, French and finally South and North Sotho. When compared with Statistics South Africa's report, similar results of ethnicity are realised, however percentages of Afrikaans and English follow Amazulu and Amaxhosa in terms of percentages respectively (Stats SA, 2014), which was contrary to the research findings.

## Table 5: Results statistics: Ethnicity

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| | **9** | **6.8** | **6.8** | **6.8** |
| Afrikaans | 8 | 6.1 | 6.1 | 12.9 |
| Chinese | 1 | 0.8 | 0.8 | 13.6 |
| Coloured | 1 | 0.8 | 0.8 | 14.4 |
| English | 14 | 10.6 | 10.6 | 25 |
| French | 1 | 0.8 | 0.8 | 25.8 |
| Indian | 6 | 4.5 | 4.5 | 30.3 |
| Ndebele | 8 | 6.1 | 6.1 | 36.4 |
| North Sotho | 3 | 2.3 | 2.3 | 38.6 |
| Nyambane | 1 | 0.8 | 0.8 | 39.4 |
| Pakistan | 2 | 1.5 | 1.5 | 40.9 |
| Shona | 1 | 0.8 | 0.8 | 41.7 |
| South Sotho | 5 | 3.8 | 3.8 | 45.5 |
| Swazi | 11 | 8.3 | 8.3 | 53.8 |
| Tsonga | 11 | 8.3 | 8.3 | 62.1 |
| Tswana | 8 | 6.1 | 6.1 | 68.2 |
| Venda | 5 | 3.8 | 3.8 | 72 |
| Xhosa | 12 | 9.1 | 9.1 | 81.1 |
| Zulu | 25 | 18.9 | 18.9 | 100 |
| Total | 132 | 100 | 100 | |

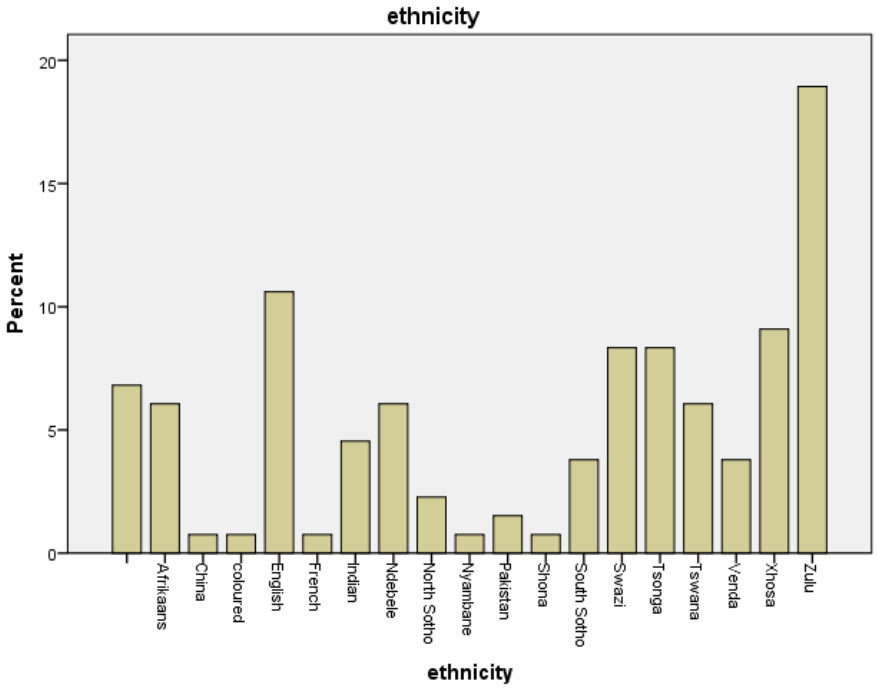



**Figure 5: Ethnicity histogram**

Out of 132 respondents, two thirds of the respondents were male and a third were female (Figure 6). This correlates with Statistics South Africa results that there are more male than female residents, however the percentage differ slightly with Statistics South Africa reporting 51.3 percent male and the remainder female (Stats SA, 2014). Ten respondents did not specify their sex orientation or gender. When comparing to the GEM report (Turton & Herrington, 2012), the average number of potential entrepreneurs in South Africa is 35 percent female and 43 percent male. Although the figures do not compare it is evident that more males have businesses that their female counterparts. When this result was compared with the Statistics South Africa report, they concur with the fact that males are a majority.

**Table 6: Results statistics: Gender**

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| | 10 | 7.6 | 7.6 | 7.6 |
| Female | 42 | 31.8 | 31.8 | 39.4 |
| Male | 80 | 60.6 | 60.6 | 100 |
| Total | 132 | 100 | 100 | |

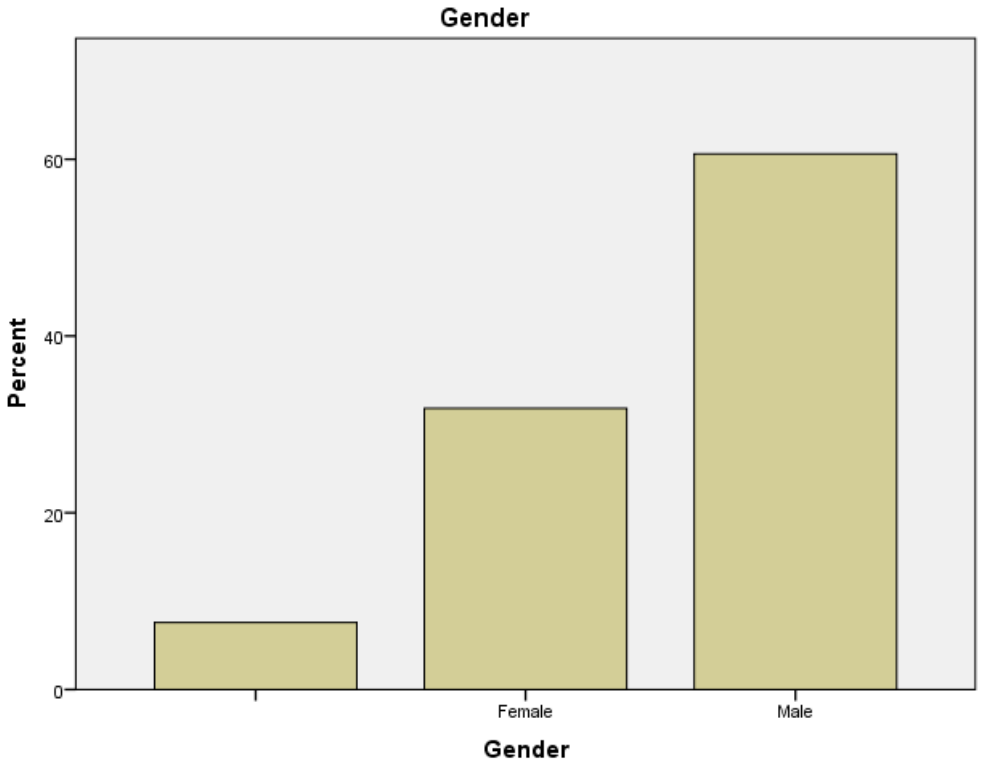



**Figure 6: Gender histogram**

The age distribution of the respondents ranges from 23 to 67 years, with the age range between 18 and 24 years at 1.6 percent, 25 to 34 years at 31.2 percent, followed by the most represented age group of 35 to 44 years at 38.5 percent. The age groups of 45 to 54 years and 55 to 70 years were at 21.2 percent and 7.2 percent respectively.

When the results were states as youth and adults, as defined by Statistics South Africa, those between 18 and 35 years constitute 36.9 percent and the remaining 63.1 percent constitute adults (Stats SA, 2014).

The GEM report (Kelley, Singer, & Herrington, 2012) recognises the comparison between the youth and senior level of entrepreneurship being at its highest in the age groups 25 to 34 years and 35 to 44 years; this is comparable with the results of this study. It further indicates that South African youth have the lowest rate for established business (>10 percent). Table 7 provides the detailed statistics of the sample age; the age mean is calculated to be 39.84 years and the age range between 23 and 67 years.

**Table 7: Results statistics: Age**

| **N** | **Valid** | **122** |
|---|---|---|
| | **Missing** | **10** |
| Mean | | 39.84 |
| Median | | 38 |
| Mode | | 42 |
| Std. Deviation | | 9.531 |
| Skewness | | 0.598 |
| Std. Error of Skewness | | 0.219 |
| Range | | 44 |
| Minimum | | 23 |
| Maximum | | 67 |

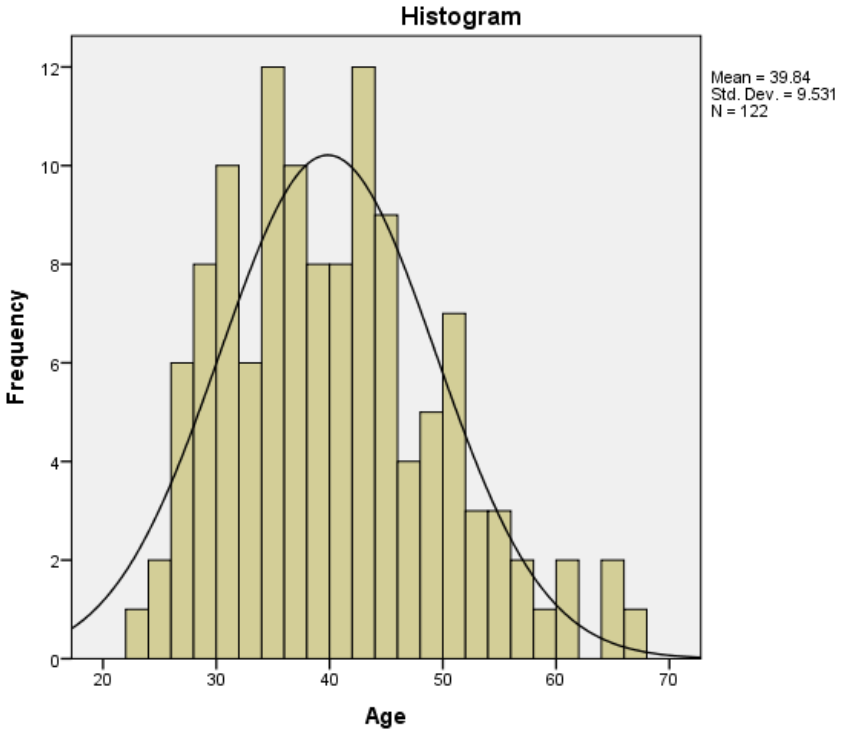



**Figure 7: Age histogram**

The number of years in operation varies from less than one year to five years; the largest portion belonged to the SMEs with tenure of between one and five years. SMEs with more than five years were represented by over 26.5 percent and the remainder was all those SMEs with one year or less in operation. This concurred with the Statistics South Africa (Stats SA, 2014) figures that indicate that in the mining industry there was an increase of 0.3 percent in jobs.

This means that most of the SMEs in operation were not opportunistic or survivalists since there was no job loss that would have prompted people to start their own business; however, in the last quarter of 2014, three percent of jobs were lost, which showed in the number of SMEs with a tenure of one to five years (Figure 8).

**Table 8: Results statistics: Business tenure**

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| | **13** | **9.8** | **9.8** | **9.8** |
| < 1 year | 29 | 22 | 22 | 31.8 |
| > 5 years | 35 | 26.5 | 26.5 | 58.3 |
| 1-5 years | 55 | 41.7 | 41.7 | 100 |
| Total | 132 | 100 | 100 | |

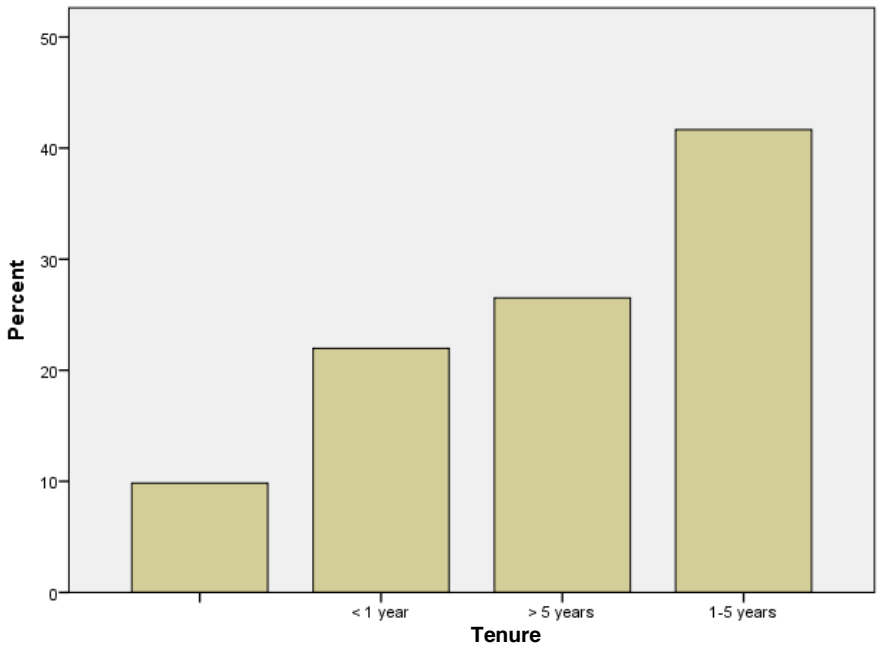


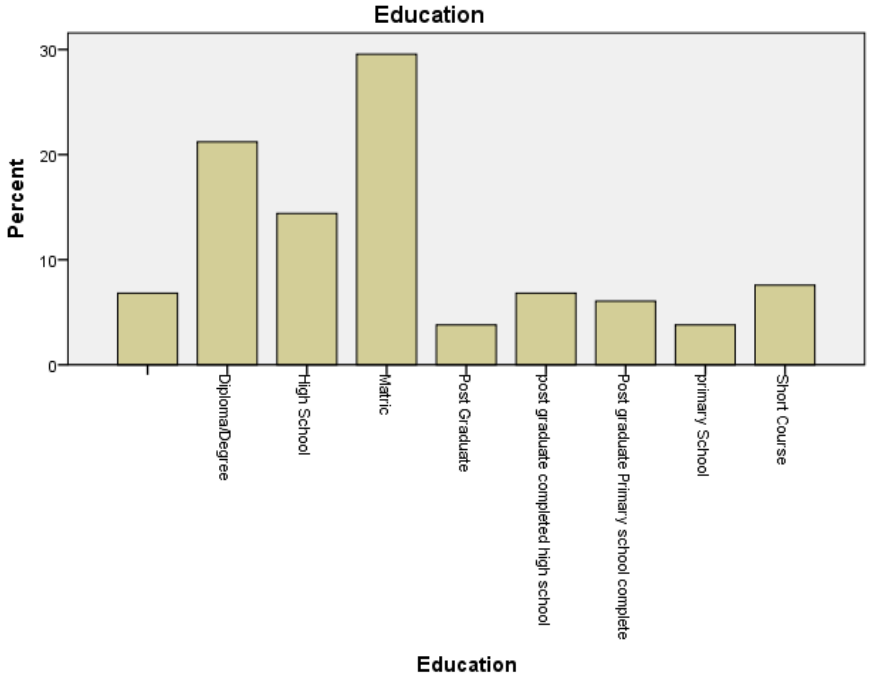

**Figure 8: Business tenure histogram**

The majority (31.7 percent) of respondents were in possession of basic education (matric certificate), this was followed by the respondents with either a diploma or a university degree (22.8 percent) and the respondents with post graduate degrees (11.4 percent) with the remainder being those who had some form of education (Table 9, Figure 9).

Out of the 132 respondents 49.5 percent (n=79) had basic education and lower, which resonates with the findings by the GEM report, that at least 64 percent of the South African population falls below the category of basic and further education (Kelley, Singer, & Herrington, 2012).

## Table 9: Results statistics: Education

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| | 9 | 6.8 | 6.8 | 6.8 |
| Diploma/Degree | 28 | 21.2 | 21.2 | 28 |
| High school | 19 | 14.4 | 14.4 | 42.4 |
| Matric | 39 | 29.5 | 29.5 | 72 |
| Post-graduate | 5 | 3.8 | 3.8 | 75.8 |
| Post-graduate completed high school | 9 | 6.8 | 6.8 | 82.6 |
| Post-graduate complete primary school | 8 | 6.1 | 6.1 | 88.6 |
| Primary school | 5 | 3.8 | 3.8 | 92.4 |
| Short course | 10 | 7.6 | 7.6 | 100 |
| Total | 132 | 100 | 100 | |




## Figure 9: Education histogram

Most of the SMEs interviewed had employees numbering between 1 and 10 (59.3 percent). Only 2.4 percent of SMEs had a total employee number of more than 100. This suggests that most respondents were still establishing themselves since they employed between one and five employees.

**Table 10: Results statistics: Number of employees**

| | | |
|---|---|---|
| **N** | **Valid** | **106** |
| | **Missing** | **26** |
| Mean | | 19.44 |
| Median | | 6.00 |
| Mode | | 5.00 |
| Std. Deviation | | 43.00 |
| Skewness | | 5.20 |
| Std. Error of Skewness | | 0.24 |
| Range | | 349.00 |
| Minimum | | 1.00 |
| Maximum | | 350.00 |

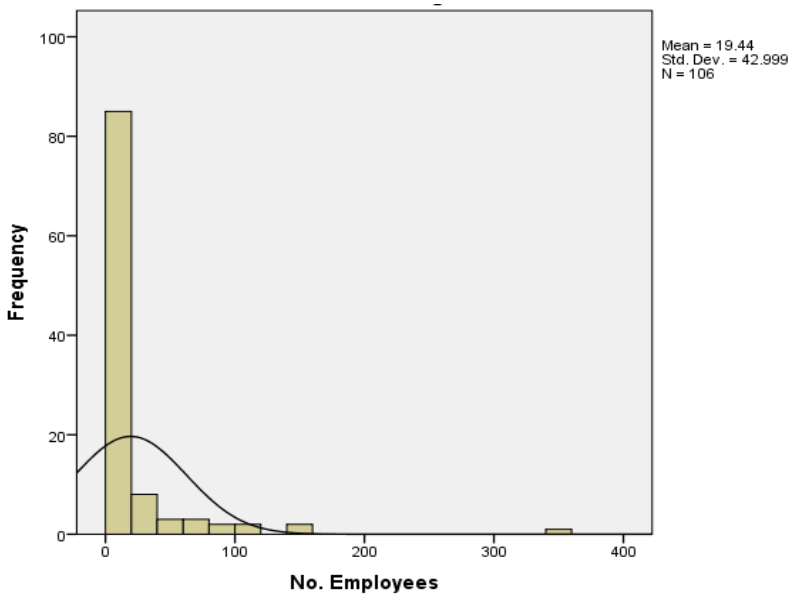



**Figure 10: Number of employee's histogram**

Half (49.6 percent) of the respondents operated from a formal building; however there are SMEs that operate from either a container/caravan or from home that are as successful as those in a formal building.

**Table 11: Results statistics: Business premises**

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| | **23** | **17.4** | **17.4** | **17.4** |
| Container/caravan | 14 | 10.6 | 10.6 | 28 |
| Formal office | 61 | 46.2 | 46.2 | 74.2 |
| Home | 22 | 16.7 | 16.7 | 90.9 |
| Mall | 5 | 3.8 | 3.8 | 94.7 |
| On the street | 2 | 1.5 | 1.5 | 96.2 |
| Taxi rank | 5 | 3.8 | 3.8 | 100 |
| Total | 132 | 100 | 100 | |

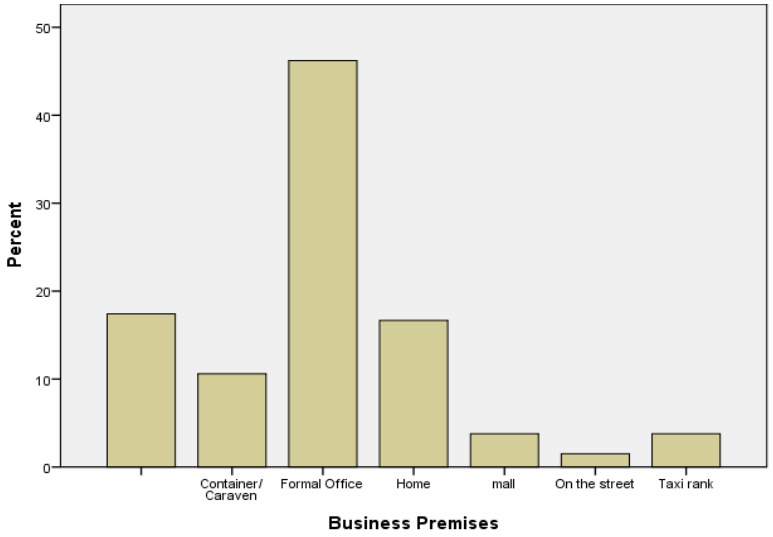



**Figure 11: Business premises histogram**

Half (52 percent) of the SMEs reported a monthly turnover of between R1 000 and R50 000, however there were a fair representation of SMEs with a turnover

of between R100 000 – R1 million (19 percent). Of the respondents, 5.7 percent did not disclose their monthly turn over (Table 12).

**Table 12: Results statistics: Monthly income**

| | | |
|---|---|---|
| **N** | **Valid** | **116** |
| | **Missing** | **16** |
| Mean | | 870 659.48 |
| Median | | 50 000.00 |
| Mode | | 50 000.00 |
| Std. Deviation | | 3 565192.64 |
| Skewness | | 6.43 |
| Std. Error of Skewness | | 0.23 |
| Range | | 29 995 000.00 |
| Minimum | | 5 000.00 |
| Maximum | | 30 000 000.00 |

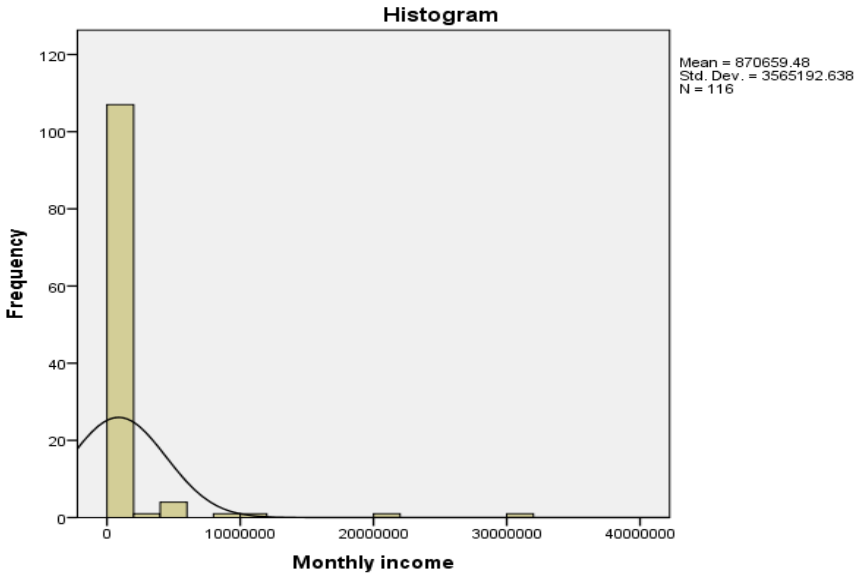



**Figure 12: Monthly income histogram**

## 4.3 Statistics relating to individual questions

In response to Question 1, more than two thirds (69.7 percent) or N=92 SMEs believed that they had enough skills within their companies to service the required needs of MNEs. However, 15.9 percent believe that skills are still a challenge in their organisation.

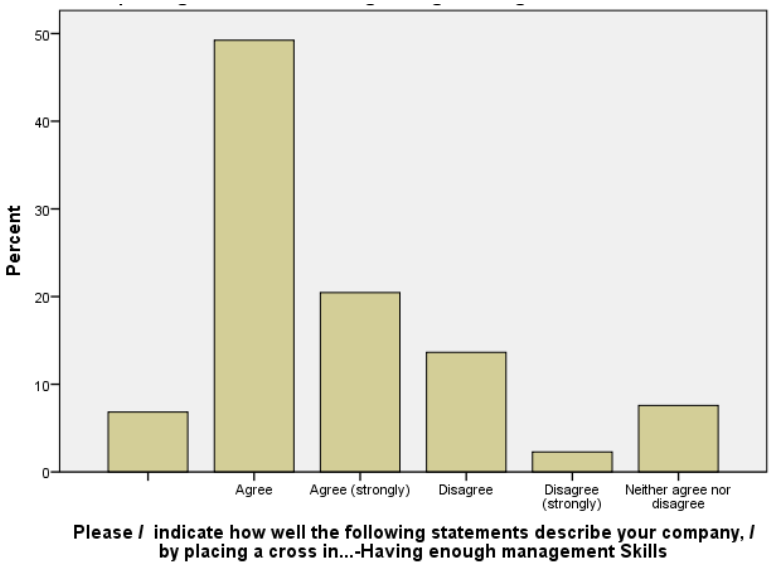



**Figure 13: Question 1 results**

Figure 14 illustrates results from Question 2. SMEs strongly believe that they have the technical expertise in their companies, this is represented by a total 71.9 percent indicating such with total n=95. Only 9.8 percent of the respondents believe that it they have minimal technical knowledge.

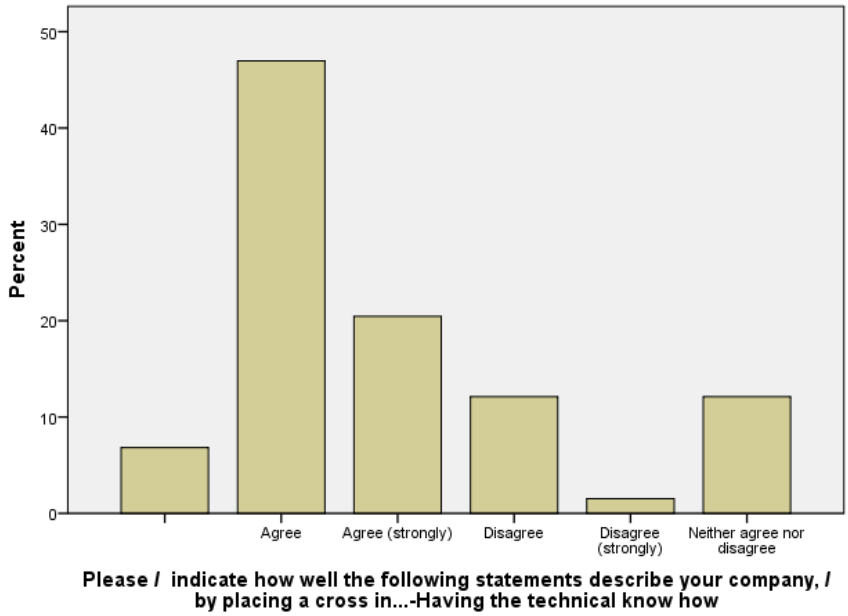



**Figure 14: Question 2 results**

In response to Question 3, two thirds of the respondents indicated that they believed they were conducting business in a professional way; however, 24.2 percent indicated that they are not professional in their business dealings.

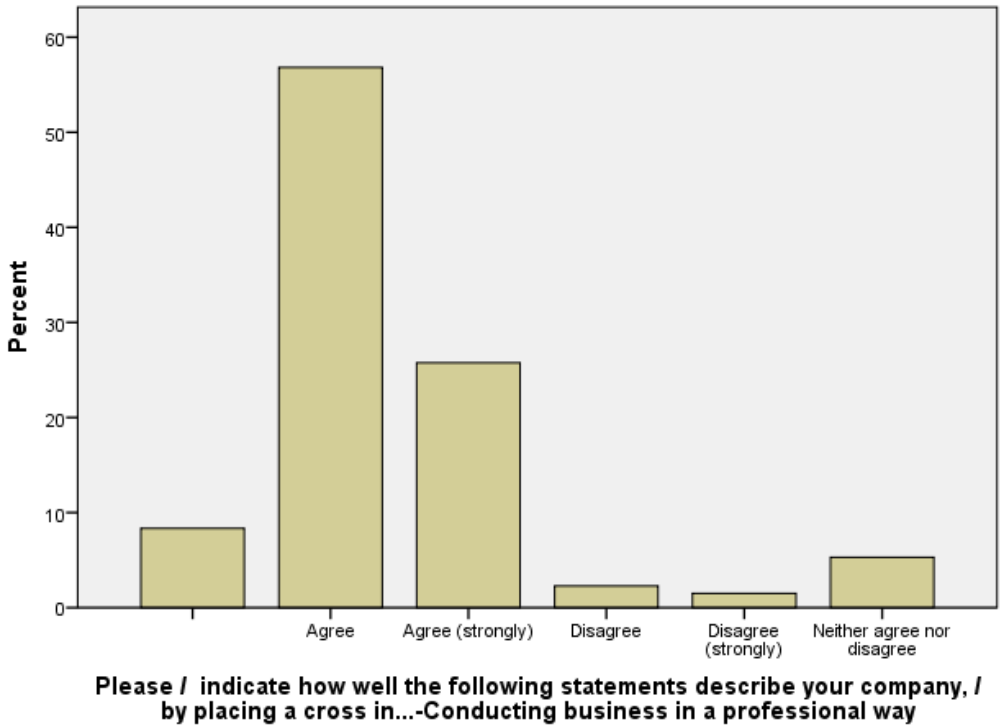



**Figure 15: Question 3 results**

In response to question 4, 74 percent of the respondents indicated that they have adequate technical stills to contribute to the opportunities provided by the mining MNEs.

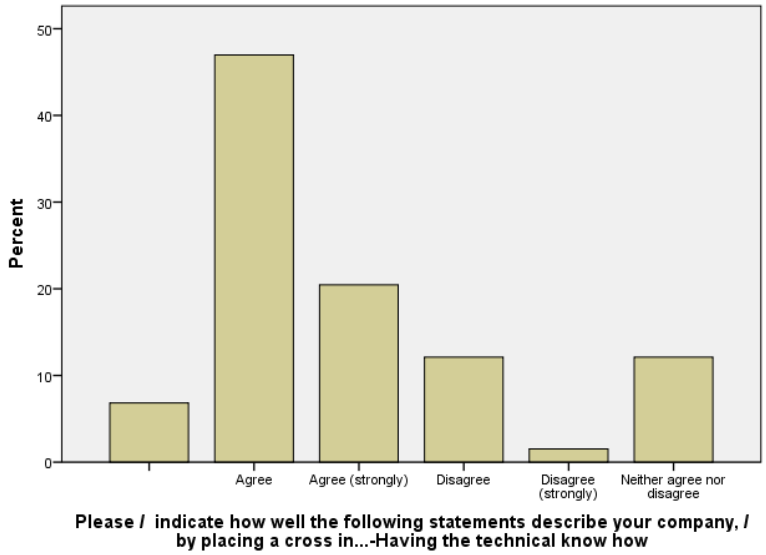



**Figure 16: Question 4 results**

When responding to Question 5, 82.6 percent indicated that they provided superior quality of service to their clients.

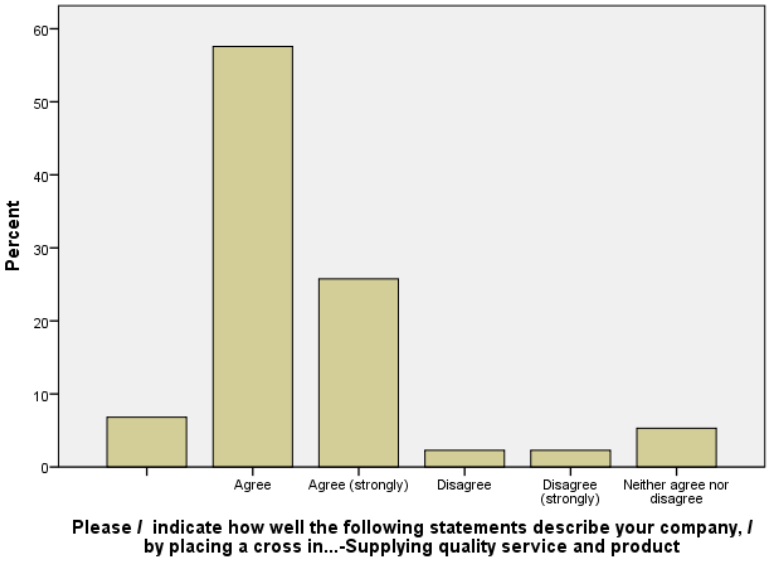



**Figure 17: Question 5 results**

In response to Question 6, 56.9 percent of the respondents believed that they had enough production capacity to provide quality services to the MNEs. A low number (2.4 percent) of respondents disagreed, however a high number of respondents were uncertain.

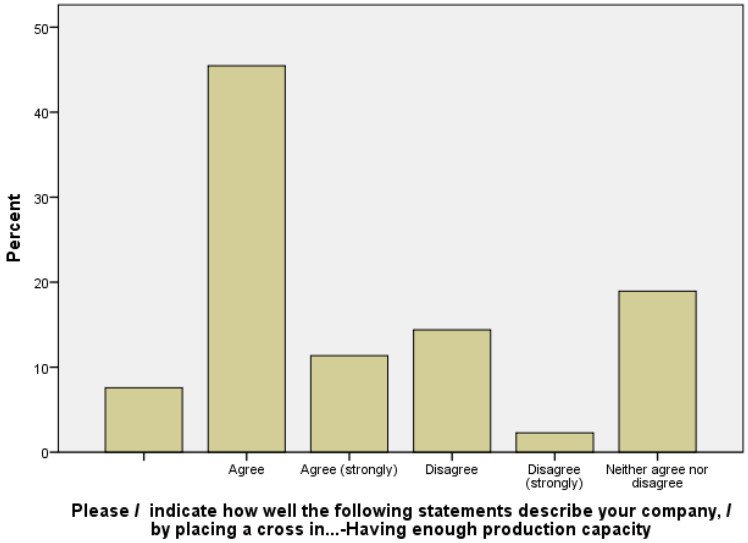



**Figure 18: Question 6 results**

Seventy percent of the responses to Question 7 indicated that SMEs had competitive prices when compared to their counterparts.

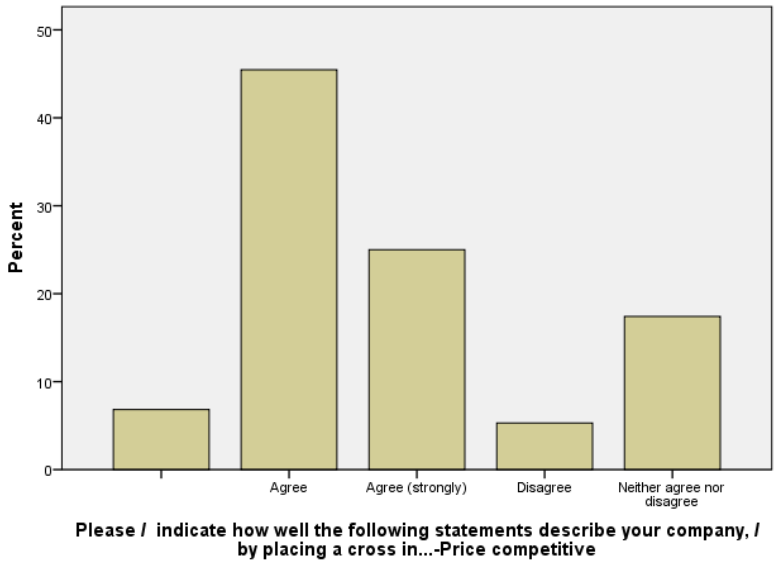



**Figure 19: Question 7 results**

In response to Question 8, 75 respondents (56.9 percent) indicated that they provide good quality product to the industry, however one quarter (25.8 percent) were neutral on the quality supplied.

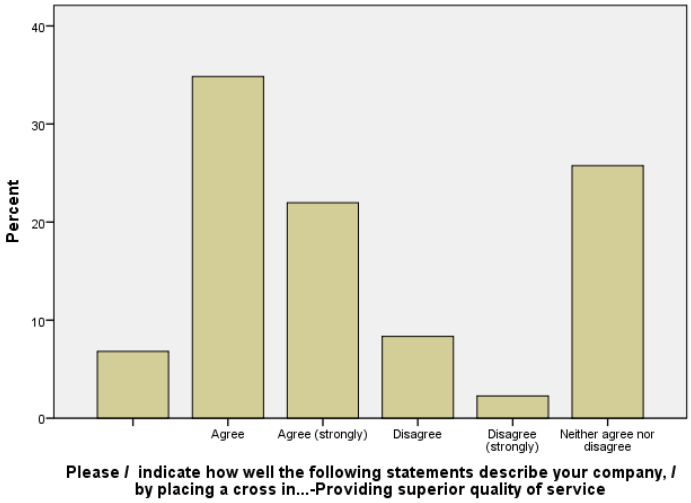



**Figure 20: Question 8 results**

Of respondents responding to Question 9, 55.3 percent believed that they were reliable when it comes to supply chain with the MNEs.

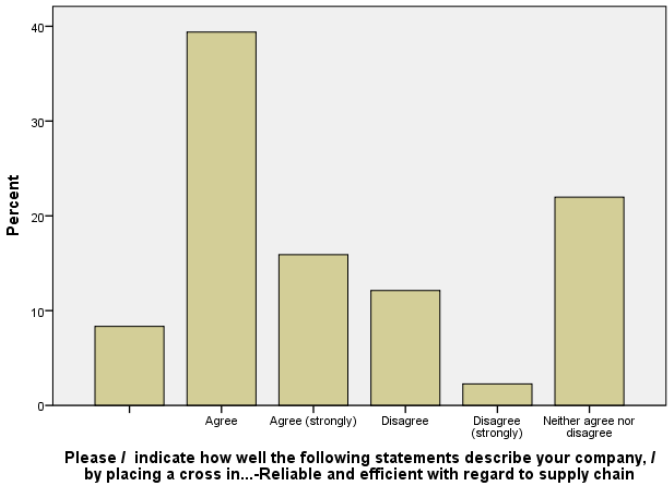



**Figure 21: Question 9 results**

Almost half (n=70, 53 percent) of the respondents participate in their local business ED provided by the surrounding mining operations, as asked in Question 10.

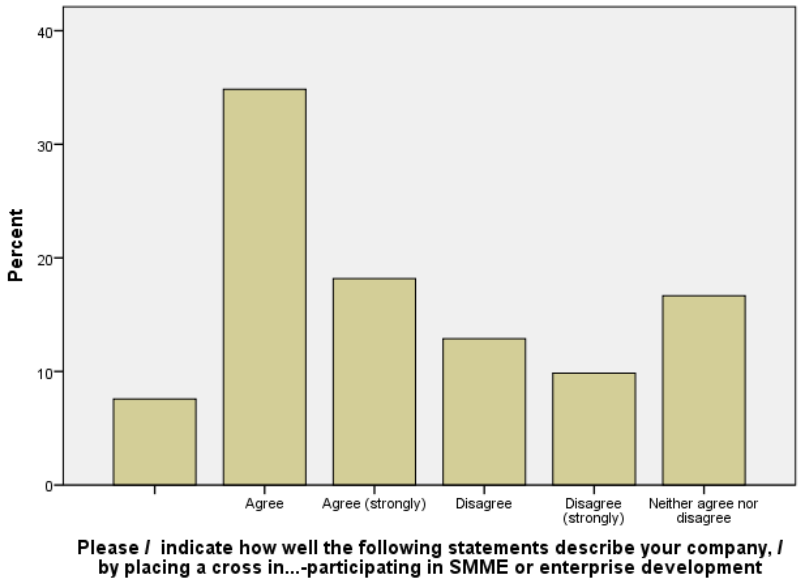



**Figure 22: Question 10 results**

In response to Question 11, 47 percent of the respondents believed that MNEs support SMEs in their procurement strategy. This represents n=62. Of the respondents 34.1 percent believed the opposite represented by n=45.

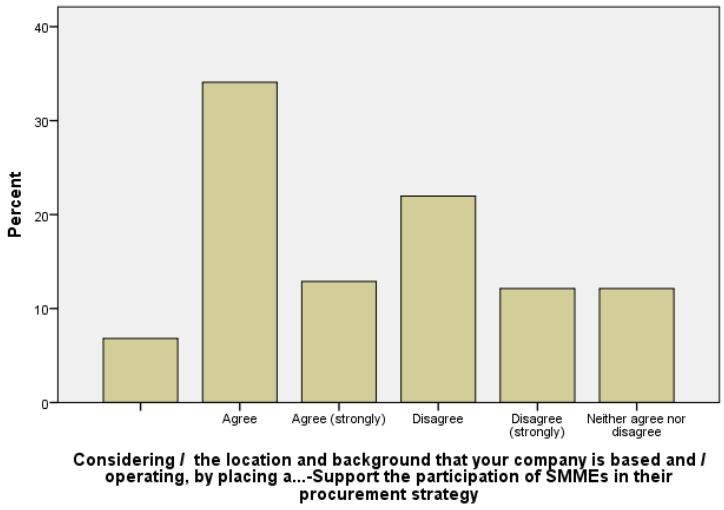



**Figure 23: Question 11 results**

Only 36.3 percent of the respondents agreed with Question 12, that the MNEs in the area engage with SMEs equally; however, 43,9 percent believe that MNEs do not engage equally with all SMEs in their area.

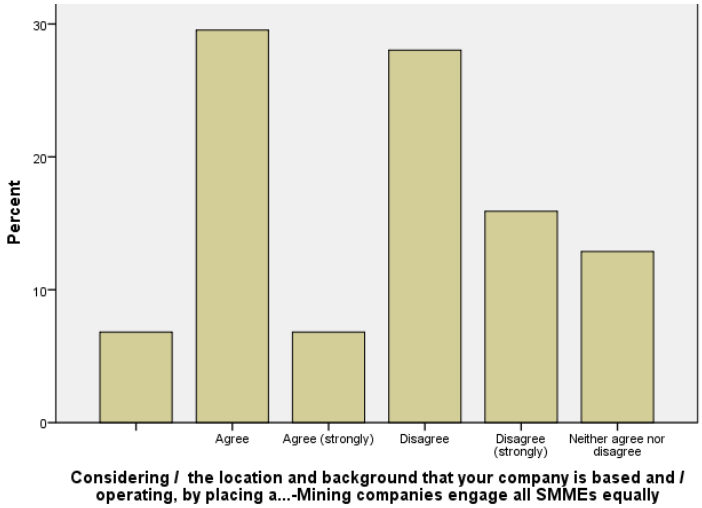



**Figure 24: Question 12 results**

In response to Question 13, almost half of the respondents (43.2 percent, n=57) believed that race still played a major role in the issuing of tenders from MNEs. However, substantial numbers of respondents (33.3 percent) neither agreed nor disagreed. They number n=44.

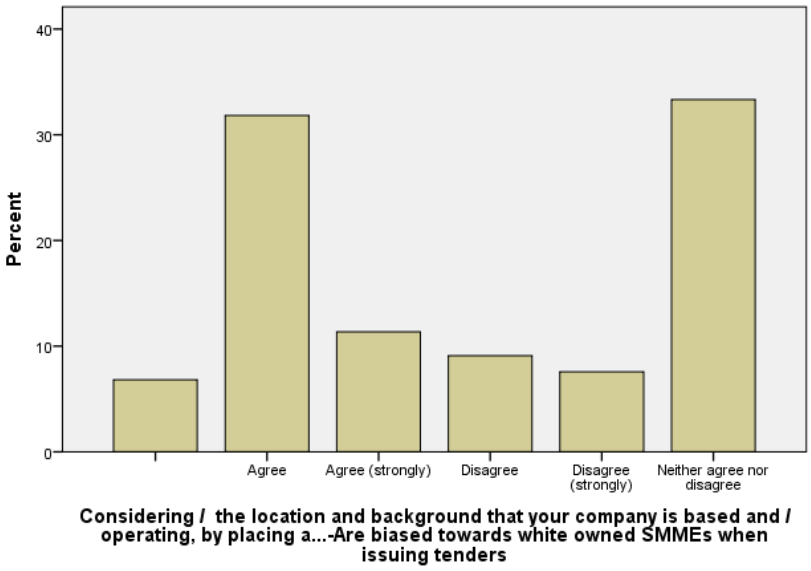



**Figure 25: Question 13 results**

The majority of respondents (42.4 percent, n=56) believed that MNEs made information available on the local database, this was countered by 26.5 percent

of the respondents believing that MNEs do not make an effort to make information available on the local database.

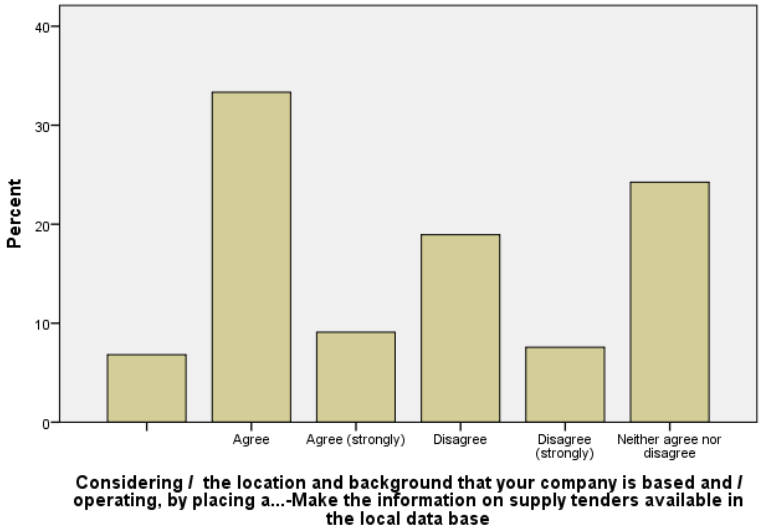



**Figure 26: Question 14 results**

Respondents numbering n=45 (41.7 percent) believed that the MNEs encouraged ED in the area, as asked in Question 15. Only 32 percent believed that no ED was encouraged by MNEs in the areas in which they operate.

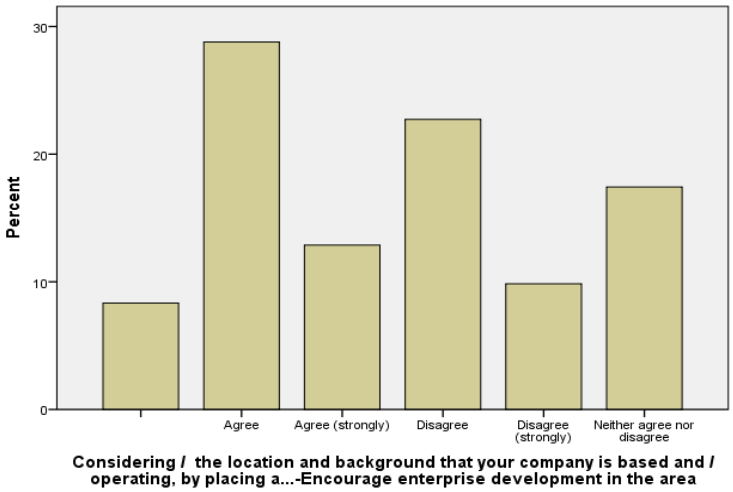



**Figure 27: Question 15 results**

In response to Question 16, n=77 (58.3 percent) believed that SME support was done to fulfil legislative requirement. Only 14.4 percent believed that MNEs genuinely engage in support of SMEs.

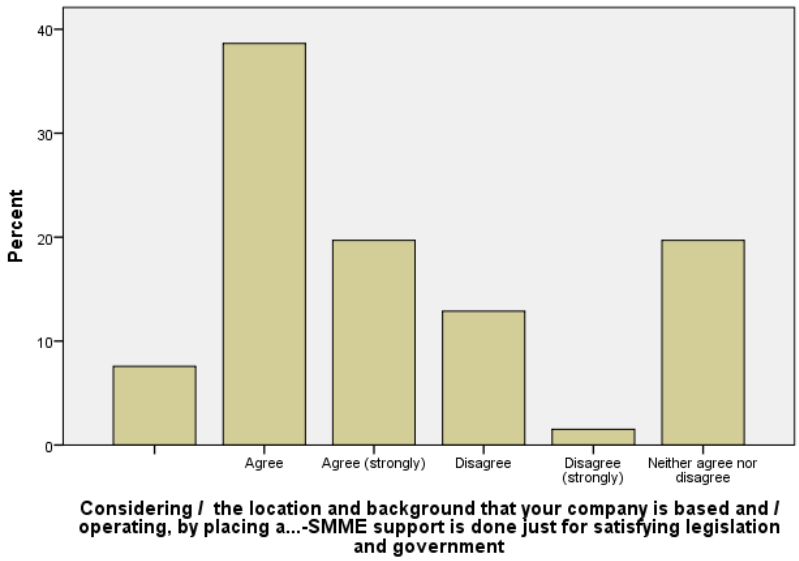



**Figure 28: Question 16 results**

## 4.4 Internal consistency and construct reliability

The questionnaire distributed was expected to contain four constructs, the first construct, resources, was represented by Questions 1 to 7, and formulated to measure the availability of resources within the SMEs. The second construct, service, represented by Questions 8 to 10, established the level of service provided by SMEs. This was followed by the third construct, environment, represented by questions 11, 12 and 15, and established the nature of the environment in which the SMEs operate. The last construct, racial bias, was represented by questions 13, 14 and 16, established if there was still racial bias in the supply chain within the mining industry. The output indicated that 67 percent cumulative variance is represented by four factors (Table 13).

**Table 13: Eigenvalues**

| Number | Eigenvalue | Percent | Cumulative Percent |
|---|---|---|---|
| 1 | 5.6957 | 35.598 | 35.598 |
| 2 | 2.4634 | 15.396 | 50.994 |
| 3 | 1.3044 | 8.153 | 59.147 |
| 4 | 1.205 | 7.531 | 66.678 |
| 5 | 0.9627 | 6.017 | 72.695 |
| 6 | 0.6849 | 4.281 | 76.976 |
| 7 | 0.6059 | 3.787 | 80.763 |
| 8 | 0.5484 | 3.428 | 84.191 |
| 9 | 0.5104 | 3.19 | 87.381 |
| 10 | 0.4223 | 2.64 | 90.02 |
| 11 | 0.3886 | 2.429 | 92.449 |
| 12 | 0.3552 | 2.22 | 94.669 |
| 13 | 0.2717 | 1.698 | 96.367 |
| 14 | 0.2456 | 1.535 | 97.902 |
| 15 | 0.1888 | 1.18 | 99.082 |
| 16 | 0.1468 | 0.918 | 100 |

The factor analysis conducted indicated that only four factors could be considered. However, the constructs were grouped into three, and had a minimum of three questions, which was acceptable to create robust constructs. The fourth factor is not obvious when analysing the scree plot (Figure 29), and although the Eigen value was greater than one, there were only two questions representing this construct, which was less that the required three questions. The factors identified were

[1] Resources, Questions 1 to 7;
[2] Environment, Questions 11, 12, 14 and 15; and
[3] Service, Questions 8 to 10.

The last factor was rejected as a construct since it only had two of the three required questions. Nevertheless, Questions 13 and 16 were analysed as individual questions. It should be noted that Question 10 was a cross loading factor, between service and environment, however the question is considered as a factor in service construct due to the rotated factor loading being higher on the service factor (0.55) compared to the loading factor on environment (0.50) (Table 14). The reason that Question 10 was considered a dual factor may have been that if the SME provided a better quality of services, then it would have more opportunity to participate in ED provided by supply chain departments in the mining industry and if the mining industry created an environment conducive for SMEs, they would participate in their ED.

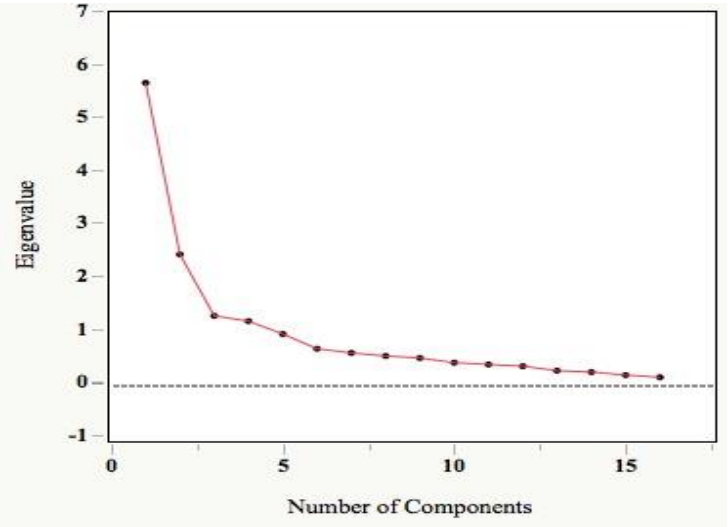



**Figure 29: Scree test plot**

**Table 14: Rotated factor loading**

| Question | Factor 1 Resources | Factor 2 Environment | Factor 3 Service |
|---|---|---|---|
| 1 | **.77** | .26 | .20 |
| 2 | **.69** | .19 | .31 |
| 3 | **.52** | .23 | .23 |
| 4 | **.45** | .09 | .06 |
| 5 | **.59** | -.10 | .15 |
| 6 | **.60** | .34 | .09 |
| 7 | **.60** | .00 | .23 |
| 8 | .45 | .02 | **.81** |
| 9 | .37 | .07 | **.51** |
| 10 | .21 | *.50* | ***.55*** |
| 11 | .00 | **.74** | .23 |
| 12 | .11 | **.90** | .23 |
| 13 | .03 | .26 | -.10 |
| 14 | .20 | **.79** | -.10 |
| 15 | .21 | **.76** | .18 |
| 16 | .27 | .04 | .24 |

Table 15 details the estimates of internal consistency measured by Cronbach's alpha. Resources and environment both have Cronbach's alpha of more than 0.8, which indicate strong internal consistency. Service has a Cronbach's alpha of 0.75, which is acceptable. According to Cooper and Schindler, (2011) a Cronbach's alpha of below 0.60 is very low and unacceptable, any figure from 0.6 to 0.8 is acceptable, however some scholars use a 0.7 cut off. The Cronbach's alpha for all three constructs were accepted.

**Table 15: Constructs Cronbach's alpha**

| Variables | Cronbach's alpha | Reliability |
|---|---|---|
| Construct 1: Resources | .83 | Good |
| Construct 2: Service | .75 | Acceptable |
| Construct 3: Environment | .88 | Good |

## 4.5 Test results of the research survey conducted

When analysing the final three constructs, their score was calculated by taking the average of all loaded items onto that factor for each participant.

- *Resources:* The mean of respondents are just a fraction more than the Likert scale median of three; for this construct Question 6 scored the lowest at 3.53 (I see my company as having enough production capacity) and the highest was Question 4 at 4.12 (I see my company as conducting business in a professional way). The average mean for the construct was 3.87 with a standard deviation of 1.06 (Table 16); this indicated that the perception of SMEs having adequate resources to provide quality service was high.
- *Environment:* The environment responses had an average mean of 3.07 with the lowest being Question 12 (Do you feel that mining companies in your area engage all SMEs equally) with a mean of 2.82. The highest scoring question in this construct was Question 14 (Do you feel that mining companies in your area make the information on supply tenders available in the local database) with a score of 3.19.
- *Service:* Service has an average mean of 3.58, out of this the lowest score of 0.58 above the scale mean of 3, was for Question 10 (My company participates in SME or ED). The highest mean in this construct was Question 8 (I see my company as providing superior quality of service).

**Table 16: Construct mean and standard deviation**

| Constructs | Mean | Std. Dev |
|---|---|---|
| Environment score | 3.07 | 1.06 |
| Resources score | 3.87 | 0.64 |
| Service score | 3.58 | 0.90 |

### 4.5.1 *Correlation analysis*

**Table 17: Nonparametric Spearman's: Income**

| Variable | Income | |
|---|---|---|
| | Spearman P | Prob>\|P\| |
| No. of employees | 0.7134 | <.0001* |
| Resources | -0.0762 | 0.4164 |
| Environment | 0.2434 | 0.0085* |
| Service | 0.2100 | 0.0236* |
| Question 13 | -0.1562 | 0.0940 |
| Question 16 | 0.1138 | 0.2260 |

**Table 18: Nonparametric Spearman's: Number of employees**

| variable | Number of employees | |
|---|---|---|
| | Spearman ρ | Prob>\|ρ\| |
| Income | 0.7134 | <.0001* |
| Resources | -0.0223 | 0.8208 |
| Environment | 0.1465 | 0.1340 |
| Service | 0.2501 | 0.0097* |
| Question 13 | -0.2248 | 0.0205* |
| Question 16 | 0.0102 | 0.9176 |

## Table 19: Statistical results: Construct 1

| Resources | Strongly disagree | | Disagree | | Neutral | | Agree | | Strongly agree | | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | % of Total | N | % of Total | N | % of Total | N | % of Total | N | % of Total | |
| Q1) Having enough management skills | 3 | 2.44% | 18 | 14.63% | 10 | 8.13% | 65 | 52.85% | 27 | 21.95% | 3.77 |
| Q2) Being able to attract the right skills | 2 | 1.63% | 11 | 8.94% | 15 | 12.20% | 72 | 58.54% | 23 | 18.70% | 3.84 |
| Q3) Having the technical know how | 2 | 1.63% | 16 | 13.01% | 16 | 13.01% | 62 | 50.41% | 27 | 21.95% | 3.78 |
| Q4) Conducting business in a professional way | 2 | 1.65% | 3 | 2.48% | 7 | 5.79% | 75 | 61.98% | 34 | 28.10% | 4.12 |
| Q5) Supplying quality service and product | 3 | 2.44% | 3 | 2.44% | 7 | 5.69% | 76 | 61.79% | 34 | 27.64% | 4.10 |
| Q6) Having enough production capacity | 3 | 2.46% | 19 | 15.57% | 25 | 20.49% | 60 | 49.18% | 15 | 12.30% | 3.53 |
| Q7) Price competitive | 0 | 0.00% | 7 | 5.69% | 23 | 18.70% | 60 | 48.78% | 33 | 26.83% | 3.97 |

## 4.6 Results pertaining to Proposition 1

Proposition 1 states:

- SMEs have adequate resources to participate in meaningful supply chain initiatives provided by mining industry.

This proposition was represented by Questions 1 to 7, and in order to provide robust results, a test for the mean against the Likert midpoint of 3 was conducted. The results indicated mean of 3.87.

When further exploring the questions, according to their level of importance as perceived by the respondents, Question 4 (I see my company conducting business in a professional way) was ranked the highest with a mean within construct of 4.12. The lowest ranking question was Question 6 (I see my company having enough production capacity) with an in-construct mean of 3.53 (Table 19). An average of 54 percent of the responses agree that they have enough resources to supply the mining industry, when combined with an average of 23 percent of the responses that strongly agree. The population that have adequate resources consisted of over 75 percent of the total respondents.

**Table 20: Nonparametric Spearman's: Construct 1**

| Variable | | Spearman ρ | Prob>\|ρ\| |
|---|---|---|---|
| Resources | Income | -0.0762 | 0.4164 |
| | Number of employees | -0.0223 | 0.8208 |

The number of employees and the total income measured performance or prosperity of the SMEs. When a Nonparametric Spearman's ρ analysis was conducted to examine whether there is a relationship between income and number of employees and prosperity of the SMEs, the results showed no relationship exists with income (ρ = -0.0762 with a P-Value = 0.4164). When the test was done against the number of employees (ρ = -0.0762 with a P-Value =

0.4164), it also showed no relationship. The negative value means that when the resources are low the income is high and vice-versa (Table 20).

Although the test results indicated that resources are not related to the prosperity of the SMEs, they did highlight the fact that SMEs have adequate resources to participate meaningfully in opportunities provided by the mining companies.

## 4.7 Results pertaining to Hypothesis 1

Hypothesis 1 stated:

- The quality of service and product supplied by SMEs to the mining industry is correlated with their prosperity.

This hypothesis argues that the quality of service and/or product supplied by most SMEs in the mining industry is correlated to their prosperity. This hypothesis was represented by questions 8, 9 and 10. The construct mean was 3.58; in this construct 39 percent of respondents believed that they provide better service to the mining industry, when combined with those who strongly agree they make up 60 percent of the response. When investigating further and ranking the question in level of importance, Question 8 (I see my company as providing superior quality of service) was the highest with an in-construct mean of 3.71 and the lowest was Question 10 (I see my company participating in SME or ED) with an in-construct mean of 3.42 (Table 22).

When a Nonparametric Spearman's ρ analysis was conducted to examine whether there was a relationship between service and income of the SMEs. The results showed that a signification relationship existed (ρ = 0.12434 with a P-Value = 0.0085). Figure 30 indicates that when the service provided is of superior quality the income of the SME increased and by implication its prosperity. The test also indicated a strong relationship between quality of service and product and the number of employees (ρ = 0.250 with a P-Value = 0.0097). However, Figure 31 indicates that that when the service provided was of superior quality the more employees the SME employs.

The test indicated that there was a significant relation between services and both number of employees and income of the SMEs, therefore Hypothesis 1 was accepted.

**Table 21: Nonparametric Spearman's: Construct 2**

| Variable | | Spearman ρ | Prob>\|ρ\| |
|---|---|---|---|
| Service | Income | 0.2100 | 0.0236* |
| | No. of Employees | 0.2501 | 0.0097* |

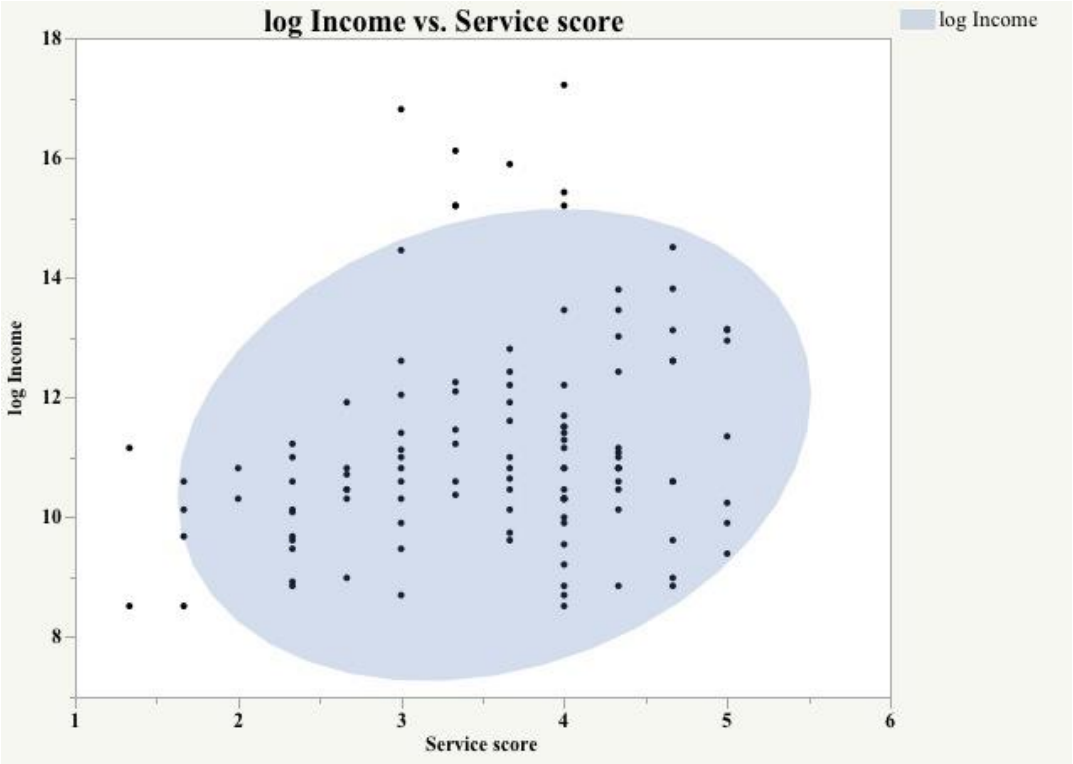



**Figure 30: Income versus service**

## Table 22: Statistical results: Construct 2

| Service | Strongly disagree | | Disagree | | Neutral | | Agree | | Strongly agree | | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | % of Total | N | % of Total | N | % of Total | N | % of Total | N | % of Total | |
| Q8) Providing superior quality of service | 3 | 2.40% | 11 | 8.90% | 34 | 27.60% | 46 | 37.40% | 29 | 23.60% | 3.71 |
| Q9) Reliable and efficient with regard to supply chain | 3 | 2.50% | 16 | 13.20% | 29 | 24.00% | 52 | 43.00% | 21 | 17.40% | 3.6 |
| Q10) participate in SME or enterprise development | 13 | 10.70% | 17 | 13.90% | 22 | 18.00% | 46 | 37.70% | 24 | 19.70% | 3.42 |




**Figure 31: Employee numbers versus service**

## 4.8 Results pertaining to Hypothesis 2

Hypothesis 2 states:

- The environment of SMEs is positively correlated with its prosperity.

This hypothesis argues that the environment of an SME is correlated with SME prosperity in relation to the supply chain within the mining industry. This hypothesis was represented by Questions 11, 12, 14 and 15 with a construct mean of 3.07 and for Question 14 (Do you feel that mining companies in your area encourage ED) an in-construct mean of 3.19, the lowest being 2.82 for Question 12 (Do you feel that mining companies in your area engage all SMEs equally).

**Table 23: Nonparametric Spearman's: Construct 3**

| Variable | | Spearman ρ | Prob>\|ρ\| |
|---|---|---|---|
| Environment | Income | 0.2434 | 0.0085* |
| | Number of Employees | 0.1465 | 0.1340 |

This study predicted that environment had a positive impact on the development of SMEs, and correlated with prosperity. For the most part, this hypothesis was supported.

The results showed that a relationship existed between income and environment (ρ = 0.12434 with a P-Value = 0.0085), thus reflecting a significant relationship. The test also indicated that no relationship existed between environment and number of employees (ρ = 0.1465 with a P-Value = 0.1340). However, Figure 32 indicates that when SMEs were in a favourable environment the income increased.

Although the test indicated that environment is not related to the number of employees in the SME, it showed that there was a significant correlation between environment and income, therefore Hypothesis 2 was accepted.

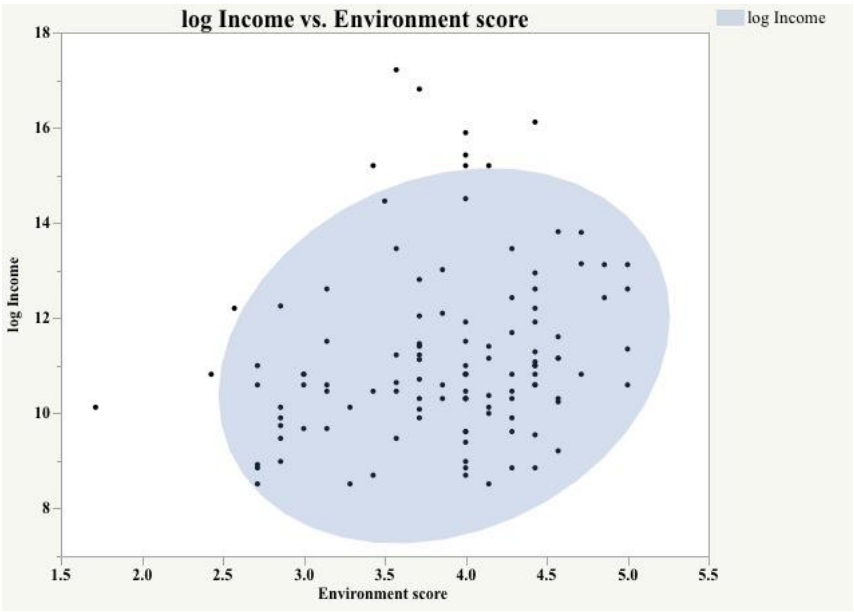



**Figure 32: Income versus environment**

## Table 24: Statistical results: Construct 3

| Environment | Strongly disagree | | Disagree | | Neutral | | Agree | | Strongly agree | | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | % of Total | N | % of Total | N | % of Total | N | % of Total | N | % of Total | |
| Q11) Support the participation of SMEs in their procurement strategy | 16 | 13.01% | 29 | 23.58% | 16 | 13.01% | 45 | 36.59% | 17 | 13.82% | 3.15 |
| Q12) Mining companies engage all SMEs equally | 21 | 17.07% | 37 | 30.08% | 17 | 13.82% | 39 | 31.71% | 9 | 7.32% | 2.82 |
| Q14) Make the information on supply tenders available in the local data base | 13 | 10.74% | 30 | 24.79% | 23 | 19.01% | 38 | 31.40% | 17 | 14.05% | 3.19 |
| Q15) Encourage enterprise development in the area | 10 | 8.13% | 12 | 9.76% | 44 | 35.77% | 42 | 34.15% | 15 | 12.20% | 3.13 |

## 4.9 Results pertaining to Proposition 2

Proposition 2 states:

- Discrimination by MNEs is correlated with the prosperity of the SMEs.

This proposition was represented by Question 13 (Do you feel that mining companies in your area are biased towards white owned SMEs when issuing tenders). Only 10 percent of the respondents strongly agreed that there was bias, and when combined with the respondents that agreed (36 percent) the total percentage of the responses that agreed was 46 percent. However, a high percentage of respondents disagreed (28 percent) and the respondents that were neutral comprised 26 percent.

**Table 25: Nonparametric Spearman's: Construct 4**

| Variable | | Spearman ρ | Prob>\|ρ\| |
|---|---|---|---|
| Question 13 | Income | -0.1562 | 0.094 |
| | No. of Employees | -0.2248 | 0.0205* |

The results showed that there was no relationship between income and racial bias (ρ = -0.1562 with a P-Value = 0.094), thus reflecting a negative relationship. The test also indicated that no relationship between racial bias and number of employees existed (ρ = -0.225 with a P-Value = 0.0205).

The test indicated a significant number of respondents that believed that there is bias. However, the results also indicated that there was no relationship between racial bias and the prosperity of the SMEs.

## Table 26: Statistical results: Construct 4

| Racial Bias | Strongly disagree | | Disagree | | Neutral | | Agree | | Strongly agree | |
|---|---|---|---|---|---|---|---|---|---|---|
| | N | % of Total | N | % of Total | N | % of Total | N | % of Total | N | % of Total |
| Q13) Are biased towards white owned SMEs when issuing tenders | 10 | 8.13% | 25 | 20.33% | 32 | 26.02% | 44 | 35.77% | 12 | 9.76% |
| Q16) SME support is done just for satisfying legislation and government | 2 | 1.64% | 17 | 13.93% | 26 | 21.31% | 51 | 41.80% | 26 | 21.31% |

## 4.10 Conclusion

The study was conducted with a sample of 132 SMEs; 74 percent of the SME's were black-owned and 17 percent white-owned. This statistic was important to understand the pattern of responses to Questions 13 and 16.

The independent variables were ascertained by conducting a factor analysis and Cronbach's alpha reliability tests, and were found to be highly reliable.

The statistical result for Proposition 1, although weak shows a correlation between resources and income of the SMEs.

There is a strong result for Proposition 2, a positive relationship between services and the income of the SMEs exists.

Hypothesis 1 tests showed a strong relation between environment and the income of the SME.

The last construct of racial bias was only represented by one question, and the result indicated that a high percentage believed there was bias.

The study indicated that resources, service quality and environment played a significant role in the success of SMEs.

Due to time constraints, the pilot survey was not conducted. The results of the survey measured the targeted factors with the exception of the fourth construct (racial bias), which did not form a full construct because it had only two questions. The survey reflected the propositions and hypotheses in question. Chapter 5 discusses in detail the results obtained and the relation to the hypotheses.

# CHAPTER 5. DISCUSSION OF THE RESULTS

## 5.1 Introduction

The aim of this chapter is to present the results discussion for the analyses conducted on the data gathered. These analyses were conducted based on the propositions and hypotheses presented. This chapter highlights the results of the study with regard to the literature review thus establishing if there was support from theory.

The chapter first discusses the results from Proposition 1 (SMEs have adequate resources to participate in meaningful supply chain initiatives provided by the mining industry); the dominant literature will be that of Rogerson (2012), Herrington and Overmeyer (2006); Turton and Herrington (2012), Olawale and Garwe (2010) and Smit and Watkins (2012).

This is followed by the first hypothesis (The quality of service and product supplied SMEs to the mining industry is correlated their prosperity); the dominant literature will be that of Rogerson (2012), Herrington and Overmeyer (2006) and Turton and Herrington (2012).

The second hypothesis (the environment of an SME is correlated to SME performance relating to supply chain with the mining industry) is then discussed with the dominant literature being that of Mahadea and Pillay (2008), Delmar and Wilkind (2008), Fatoki and Asah (2011), Gaviria (2001) and Turton and Herrington (2012).

Lastly the second proposition (the racial bias in the mining industry is associated to the prosperity of the SMEs) is discussed and supported by literature from Ntsika Enterprise Promotion Agency (1997), Eweje (2005) and Shah and Ram (2006).

## 5.2 Discussion pertaining to Proposition 1

This proposition was represented by Questions 1 to 7 and in order to provide robust results, a test for the mean against the Likert midpoint of three was conducted. The results indicated a mean of 3.87. For this construct more that 70 percent of respondents indicated having adequate resources to participate in a meaningful way in opportunities provided by the mining industry.

Although the nonparametric test showed no significant relationship between resources and income, and resources and number of employees, Urban and Naidoo (2012) and Austin, Stevenson and Wei-Skillerm (2006) stressed the importance of resources such as management and technical skills, and industry competence as crucial to the success of the SME.

## 5.3 Discussion pertaining to Hypothesis 1

This hypothesis was represented by Questions 8 to 10. When the mean of this construct was tested against the Likert scale midpoint of three it resulted in a score of 3.58, which is slightly in excess of three, which means SMEs in general, do provide good quality service and product. This is further supported by the results of the service and product quality comparison, which indicated that 59.6 percent of SMEs believe that they provided an adequate quality of service and product. This supported Herrington and Overmeyer's (2006) theory that through institutions such as CHAMSA, SMEs have tried to improve their service and product quality. However, 40.4 percent disagreed to supplying quality service and product, which posed a challenge to the mining MNEs.

This is highlighted by Islam, Mian and Hasmat Ali (2008, as cited in Chittithaworn, Islam, Kkeawchana & Yusuf, 2011) who stated that some of the problems that MNEs have with the SMEs is their service and product quality, and their professionalism, which is part of service quality. Herrington and Overmeyer (2006) state the importance of reliability in the context of service quality.

When a nonparametric Spearman's test was conducted the results indicated a high correlation between service and income (ρ=0.12434 with a P-value = 0.0085), and service and number of employees (ρ=0.250 with a P-value = 0.0097). The hypothesis is also supported by Rogerson (2012) who indicated that service and product quality plays an important role in the success of SMEs.

South Africa followed the example of countries such as the USA, which established institutions such as NMSDC and established the SAIBL, which was meant to enable integration of the SMMEs. Cant and Erdis (2005) support the importance of service and product quality; and its influence on the success of the company by highlighting the initiatives by institutions such as CHAMSA that were created to support SMEs.

## 5.4 Discussion pertaining to Hypothesis 2

Pertaining to Hypothesis 2, when a construct mean is more than that of Likert midpoint of three means that SMEs perceive that environment is correlated to the prosperity of the SME. The mean of construct 3 was calculated to be 3.97 and a p=0.0001 indicated a strong correlation. There was also a correlation between service and the environment (0.60).

This is supported by Cuss (2003), who states that a number of micro-environmental issues (location, electricity rates, employment and rental rates) can influence decisions by business owners, involving location, employment etcetera. Delmar and Wiklund (2008) emphasised the point made by Cuss (2003) that environment has a great impact on the prosperity of SMEs. Dahl and Sorenson (2007) further argued that most important is the geographical position, which in turn dictates the proximity to customers and suppliers. Kritzinger and Kruger (2011) urged business to acquaint themselves with the location and the impact thereof on their business.

This also related to the surveyed population, almost 45 percent of the respondents believed that environment plays an important role in the success of their SMEs, this is represented by SMEs with tenure of between under one year

to five years. These SMEs are impacted by factors such as labour cost, Mahadea and Pillay (2008) argued that South African legislation that set minimum salaries and working hours for employees makes it difficult for SMEs to afford labour, therefore forcing them to be uncompetitive. The GEM (2012) report stated that labour efficiency in South Africa is the worst in terms of restrictive labour regulation.

However, 34 percent of the respondents say that environment has no impact on their business. When further analysis was done, it was established that most of these respondents (26 percent) have business tenure of more than five years (Figure 8). These SMEs are already established and can take advantage of factors such as location and rental rate, because the rental of premises in remote areas is cheaper and they are established enough to attract employees in remote areas.

## 5.5 Discussion pertaining to Proposition 2

Although the question for this hypothesis did not form a construct, Question 13 (do you feel that mining companies in your area are biased towards white owed SMEs when issuing tenders) was used to determine this proposition.

Although the statistics indicated that a significant number of respondents believed that there is racial bias (45 percent) a relationship with prosperity could not be established. The 45 percent of SMEs that believe there is bias are supported by Herrington and Overmeyer (2006) who indicated that some of the reasons provided for the high failure of SMEs is lack of support from MNEs and a presence of pockets of discrimination, which still exist in MNEs. This view is supported by Shah and Ram (2006), who state that MNEs retaining their known suppliers may be due to long-established networks or that some of these networks are designed to exclude black-owned business.

## 5.6 Conclusion

This chapter summarises the results of research on SMEs, presented in Chapter 4. The literature supports the first proposition, that resources are empirical to the success of the SME; however, no relationship between successes factors (income and number of employees) and resources exists.

The results indicated the support of Hypothesis 1, and literature is in support of the relationship between the quality of service and product, and the success factors. This is further supported by literature from Rogerson (2012).

Hypothesis 2 was significant in relation to both success factors and was supported by the literature (Cuss, 2003; Maheadea & Pillay, 2008; Olawale & Garwe, 2010).

The last proposition, although there was no adequate statistical support, literature from scholars Eweje (2005) and Shah and Ram (2006) support this proposition.

Finally, results presented provided sufficient information to establish whether resources, quality and environment play a major role in prosperity of the SMEs and contains enough to provide the conclusions and recommendations for future research and study as presented in the next chapter.

# CHAPTER 6. CONCLUSIONS AND RECOMMENDATIONS

## 6.1 Introduction

The purpose of this study was to determine the importance of factors such as resources, service and product quality, and the environment for the SMEs. It provided empirical and theoretical information to furnish an understanding of the main internal and external factors that limit SMEs success.

Furthermore, the study distilled the perceptions that SMEs have of themselves regarding their performance and the contribution made to ED within the South African mining industry. It also sought to establish the reasons for the perception that the mining companies are hesitant to engage in business with SMEs.

This chapter provides a sum-up of the overall research, which begins with the overview of the literature review in relation to the hypotheses and propositions presented. This is followed by the results summary, which pulls together all the findings of the research and the impact on the literature provided. The third part of the chapter discusses implications of the research, followed by a summing up of the limitations of the study and the recommendations for further research. The chapter closes with policy recommendations and an overall conclusion of the research.

## 6.2 Overview of literature

South Africa needs to stimulate the economy to enable it to grow thus creating an environment that encourages entrepreneurship and leads to successful SMEs. SMEs play an important role in the economy of South Africa; they are the remedy to the high unemployment. Luiz (2002), Olawale and Garwe (2010) and Rwigema and Karungu (1999) concurred that SMEs contribute 56 percent to unemployment and 36 percent to the economy overall. Hence, the government of South Africa incorporated SMEs into the ED component of B-BBEE (Maas & Herrington, 2006).

Although SMEs are recognised as the panacea for South Africa's ill economy and employment, they face challenges. The failure rate of many start-ups is as high as 75 percent and those that survive do not grow to become formidable companies (Brink et al., 2003), which is attributed to resources (skills, management know how, training and technical knowledge) (Rogerson, 2008).

The second contributor to the failure of SMEs is perceived to be their service and product quality, and reliability (Rogerson, 2012). Institutions, such as the SAIBL, have been established to create links between SMEs and MNEs through initiatives such as the certification of products before they are sold to the MNEs (Herrington & Overmeyer, 2000).

The third contributor to SMEs failure was the environment in which they operate, including the internal and external environment. Cuss (2003) discussed the location of the SME as the aggravating factor for the success of the SME; this is in addition to factors such as funding, legislation, inflation and interest rates. For the SME to grow there is a need to strengthen both the internal and external environment (Beck & Demirguc-Kunt, 2006, as cited in Olawale & Garwe, 2010).

The last factor that may contribute to the failure of SMEs is seen as racial bias of mining MNEs when issuing tenders. Eweje (2005) stated that the mining industry had a reputation of doing little when it comes to supporting SMEs and the reason provided for this was because of pockets of discrimination that still exists (Herrington & Overmeyer, 2006).

## 6.3 Summary of results

The results of the research are summed up in a Table 27.

**Table 27: Research findings summary**

| | Results |
|---|---|
| N | 132 |
| Number of provinces represented | 8 (Gauteng, Mpumalanga, Limpopo, North West, Northern Cape, Western Cape, Free State, KwaZulu-Natal) |
| Gender | 615 male, 32 percent female, 7 percent of the respondents did not indicate their gender |
| Age distribution | 23 to 67 years |
| Cronbach's Alpha | Resources: 0.83<br>Service: 0.75<br>Environment: 0.88 |
| Construct Mean | Resources: 3.78<br>Service: 3.58<br>Environment: 3.07 |
| Construct nonparametric test | *Resources*: No relationship was found between income, number of employees and resources; however, the majority of respondents believed that they had adequate resources to participate in all opportunities provided by mining companies.<br>*Service:* A high correlation between income, number of employees and service provided by SMEs was found; meaning, when the service and the product is good there is a better chance of the SME receiving more orders and therefore prosperity.<br>*Environment:* Two sets of results were established on this hypothesis; first, a very high correlation was found between income and environment, and second, no correlation was found between the number of employees and environment.<br>*Racial bias:* No relationship was found between racial bias and both income and number of employees. A marginal percentage of respondents indicated that there was bias practiced by mining MNEs. |

## 6.4 Research implications

Even though the research was prepared carefully, there were limitations and shortcomings that were considered.

- The research was conducted over a short period, which limited the number of respondents since there was no time to engage more SMEs. It would have been better if done over a longer time.
- Since the questionnaire was designed to measure the SMEs readiness to participate in a meaningful way in the mining industry, it did not provide enough evidence of the reaction of mining companies towards the SMEs.

## 6.5 Limitations

The scale was a self-report instrument and some respondents may have had some difficulty in understanding some of the questions. The manner in which some of the questions were answered was incorrect in spite of clear instructions provided in the questionnaire. This led to some respondents answering the same question twice, rendering their responses void and such responses were discarded.

The sample used in this research was described in Chapter 3, and indicated that it was a convenience sample, accessed within the South African context. Due to this, the sample may not represent the whole population of SMEs; therefore, this research must be approached with caution and the interpretation of the results and data should be limited to the SMEs in the mining industry.

## 6.6 Recommendations of future research

The study had opportunities that may be suitable for further research. The research data was collected directly from SMEs in the mining industry; therefore, it does not represent the view of all SMEs. Future research could be conducted with the aim of including all SMEs.

The research found a negative correlation between SME resources and prosperity; this is in contradiction with the available literature. Previous research by scholars such as Smit and Watkins (2012), Rogerson (2008) and Austin, Stevenson and Wei-Skellerm (2006) indicated that lack of resources such as

skills, management knowledge the knowledge of the industry that SMEs operate in play a major role in their success or failure. This needs to be followed-up to establish the cause of the contradiction. This contradiction may be caused by the construct formulation since the pilot study was not conducted due to time constraints. Future studies could formulate constructs with more direct questions.

The study investigated the SMEs in the mining industry, which provided a perspective from the SMEs. A study to investigate how the mining industry perceives SMEs and their performance is needed to establish a perspective from the mining industry. This will provide a balanced view of the challenges faced by both entities, thus enabling both entities to make adjustments accordingly to leverage on each other's strengths and grow the economy.

This study investigated challenges from the SMEs in relation to the mining MNEs in South Africa; however, an investigation needs to be done where SMEs are investigated to establish the support they provide each other. This will provide an insight into the cooperation and collaboration that SMEs can offer to alleviate issues such as lack of resources thus enabling them to participate meaningfully in the industry.

## 6.7 Conclusion

For the economy of South Africa to grow and create jobs that are required to alleviate poverty, SMEs need to be encouraged (Smit & Watkins, 2012). SMEs play an important role; it is estimated that in South Africa their contribution amounts to 56 percent on employment and 36 percent direct contribution to the economy (Luiz, 2002; Olawale & Garwe, 2010; Rwigema & Karungu, 1999).

The main purpose of this study was to determine the importance of factors such as resources, service and product quality; and the environment for the SMEs. This provided further empirical and theoretical information, which presented an understanding of the main internal and external factors that limit SMEs success. This was done through a quantitative study of the SMEs operating within the

mining industry of South Africa. Two hypotheses and two propositions were developed to investigate these challenges.

The research further analysed the impact of resources, services, environment and racial bias on the prosperity of the SMEs. The results showed the positive effect of resources, service and environment on the prosperity of the organisation. However, there was no relationship between racial bias and prosperity. The results of this research highlighted some important issues with regard to the challenges that SMEs face. These include, but not limited to, lack of skills, industrial knowledge and location of the SME (Maas & Herrington, 2006), which is compounded by the perceived performance of the SMEs in terms of their quality and professionalism.

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# APPENDIX A

## Research Instrument

Dear Sir/ Madam,

My name is Mugiya Leon Sithole and I am Master Degree candidate at Wits Business School, University of the Witwatersrand, Johannesburg. The title of my Masters dissertation is: The relation between service and product quality, environment and the prosperity of SME's or enterprise development in South Africa. Specifically, I am interested in understanding the interaction between SME's and large corporates with regard to quality of product and service and demographics.

South African unemployment was reported to be an all-time high of 25.5 percent. This problem can be or mitigated by having an environment that encourages Small, Medium and micro-sized Enterprise (SMEs) growth. As part of the SME community, you deal with trials and tribulations of doing business with large mining companies. I would like to understand your interaction with the various large mining companies in South Africa.

As a result, I am engaged in research in order to understand the SMEs perception of the relation between service quality, environment and demographics when dealing with mining companies. The research forms part of my Masters in Management in Entrepreneurship and Venture Creation, your valued responses will assist me.

This Survey is entirely anonymous and any information attained from the survey will only be used for my research. No individual person or an organization will be affected in any way by your responses. I hope, however, at the end of the research, to be able to derive an understanding of the link between SMEs and large mining companies.

The study was approved unconditionally by the Human Research Ethics Committee (non-medical) of the University of the Witwatersrand, Johannesburg. Should you have any queries relating to the research, please feel free to contact me on 082 364 2236 or Leon.Sithole@Maracoal.com. Alternatively, you can contact my supervisor, Dr Robert Venter, on 084 580 7587 or robert.venter@wits.ac.za. You may additionally direct any requests for copies of the results to me on the aforementioned numbers.

You can, however, opt out if you feel unable to continue with this survey.

Thank you in anticipation for your time and attention.

Mugiya Sithole

## Questionnaire

Please indicate how well the following statements describe your company, by placing a cross in each line, 1 (strongly disagree) and 5 (strongly agree).

I see my company as;

| Resources | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree |
|---|---|---|---|---|---|
| Having enough management skills | 1 | 2 | 3 | 4 | 5 |
| Being able to attract the right skills | 1 | 2 | 3 | 4 | 5 |
| Having the technical know how | 1 | 2 | 3 | 4 | 5 |
| Conducting business in a professional way | 1 | 2 | 3 | 4 | 5 |
| Supplying quality service and product | 1 | 2 | 3 | 4 | 5 |
| Having enough production capacity | 1 | 2 | 3 | 4 | 5 |
| Price competitive | 1 | 2 | 3 | 4 | 5 |
| Providing superior quality of service | 1 | 2 | 3 | 4 | 5 |
| Reliable and efficient with regard to supply chain | 1 | 2 | 3 | 4 | 5 |
| Participate in SME or enterprise development | 1 | 2 | 3 | 4 | 5 |

Considering the location and background that your company is based and operating, by placing a mark in an appropriate place.

Do you feel that mining companies in your area;

| Environment | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree |
|---|---|---|---|---|---|
| Support the participation of SMEs in their procurement strategy | 1 | 2 | 3 | 4 | 5 |
| Mining companies engage all SMEs equally | 1 | 2 | 3 | 4 | 5 |
| Are biased towards white owned SMEs when issuing tenders | 1 | 2 | 3 | 4 | 5 |
| Make the information on supply tenders available in the local data base | 1 | 2 | 3 | 4 | 5 |
| Encourage enterprise development in the area | 1 | 2 | 3 | 4 | 5 |
| SME support is done just for satisfying legislation and government | 1 | 2 | 3 | 4 | 5 |

Considering your company background and ownership please answer the following descriptive questions and where relevant by placing a cross in an appropriate place;

1.1 Your age in years: _____ Years

1.2 Your gender:

Female ❑ Male ❑

1.3 What is your home language? _____

1.4 What is your ethnicity?

| | | | |
|---|---|---|---|
| Afrikaans | ❑ | Tsonga | ❑ |
| English | ❑ | Tswana | ❑ |
| Ndebele | ❑ | Venda | ❑ |
| Northern Sotho | ❑ | Xhosa | ❑ |
| Southern Sotho | ❑ | Zulu | ❑ |
| Swazi | ❑ | Other (please list) | |
| | | _____ | |

1.5 What is your highest level of education:

| | | | |
|---|---|---|---|
| some primary school | ❑ | primary school completed (grade 7/standard 5) | ❑ |
| some high school | ❑ | high school completed (grade 12/matric) | ❑ |
| short programme completed | ❑ | diploma/degree completed | ❑ |
| post graduate qualification completed | ❑ | | |

1.6 Where is your business located? (please list area)
_____

1.7 How long have you been running this business?

| | | | | | |
|---|---|---|---|---|---|
| Less than 1 year | ❑ | 1-5 years | ❑ | More than 5 years | ❑ |

1.8 Is this your first business?

Yes ❑ No ❑

a. If no, how many businesses have you previously started? _____

1.9 How many people do you employ?
_____

a. How many of your employees are full time? _____
b. How many of your employees are part time? _____
c. How many of your employees are family members? _____

1.10 Indicate where your business operates: (select only one option)

a. On the street ❑
b. In a metro mall ❑
c. At a taxi rank ❑
d. In a craft market ❑
e. At home or at a friend's home ❑
f. From a container or caravan ❑
g. In a formal building ❑
h. Other (where your business operates from ***if*** you haven't ticked any of the above):

_____

1.11 What is your average monthly turnover (in rands)? R
_____

1.12 How did you finance the start-up of your enterprise? (You may tick more than one if applicable)

a. Bank loan ❑
b. Loan from family ❑
c. Loan from friend ❑
d. Loan from micro-financing organisation ❑
e. Loan from a non-governmental organisation ❑
f. Own money ❑
g. Stokvel (rotational lending scheme) ❑
h. From an inheritance ❑
i. Someone gave you a gift of money ❑
j. Someone invested in your business (gave you money in exchange for a share of your business) ❑

1.13 What do you sell in your business/what service do you offer?
_____