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MACRO-ECONOMIC FACTORS INFLUENCE ON SOUTH AFRICAN SMME BUSINESS PERFORMANCE

Abstract:

Purpose of study: To determine the influence of selected macro-economic factors (Transportation costs, Government regulations, Access to finance, Interest rates and Inflation and economic growth) on SMME business performance in the Eastern Cape, South Africa.
Research design and methodology: The positivistic research paradigm adopting a quantitative research approach was followed in the study. A structured self-administered questionnaire was used to obtain the primary data from 200 SMME's business owners/managers in the Eastern Cape region, South Africa. Convenience and snowball sampling were used to obtain the respondents in the sample. The literature review included the effect of macro-economic factors influencing SMME business performance and the environment in which SMMEs operate. Five hypotheses were constructed from literature and empirically tested. An exploratory factor analysis confirmed the validity and Cronbach's alpha coefficients determined the reliability of the questionnaire. Descriptive statistics (mean and standard deviation) and inference statistics were calculated. The Pearson correlation coefficients determined the strength of the relationships between the independent (Transportation costs, Government regulations, Access to finance, Interest rates and Inflation and economic growth) and dependant variables (Business Performance) and the multiple regression analysis determined if relationships exist between the independent and dependant variables.
Research findings: A statistically significant relationship was found between the Access to finance and Business performance. Although the relationships between the Business performance and Transportation costs as well as Interest rates were not statistically significant, negative correlations were found. Positive correlations were found between the Business performance and Government regulations, and Inflation and economic growth although the relationships were not statistically significant.
Research limitations: The study was limited to only the Eastern Cape region, South Africa. The SMME definition is broad in scope and may differ from one industry to another.
Practical implications: Managers/owners need to take care when selecting transportation methods and obtaining debt capital as an increase in these factors may negatively influence business performance. However, an increase in Government regulations, and Inflation and economic growth may lead to improved business performance. In addition, the more access to finance SMME's have the more likely business performance will be positively influenced.
Contribution of paper: This paper contributes towards the body of knowledge regarding SMME's in a developing region in South Africa. Although it is well-known that macro-economic factors influence business performance, little is known regarding the extent of the influence, especially within a

developing country.

Keywords:

Macro-economic factors; SMME; Business performance

JEL Classification: M21

Introduction and background to the study

The importance of small, medium and micro enterprises (SMMEs) is recognised throughout the world (Bosch, Tait and Venter, 2011, p.576). This international recognition stems from the fact that SMMEs contribute largely to economic growth, the creation of employment opportunities (thereby decreasing the rate of unemployment) and the mitigation of poverty (Mahadea and Pillay, 2008, p.431). Redebe (2014) highlighted that SMMEs in South Africa make a contribution of 40% to Gross Domestic Product (GDP). Furthermore, SMMEs are excellent vehicles to create employment as these businesses tend to be labour rather than capital intensive (SPB, 2013). This confirms that SMMEs make a substantial contribution to economic growth and job creation. Although SMMEs play a vital role in the economy of both developed and developing countries, it is evident that they have a high rate of failure. It is reported that within the first two years of operation, 63% of small businesses fail (63% of small business fail, 2010). Olawale and Garwe (2010, p.729) however, reported that the rate of failure of SMMEs in South Africa could even be as high as 75%.

Businesses do not exist in isolation from the environments in which they operate. Their performance, and thus survival, is influenced partly by factors within the internal (micro) business environment and partly by factors in the external (market and macro) business environment (Bosch *et al*., 2011, p.38; Mahadea and Pillay, 2008, p.432). Bosch *et al.* (2011, p.41) refer to several variables in the micro environment, over which entrepreneurs and management have control, that have an influence on the performance of a business. These factors can either have a positive or negative effect on the survival and growth of a business. Micro-environmental factors include the business vision, mission, key values, goals and objectives; the business functions; and the access the business has to the factors of production. Factors in the market and macro environments originate outside the boundaries of the business and are elements over which owners and managers have essentially no control. (Bosch *et al.*, 2011, p.40-43). The factors in the market and macro environments, similarly to the factors in the micro environment, can also influence the performance of a business. However, changes in these factors are independent of the business and cannot be controlled by owners and managers (Mahadea and Pillay, 2008, p.433). It is clear that the reasons for SMME failure can manifest in each of the business environments (micro, market and macro).

Problem statement

Despite the importance of SMMEs in the economy, many SMMEs fail due to macro-environmental factors. This failure is a consequence of the difficulties that SMMEs face in responding to the effects of environmental conditions (Chittithaworn, Islam, Keawchana and Yusuf, 2011, p.5). SMMEs sometimes fail primarily because of the factors in the macro environment as these are factors over which SMME owners/managers have no control (Hough, Thompson, Strickland and Gamble 2011, p.38). Macro-environmental factors specifically relating to economic aspects may cause many SMMEs to fail. These macro-economic factors include, among others,

transportation costs, government regulation, access to finance, interest rates and economic growth. Any of these factors, or any combination of these factors, can influence business performance based on the state of the economy at a particular point in time. Thus a need to create awareness of the importance of SMMEs and to provide SMME owners/managers with recommendations on how to respond to these macro-economic factors is apparent. Another area of concern is the limited research regarding some of the macro-economic factors influencing SMME business performance. As more SMMEs are established, it becomes increasingly important to understand the macro-economic factors influencing their business performance. The problem statement of this study will therefore be to determine the extent to which macro-economic factors influence SMME business performance.

Research objectives of the study

The primary objective of this study is to investigate the influence of selected macro-economic factors on the business performance of SMMEs in the Eastern Cape, South Africa. Although business owners/managers have no control over macro-economic factors, it is important to know which of these factors have the greatest influence on business performance. If the extent of the influence of macro-economic factors is known, then business owners/managers can proactively take these factors and their influences into account when making business decisions.

Literature review

Nature and importance of South African SMME's

The concept of a SMME worldwide is diverse and depends on the level of development in each country. What constitutes a SMME is not clear or uniform even within individual countries (Mago and Toro, 2013, p.21). The National Small Business Act of South Africa (NSBASA) (Republic of South Africa, 1996, p.15-16) explains that a business can be categorised according to three criteria, namely employment, turnover and assets. The National Small Business Amendment Act (Republic of South Africa, 2003) classifies SMME's into different categories (micro enterprises, very small, small or medium sized enterprises). Specifically, this Act defines SMME's as separate and distinct business entities, which include co-operative enterprises and non-government organisations, managed by one or more owners which operate in any sector or subsector of the South African economy. A South African SMME is a business with fewer than 200 employees, annual turnover of less than five million Rand, capital assets of less than two million rand and has an owner who is directly involved in the management of the business (Cronje, Du Toit and Motlala, 2000; Mago and Toro, 2013, p.19).

Governments around the world are focusing on the development of SMME's to promote economic growth in their countries (Mago and Toro, 2013, p.19). Rwigema and Venter (2004) highlight that in 2004 South Africa's total GDP was R3.149 trillion of which SMME's contributed 35% (R1.102 trillion). However, the latest available statistics shows that South African SMME's contribute 40% of South Africa's GDP (Radebe, 2014) and an estimated 60% of the total employment in South Africa (De Jongh, Martin, Van Der

Merwe, Redenlinghuis, Kleinbooi, Morris, Fortuin and Bruwer, 2012, p.9092). SMME's in South Africa represent an important vehicle through which job creation, economic growth and equity challenges in South Africa can be addressed (Mago and Toro, 2013, p.19).

South African SMME's failure rate

Despite the importance of SMME's to the South African economy, South Africa is struggling to create sustainable SMME's (Mago and Toro, 2013, p.20). South African SMME's have a poor survival rate that rangers between 70-80% (Van Eeden, Viviers and Venter, 2003, p.13). The aforementioned statement is supported by Rwigema and Venter (2004), adding that 80% of SMME's fail within the first five years of their existence. Biyases (2009) explains that an estimated 10 000 SMME's are failing each month in South Africa. Bruwer (2012) and De Jongh *et al*. (2012, p.9092) emphasise that macro-environmental factors contribute to the current poor state of SMMEs.

The macro-environment contains a number of factors which influence SMMEs, namely economic, socio-demographic, political, physical, international and technological factors (Van Eeden *et al*. 2003, p.14). Relating to these main factors, according to Fatoki (2014, p.924), some of the reasons why SMME's are failing are as a result of non-availability of a logistics chain, high cost of distribution, rising costs of doing business and a lack of finance. Van Eeden *et al*. (2003, p.15) elaborate further and identifies the following factors which create problems for SMME's, namely economic growth, interest rates, inflation, exchange rates, government legislation, social issues, inadequate capital, lack of resources and changing technology. Furthermore Chichumeka and Rungani (2011, p.5511) highlight that one of the causes of SMME failure is due to a lack of access to adequate equity capital. South African SMME's face a number of challenges that affect their business performance and survival, in order to reach their full potential (Barnard, Kritzinger and Krüger, 2011, p.112). In this study the focus will be placed on the macro-economic factors of transportation costs, government regulation, access to finance, interest rates and economic growth.

Macro-economic factors

Economic factors have a direct impact on the attractiveness of various strategies and consumption patterns of consumers in the South African economy as well as have significant and unequal effects on businesses in different industries and locations (Olawale and Garwe 2010, p.732). In the paragraphs to follow the macro-economic factors of transportation costs, government regulation, access to finance, interest rates and economic growth will be discussed.

Transportation costs (including fuel prices) are receiving continuously growing attention in analysis worldwide particularly by small enterprises (Gkagka and Zarotiadis, 2008, p.214). According to Tshabalala and Rankhumise (2011, p. 112), the changes in the political environment opened South Africa to globalisation. Therefore the cost of transport is following the patterns of the larger global economy. In addition, the cost of transportation, especially in terms of fuel prices, is influenced by the international oil

price. Increases in fuel and ultimately in domestic and international transportation costs, also influences the macro economy as there is a direct but not linear relationship between oil prices and GDP. (Malik, 2010, p.224-225). According to Kesper (2000, p.17), increased transportation costs hinder SMME's and prevent growth. Furthermore the Trade and Industry policy strategies (2008, p.26) found that SMME's do not have the luxury of integrated logistics systems and therefore are more affected by increases in fuel prices which raises transportation costs and decreases the businesses' profit margins. According to Von Blottnitz (2009, p.4), sharp increases in the price of fuel between 2007 and 2008 negatively affected SMME's in South Africa.

Government regulation, as highlighted by Rankin (2006), affect a number of areas of business activity and therefore government regulations are likely to impact the way in which an SMME operates. According to Olawale and Garwe (2010, p. 732), the cost of regulations placed on SMME's may have a negative impact on SMME growth in South Africa. This is due to the fact that new SMME's in South Africa need to obtain registration licences and pay taxes (Hashi, 2001; Olawale and Garwe, 2010, p.732). Furthermore Olawale and Garwe (2010, p.732) explain that South African SMME's perceive that they do not receive sufficient support from the national government. This is compounded by the fact that most new SMME's in South Africa are not aware of the government's efforts to assist SMME's to grow and prosper, such as Khula Finance Enterprise and the Small Business Development Agency (Maas and Herrington, 2006).

Access to finance is required by all enterprises in order to start trading and to be able to grow (Olawale and Garwe, 2010, p.731). A lack of access or availability to finance can prevent SMME's business growth (Cassar, 2004). According to Herrington, Kew and Kew (2009), access to finance is a major problem for South African enterprises with the lack of financial support being a major reason for low firm creation and business failure in South Africa. This is further supported by FinMark Trust (2006) which highlight that only 2% of new SMME's in South Africa are able to access bank loans. While Foxcroft, Wood, Kew, Herrington and Segal (2009) report that 75% of bank credit applications by new SMME's are rejected in South Africa, which suggests that new SMME's that do not have personal finance may not be able to survive or grow.

Interest rates is described by Howells and Bain (2008, p.199) as the rate that lenders require, in the form of compensation, for deferring consumption to a future point. Black, Calitz and Steenkamp (2011, p.342) explain that in South Africa monetary authorities play a vital role in determining interest rates that businesses pay when borrowing or earn when investing. South Africa is in an economic recession and the current economic environment is characterised by high interest rates and low consumption rates (Olawale and Garwe, 2010, p. 732). Tshabalala and Rankhumise (2009, p.114) found that SMME's business performance is negatively affected when the interest rate in South Africa increases.

Economic growth refers to the expansion of production possibilities (Parkin, 2013, p.34). Furthermore economic growth is the extension of production possibilities in an

economy and is measured by means of the GDP (Parkin, Kohler, Lakay, Rhodes, Saayman, Schöer, Scholtz and Thompson, 2010, p.442). Inflation refers to a raise in the collective or universal level in a financial system which causes an increase in the expenditure of livelihood (Ahmad, Ahmad, Kahut and Murtaza 2012, p.515). Therefore a country's economic growth is greatly determined by the inflation rate. Furthermore Pallister and Isaacs (2003, p.264) explain that inflation is a gradual increase in price levels which results from an increase in the demand or supply of money. This suggests that if inflation increases it would be more expensive for SMMEs to operate, and this will possibly negatively influence their performance. Tshabalala and Rankhumise (2011 p.112) explain an increase in inflation on the whole would affect SMME's as consumers' money will be worth less. A high inflation rate can lead to lower levels of GDP and lower levels of income for individuals (Jordaan, 2003). Tshabalala and Rankhumise (2011, p.114) highlights that inflation, and thus poor economic growth, negatively influences SMME business performance.

Business performance

In order to define business performance, it is important to determine how business performance is measured. According to Wood (2002), financial criteria performance measures (return on assets, return on investments and turnover) are not adequate to determine an SMME's performance but rather a combination of organisational variables (customer numbers, customer spending, number of employees, profits and turnover) should be used to empirically measure SMME performance. According to Perera and Baker (2007, p.10), a key system to put in place for a SMME is that of a performance measurement structure. A widely used measurement of business performance which takes into account both financial and non-financial performance is the balanced scorecard approach (Neely, Gregory and Platts, 2005). For the purpose of this study business performance will be measured by taking into account both financial and non-financial performance which will be an indication of the financial success or failure of a business.

Research hypotheses

As the primary purpose of this study was to investigate the influence of selected macro-economic factors on the business performance of SMMEs in the Eastern Cape, South Africa, the hypothetical model presented in Figure 1 was constructed.

Based on the hypothetical model presented in Figure 1, the following hypotheses were constructed in order to determine whether relationships exist between each of the eight independent variables (*Transportation*, *Government regulation*, *Access to finance*, *Interest rates*, and *Economic growth*) and the dependent variable (*Business performance*) of SMMEs in the Eastern Cape, South Africa:

H_1: A significant relationship exists between *Transportation costs* and *Business performance.*

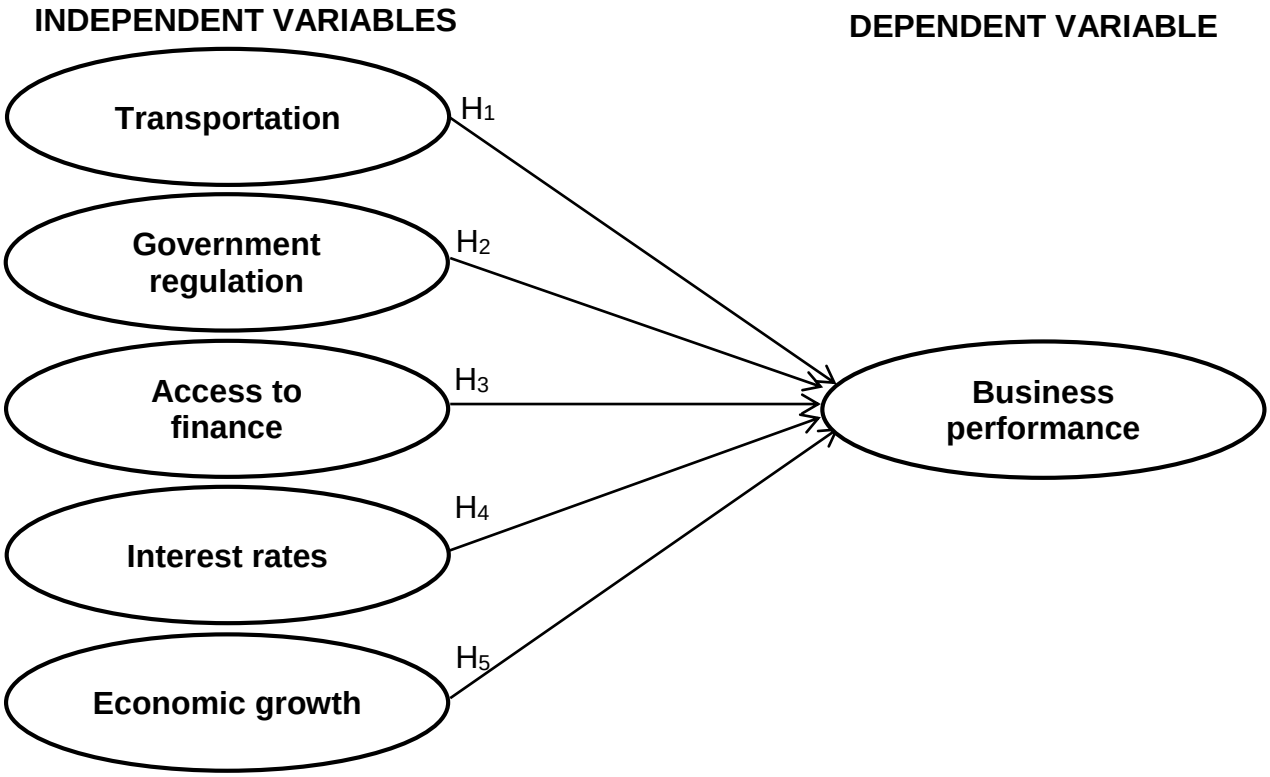
H_2: A significant relationship exists between *Government regulation* and *Business performance*.

H_3: A significant relationship exists between *Access to finance* and *Business performance*.

H_4: A significant relationship exists between *Interest rates* and *Business performance*.

H_5: A significant relationship exists between *Economic growth* and *Business performance*.

Figure 1: Hypothetical model



Source: Researchers' own construct

Research methodology

The study adopted a quantitative research methodology as the focus of the study was to identify the influence of each independent variable on the business performance of SMMEs in the Eastern Cape, South Africa. The formulated hypotheses will be analysed using various statistical techniques, confirming that the quantitative research methodology is the most appropriate (Amaratunga, Baldry, Sarshar and Newton, 2002, p.17-31; Hoe and Hoare, 2012, p.25).

Population and sample

A population is a complete set of units that share the same usual cluster of characteristics; and the results of the sample (a portion of the population) are generalised by the person/s conducting the research (Davis, Pecar and Santana, 2014, p.4; Johnson and Christensen, 2012, p.218). The population for this study was all business owners/managers of SMMEs operating in the Eastern Cape. For the purposes

of this study, SMMEs were classified according to the businesses' number of employees.

The sample of this study consisted of 200 SMME business owners/managers in the Eastern Cape and the businesses included in the study were drawn from a sample frame. A sample frame is a list of all the elements contained in the group according to which the researcher wants to generalise the sample results (Johnson and Christensen, 2012, p.218). The sample frame for this study was all the SMMEs in the Eastern Cape, South Africa, listed in the online business directories and the yellow pages business directory. Businesses were then conveniently selected on the basis of whether their contact details were available, whether they fitted the definition of a SMME and whether they were willing to participate in the study. Therefore, convenience (availability and accessibility of SMMEs) and snowball (referral to other SMME owners/managers) non-probability sampling were adopted in this study (Bryman and Bell, 2011, p.190,192).

Measuring instrument

A self-developed and self-administered questionnaire consisting of three sections were used to collect the primary data from the respondents. Section A of the questionnaire, using nominal scales, gathered data pertaining to the respondents' demographic aspects such as gender, age, population group, educational level, number of years' working experience, affiliation of respondent to business (owner, manager or both), length of experience as owner/manager/both, number of employees employed by business, and the industry in which the business operates. Section B comprises of 54 items using an ordinal scale relating to the variables (transportation costs, government regulation, access to finance, interest rates and economic growth) in the form of a five-point Likert-type scale ranging from 'strongly disagree' (1) to 'strongly agree' (5).

Data analysis

The process of analysing the data collected involved a number of steps, executed using Microsoft Excel (2010) and Statistica (Version 12). The first step involves summarising the descriptive statistics of the respondents' demographic information using frequencies and where applicable, means. (Struwig and Stead, 2013, p.159). The second step is to ensure the validity and reliability of the measuring instrument. Face, content and construct validity were evaluated. Face validity was ensured by consulting academic experts in the field of management (Bryman, Bell, Hirschsohn, Do Santos, Du Toit, Masenge, Van Aardt and Wagner, 2014, p.38), while content validity was tested by conducting a pilot study among 20 respondents other than the respondents of the main data collection (Struwig and Stead, 2013, p.146-150). The necessary changes were made to the questionnaire after the completion of the face and content validity evaluation. An exploratory factor analysis (EFA) was performed to ensure construct validity where at a factor with a minimum of three items with factor loadings of at least 0.5 were considered as valid (Hair, Black, Babin and Anderson, 2014, p.115). To assess the internal reliability of the measuring instrument, Cronbach's alpha correlation coefficients were calculated and items with coefficients of at least 0.60 were regarded as reliable (Hair *et al*., 2014, p.123). The third step involved the determination of the

correlations among the variables of the study. Therefore, the Pearson's product moment correlation coefficients were calculated to determine whether correlations exist between the variables (Lind, Marchal and Wathen, 2012, p.463). The fourth step was conducted by performing a multiple regression analysis to confirm the results of the correlation test and to determine whether the formulated hypotheses should be accepted or rejected (Hair *et al*., 2014, p.157).

Empirical results

Sample description

The majority of the respondents were male (62.57%), while only 37.43% of the sample consisted of female respondents. Respondents aged between the ages of 40-49 (31.00%) and 50-59 (29.24%) years dominated the sample, accounting for more than 60% of the respondents in total. The vast majority of the respondents were from the White population (81.87%), followed by the Black population (8.19%), the Coloured population (3.51%) and the Asian population (2.92%). Furthermore, 35.09% of the respondents obtained a matric certificate, 7.60% received a certificate from a tertiary institution, 19.30% graduated with a diploma/degree, while 29.24% have pursued post-graduate studies. A slight majority of the respondents were the business owners (50.88%) while 26.90% were the manager only. However, 22.22% of the respondents were both the owner and manager of the business. The number of employees employed by the businesses ranged from less than five (42.69%), between five and nine (26.15%), 10 to 49 (26.32%) and between 50 and 200 (5.85%). The majority of the businesses have been in existence for less than five years (23.39%), while 22.22% have been operational between five and 10 years, 21.64% have been in business for more than 20 years, 18.71% have been around for 11 to 15 years and 14.04% have been serving in operation for 16 to 20 years. Businesses operating within the services and retailing industries represented the majority of the respondents, equalling 46.20% and 57.89% respectively, whereas businesses operating in the manufacturing and other industries represented only 16.96% and 8.19% respectively.

Validity and reliability

The purpose of conducting an EFA is to identify the factors of the study, based on the actual data that was collected from the respondents. For the purposes of this study, which is exploratory in nature, only the items that loaded onto one factor, with a factor loading greater than 0.5 were considered for further statistical analysis (Habing, 2005; Verma, 2013, p.366; Williams *et al.,* 2012, p.5). The results of the EFA (lowest and highest factor loadings) and the assessment of the inter-item reliability (Cronbach's alpha correlation coefficients) are presented in Table 2.

Table 2: Summary of factor loadings and Cronbach's alpha correlation coefficients

Factors	Number of items	Factor loadings		CA
		Min	Max	
Transportation costs	7	0.504	0.841	0.85
Government regulation	5	0.530	0.814	0.80
Access to finance	3	0.691	0.775	0.75
Interest rates	3	0.749	0.841	0.63
Economic growth	4	0.547	0.644	0.63
Business performance	6	0.567	0.785	0.81

Source: Calculated from survey results analysis

Sufficient evidence of construct validity is presented in Table 2 as all factors have a minimum of three items with loadings above 0.5. Furthermore, from Table 1 it can be seen that all the Cronbach's alpha correlation coefficients are greater than 0.6, therefore sufficient evidence of reliability were also found. A total of 17 of the 54 items were disregarded from further analyses as these did not load onto any factor.

Descriptive statistics of the variables

The descriptive statistics of the variables are summarised in Table 3.

Table 3: Descriptive statistics of independent and dependent variables

INDEPENDENT VARIABLES	Mean	Std. dev.	Disagree	Neutral	Agree
Transportation costs	3.860	0.699	4.68	10.30	76.02
Government regulation	2.813	0.935	35.67	42.11	22.22
Access to finance	2.522	1.047	52.05	26.32	21.63
Interest rates	2.928	0.889	30.99	42.69	26.32
Economic growth	3.917	0.699	4.68	24.56	70.76
DEPENDENT VARIABLE	**Mean**	**Std. dev.**	**Disagree**	**Neutral**	**Agree**
Business performance	3.201	0.621	13.45	55.56	30.99

Source: Calculated from survey results analysis

Evident from Table 3 is that the independent variable *Economic growth* obtained the highest mean of 3.917. This mean score indicates that respondents agree that economic growth will have an influence on business performance. The independent variable *Transportation costs* obtained the second highest score of 3.860 with more than three-quarters of the respondents agreeing that transportation costs will have an influence on business performance. The dependent variable *Business performance* obtained a score of 3.201, where most of the respondents (55.56%) are neutral with regard to their businesses being successful, as measured by business performance. Both the two independent variables *Interest rates* and *Government regulation* obtained neutral mean scores of 1.928 and 2.813 where the respondents are neutral regarding the influence of interest rates and government regulation on business performance.

When considering the standard deviations it is evident that the responses are closely distributed, except for *Access to finance* (1.047). The small standard deviations range from 0.621 for *Business performance* to 0.935 for *Government regulation*. Therefore, respondents mostly differed in their viewpoints on *Access to finance*, in other words, not all respondents had similar views about whether access to finance for their businesses is easy.

Analysis of relationships between the variables

Table 4 summarises the correlations between the independent and dependent variables.

Table 4: Summary of Pearson's product moment correlation coefficients

Variable	1	2	3	4	5	6
1 Transportation costs	1.000					
2 Government regulation	0.053	1.000				
3 Access to finance	0.058	0.023	1.000			
4 Interest rates	0.088	**0.240***	**-0.157***	1.000		
5 Economic growth	**0.453***	0.032	-0.012	0.019	1.000	
6 Business performance	0.028	**0.217***	-0.038	**0.413***	0.082	1.000

***p<0.05**

Source: Calculated from survey results analysis

From Table 4 it is evident that moderate significant positive correlations exist between *Transportation costs* and *Economic growth* (r = 0.453) and between *Interest rates* and *Business performance* (r = 0.413). Weak significant positive correlations exist between *Government regulation* and *Interest rates* (r = 0.240) as well as *Government regulation* and *Business performance* (r = 0.217). Only one negative significant correlation exists between *Access to finance* and *Interest rates* (r = -0.157), however, the correlation is weak. Based on these results, one can conclude that transportation costs are linked to a country's economic growth. Furthermore, a change in interest rates is closely linked to business performance. However, the link between interest rates and access to finance is negative. This is expected, as when interest rates increase, access to finance will decrease as businesses may want to avoid borrowing money due to the higher interest charges. The correlations between the variables, as presented in Table 4, provides sufficient evidence that a multiple regression analysis can be conducted to determine whether significant relationships exist between the independent and dependent variables.

The multiple regression analysis assess whether any of the independent variables (*Transportation costs*, *Government regulation*, *Access to finance*, *Interest rates* and

Economic growth) has a significant influence on the dependent variable *Business performance*. Table 5 summarises the multiple regression results.

Table 5: The influence of the five independent variables on *Business performance*

Regression Summary for Dependent Variable: Business performance R= 0.4401 R^2= 0.1937 p < 0.000						
N = 171	b*	Std.Err. of b*	b	Std.Err. of b	t(165)	p-value
Intercept			**1.977**	**0.352**	**5.608**	**0.000**
Transportation costs	-0.059	0.079	-0.052	0.070	-0.742	0.459
Government regulation	0.122	0.072	0.081	0.048	1.693	0.092
Access to finance	0.026	0.071	0.015	0.042	0.359	0.720
Interest rates	**0.391**	**0.073**	**0.273**	**0.051**	**5.335**	**0.000***
Economic growth	0.097	0.079	0.091	0.074	1.240	0.217

*p<0.05

Source: Calculated from survey results analysis

From Table 5 it is evident that approximately 19.37% of the variability in *Business performance* is explained by the independent variables *Transportation costs*, *Government regulation*, *Access to finance*, *Interest rates* and *Economic growth*. It is evident that only *Interest rates* (b = 0.273, p < 0.05) has a significant positive relationship with *Business performance*. Therefore, a positive change in interest rates will have a positive influence on business performance. This implies that the more SMMEs make use of borrowed capital to finance business projects, expansions and operations, the more likely their performance will be significantly influenced by fluctuations in interest rates. Based on the multiple regression results only hypothesis H_4 is accepted (p < 0.05), as a significant relationship was found between *Interest rates* and *Business performance*.

Positive relationships were found between four independent variables (*Government regulation*, *Access to finance* and *Economic growth*) and *Business performance*. Based on the results presented in Table 5, the more government regulation in favour of SMMEs, the greater the influence on their business performance. Furthermore, there is evidence that the access SMMEs have to obtaining finance for their operations, projects and expansion has an impact on their overall business performance. In addition, positive economic growth will inevitably have an influence on the business performance of SMMEs. On the contrary, an increase in the cost of transportation costs, particularly the price of fuel, does not lead to a positive influence on SMMEs business performance, but rather impacts performance negatively. However, these relationships were not statistically significant and therefore hypotheses H_1, H_2, H_3 and H_5 are rejected (p > 0.05).

Managerial implications

The managerial implications will be discussed as per factor analysed.

Transportation costs

The relationship between transportation costs and business performance was found to be negative and not statistically significant. An increase in transportation costs will have a negative effect on business performance as it will lower the net profit after tax. Although the relationship is not statistically significant, transportation costs need to be kept to a minimum as an increase in transportation costs will reduce the profit margins of SMMEs. Transportation costs affect SMMEs in a number of different ways. If the price of fuel increases, suppliers will increase their prices, causing the SMME's cost of raw materials and supplies to increase, thereby reducing profit. Furthermore, the overall expenses of the SMME will increase when the price of fuel increases. Many SMMEs outsource transportation. Generally, when the price of fuel rises, transportation businesses increase their prices to cope with their increased expenses. The fees SMMEs pay for outsourcing transportation will therefore be higher. However, when the price of fuel decreases, these transportation businesses do not tend to adjust the price accordingly. It is therefore advisable that where possible, SMMEs make use of their own transportation to manage the associated costs efficiently and effectively. If SMME owners and/or managers decide to implement and manage their own transportation, they first and foremost need to consider all the relevant costs involved and compare these costs to the cost of outsourcing transportation. Only if these costs will be lower than the cost of outsourcing transportation, should a transportation system be implemented. Furthermore, SMME owners and/or managers will need to implement policies and procedures to manage transportation effectively, avoiding unnecessary costs.

Government regulation

The empirical investigation reported that the second most important relationship, although not statistically significant, was found between government regulation and business performance, implying that government regulation is the factor that influences the performance of SMMEs to a greater extent than transportation costs, access to finance and economic growth. This is no surprise as according to the literature, government regulates many areas of business. Government has realised the importance of SMMEs to the economy and has implemented strategies to encourage SMMEs development. Government authorities should embark on campaigns to educate SMME owners/managers about taxation and compliance, and create more awareness surrounding the various support institutions available to assist in the development of SMMEs. The items in the empirical investigation focused on four main areas of government regulation, namely taxation, labour regulations, municipal regulations and black economic empowerment (BEE). With regard to taxation, SMMEs incur high costs in assuring tax compliance. With reference to the literature, it is also clear that tax compliance costs are regressive in relation to turnover, meaning that as turnover increases, the costs associated with taxation decrease. Thus, compliance with taxation

costs is far more cost-effective for large businesses and these costs place a larger burden on SMMEs in comparison. There are certain tax benefits afforded to SMMEs, however not many SMMEs are realising any tax advantages. The reason for this is unclear. It could be that not many SMME owners have knowledge about tax benefits applying to SMMEs. Many SMMEs outsource taxation and this also involves high costs. If government creates more awareness of the supporting institutions that can assist and educate SMME owners/managers about tax compliance and how to manage taxation, a larger proportion of SMMEs will not resort to outsourcing taxation, which may substantially reduce costs. However, it is not solely the responsibility of government to ensure that SMME owners/managers are educated; SMME owners/managers must investigate and reach out to the various support institutions that government has established.

All businesses, irrespective of size or nature, must comply with all labour regulations. The Labour Relations Act provides for the establishment of trade unions and bargaining councils, procedures for dismissal and entrenches a right to strike. What this means is that it becomes very difficult for management to dismiss incompetent employees. Also, trade unions often cause wages to be higher than what businesses are willing to pay and they also, in certain circumstances, instruct employee members to embark on strike action. This can have a tremendous impact on the productivity and profitability of a business. The operations of SMMEs are predominantly labour-intensive, therefore the implications of the Labour Relations Act and other labour legislation have a great impact on the performance of SMMEs. As the majority of labour laws tend to favour the rights of employees, as opposed to the employer, it may be safe to suggest that government should consider amending or passing legislation to create a balance between the rights of employees and employers. In addition, owners/managers of SMMEs need to establish thorough procedures for the recruitment of employees to ensure that competent employees are hired. This does not mean that recruitment should be outsourced (as this may increase costs), but rather that management should establish guidelines for the hiring of employees and ensure that they market positions accordingly. They may even consider probationary contracts before the commencement of the employment contract. It is very important that owners/managers of SMMEs familiarise themselves with the relevant labour regulations as legal action is a costly activity and can be damaging to an SMME, both financially and to its reputation.

Municipal regulations take the form of, among others forms, property rates and taxes, user levies and service charges, which a business must pay monthly, as well as licensing charges. Many businesses view these municipal charges as expensive. There is not much that SMMEs can do about such fees and levies, but they can ensure that these fees and levies are paid as well as licences are obtained and renewed on time, to avoid unnecessary fines and interest on arrear payments.

Although BEE is necessary, it does imply various costs. However, SMMEs are small and their turnover is often limited, BEE compliance places a greater burden on SMMEs in comparison to larger businesses. If the owners/managers of SMMEs wish to be BEE

compliant, they should carefully consider the implicit costs associated with compliance as it may entail restructuring, which is costly, as well as severance or retrenchment pay to certain employees.

Access to finance

The relationship between access to finance and business performance was determined to be the weakest of the positive relationships and is not statistically significant. Many SMMEs in the Eastern Cape prefer utilising their own capital to finance projects and other investments or expansions. The reason for this could simply be that the cost of borrowing is too high for small and medium sized businesses, often with lower profit margins. In instances where SMMEs need to utilise borrowed capital, owners/managers of SMMEs must do research to find the best possible interest rate. There are various different financing institutions and SMME owners/managers must ensure that they are aware of all the possible alternatives, to select the most cost effective option. If an SMME currently makes use of borrowed capital, it is advisable that when it is financially viable to do so, loans are paid off before the date of maturity, as this will reduce interest charges and can increase profits over the long term. Where an SMME makes use of borrowed capital, owners/managers must ensure that instalments, as well as interest payments are made within the stipulated time so as to avoid paying excessive penalties and interest charges. It is also advisable that SMME owners/managers, where possible, rather make use of trade credit when borrowed capital is necessary, as the interest charged on trade credit is usually much lower that of long-term loans from banks and other financial institutions.

Interest rates

The relationship between interest rates and business performance was found to be the only positive relationship that was statistically significant. This is supported by the literature in that many SMMEs rely on external funding to finance projects, and interest payments have to be made on the external funding amounts. Therefore, interest rates play an important role in investment decisions. Interest rates will determine the amount of borrowing SMMEs make use of, as opposed to own capital. As interest rates are determined by the money market and the capital market, SMMEs have no control over their increase or decrease. From the empirical investigation, it is clear that SMMEs in the Eastern Cape prefer making use of their own capital to finance investments. This could be because of the inconsistency in the costs of borrowing. As a result of the inconsistency in interest rates, SMMEs must be certain of the amount that they borrow and only borrow when interest rates are favourable, as the costs involved can be very high, affecting the profit margins of SMMEs. SMME owners/managers should also consider entering into low risk investment opportunities where they can earn investment income. Investment income may provide some relief against the costs of borrowing. In addition, if debt can be paid off quickly, in essence less interest will be paid. It is also worth noting that SMMEs can make use of the financial leveraging effect of borrowing whereby interest payments result in tax deductions.

Economic growth

The relationship between economic growth and business performance is found to be positive, but not statistically significant. SMMEs have no control over the rate of inflation or the level of GDP, but these variables clearly have an influence on the overall performance of SMMEs. With regard to inflation, an increase in the rate of inflation can lead to lower levels of GDP and lower levels of real income. This can in turn cause an SMME to lose part of its workforce if it cannot meet the demands of its employees for higher wages. This can influence the productivity of SMMEs and will inevitably influence their overall performance. This is in addition to the increase in labour costs and the overall costs of the business, also caused by inflation. It is important that the owners/managers of SMMEs manage the effects of inflation as effectively as possible. They can do this by saving on unnecessary costs and doing away with unprofitable operations. A few ways that this can be achieved is by reducing electricity consumption, minimising telephone bills, and minimising waste. Another way that SMMEs can cope with inflationary pressures is to adjust the prices of its products/services accordingly. However, SMME owners/managers must take care when making price adjustments because if they make the prices too high, or higher than that of competitors, it may result in a decrease in demand for their products/services thereby decreasing profitability.

GDP fluctuates according to the nature of the economy. A recession in the economy will inevitably cause a decrease in demand and, in turn, profits. During a boom, consumer spending automatically increases leading to an increase in demand for products/services. During an economic boom, SMMEs must ensure that they have the capacity to cope with increases in demand so that they can benefit from increased profits. This may require some degree of financial investment by SMMEs, but owners/managers must insure that the increase in profits will be proportional more than any financial investment made; otherwise such investment will not be worthwhile. During a recession, SMME owners/managers must manage expenses efficiently and effectively, trying to save on as many costs as possible, even if it means reducing its workforce to cope with a decrease in demand. SMME owners/managers can also try to boost sales through various promotional offers, but must carefully manage the funds spent in this regard, ensuring that the income realised as a result of the promotional offers is more than proportional to the amount of spending for such activities to be profitable.

Future research and final remarks

Owing to the fact that the focus of this study was only on SMMEs located within the boundaries of the Eastern Cape, for reasons such as time and resource constraints, a study on the effect of macroeconomic factors on the business performance of SMMEs in other South African provinces is recommended.

The majority of the respondents own/manage SMMEs operating in either the services, retail or manufacturing industries. SMMEs operating in certain industries can be influenced by certain macro-economic factors more severely than other industries. Therefore, the researchers propose a comparative study on the influence of the effect

of macro-economic factors on the business performance of SMMEs operating in different industries.

The literature of this study asserts that one of the biggest contributors to SMME failure is the lack of access to finance. In contrast, the results reveal that the majority of SMMEs in the Eastern Cape prefer using their own capital to finance projects. It may be viable for a study to be conducted to determine whether the access that SMMEs have to finance has improved over the past few years, and whether it is still a major contributor to SMME failure.

This study focused only on the business performance of SMMEs operating within the formal sector and therefore a comparative study on the business performance and reasons for SMME failure in the informal sector is recommended. The formal and informal sectors have different characteristics and it is therefore justifiable to anticipate that different results will be rendered for the different sectors.

Concluding remarks

The SMME sector is an area of growing importance due to its contribution to economic growth, employment creation and the alleviation of poverty. Although SMMEs' presence makes a significant contribution to the economy, a high failure rate is associated with SMMEs. For this reason, governments around the world are placing an emphasis on the importance of developing these businesses. In addition, SMMEs do not operate in isolation, but are rather influenced by the internal (micro) and external (market and macro) environments in which they operate. Factors that influence business performance, manifesting in the macro environment, are factors over which SMMEs have no control. Therefore it is important that SMME owners/managers know how to manage the effects of changes in these factors. This study made a research contribution by specifically by investigating the macro-economic factors which influence SMMEs' business performance. In addition, the study provided relevant managerial recommendations to SMME owners/managers.

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References

63% of small businesses fail. (2010). [Online]. Available: http://www.fin24.com/Entrepreneurs/63-of-small-businesses-fail-20101111. [Accessed: 26 March 2013].

AHMAD, M., AHMAD, E., KAHUT, M.B.H. and MURTAZA, G. (2012). New determination of factors affecting the growth of small and medium sized enterprises in Pakistan. *Interdisciplinary Journal of Contemporary Research in Business*. 4 (6). p.513-530.

AMARATUNGA D, BALDRY D, SARSHAR M and NEWTON R. (2002). Quantitative and qualitative research in the built environment: application of mixed research. *MCB Up.* 51 (1). p.17-31.

BARNARD, S., KRITZINGER, B. and KRÜGER, J. (2011). Location decision strategies for improving SMME business performance. *Acta Commercii.* 11.p.111-128.

BLACK, P., CALITZ, E. and STEENKAMP, T. (2011). *Public economics*. 5th Ed. Cape Town: Oxford.

BIYASE, L. (2009). *DTI to look at how crisis hurts small enterprises.* [Online]. Available: http://www.busrep.co.za/index.php?fSectionid=561&fArticleid=4947848. [Accessed: 28 August 2015].

BOSCH, J., TAIT, M. and VENTER, E. (2011). *Business management: An entrepreneurial perspective*. Port Elizabeth, South Africa: Lectern.

BRUWER, J. (2012). The entrepreneurial mindset profile of South African small medium and micro enterprises (SMMEs) in the Cape Metropole. *African Journal of Business Management*. 6 (15). p.5383-5388.

BRYMAN, A. and BELL, E. (2011). *Business research methods.* 3rd Ed. New York, NY: Oxford.

BRYMAN, A., BELL, E., HIRSCHSOHN, P., DOS SANTOS, A., DU TOIT, J., MASENGE, A., VAN AARDT, I. and WAGNER, C. (2014). *Research methodology: Business and management contexts*. Cape Town, South Africa: Oxford.

CASSAR, G. (2004). The financing of business start-ups. *Journal of Business Venture*. 19 (2). p.261-283.

CHICHUMEKA, T. and RUNGANI, E.C. (2011). The impact of inaccessibility to bank finance and lack of financial management knowledge to small, medium and micro enterprises in Buffalo City Municipality, South Africa. African *Journal of Business Management*. 5 (14). p.5509-5517.

CHITTITHAWORM, C., ISLAM, M.A., KEAWCHANA, T. and YUSUF, D.H.M. (2011). Factors affecting the business success of small & medium enterprises (SMEs) in Thailand. *Asian Social Science.* 7 (5). p.180-190.

CRONJE, G.J., DU TOIT, G.S. and MOTLATLA, M.D.C. (2000). *Introduction to Business Management*. Cape Town: Oxford University.

DAVIS, G., PECAR, B. and SANTANA, L. (2014). *Business statistics using Excel: A first course for South African students*. Cape Town, South Africa: Oxford.

DE JONGH, H., MARTIN, W., VAN DER MERWE, A., REDENLINGHUIS, J., KLEINBOOI, C., MORRIS, D., FORTUIN, A. and BRUWER, J. (2012). Utilisation of adequate internal controls in fast food small medium and micro enterprises (SMMEs) operating in Cape Metropole. *African Journal of Business Management*. 6 (31). p.9092-9095.

FATOKI, O. (2014). The causes of the failure of new small and medium enterprises in South Africa. *Mediterranean Journal of Social Sciences*. 5 (20). p.922-927.

FINMARK TRUST. (2006). FinScope small business survey report. [Online]. Available: http://www.finmarktrust.org.za. [Accessed: 28 August 2015].

FOXCRAFT, M., WOOD, W., KEW, K., HERRINGTON, M. and SEGAL, N. (2002). *Global entrepreneurship monitor South African report*. [Online]. Available: www.gemconsortium.org. [Accessed: 28 August 2015].

GKAGKA, A. and ZAROTIADIS, G. (2008). Transportation costs and final prices: A case study of fuels in Greece. *South-Eastern Europe Journal of Economies*. 2(2008). p.213-226.

HABING, B. (2005). *Exploratory factor analysis*. [Online]. 4 October. Available: http://www.stat.sc.edu/~habing/courses/530EFA.pdf. [Accessed: 31 October 2013]

HAIR, J.F., BLACK, W.C., BABIN, J.B. and ANDERSON, R.E. (2014). *Multivariate data analysis*. 7th Ed. Essex, England: Pearson.

HASHI, I. (2001). Financial and institutional barriers to SME growth in Albania: Results of an enterprise survey. *Economic Policy in Transitional Economies*. 11(3). p.221-238.

HERRINGTON, M., KEW, J. and KEW, P. (2010). GEM: *Global entrepreneurship monitor.* [Online]. Available: http://www.gemconsortium.org/download/1308400671554. [Accessed: 28 August 2015].

HOE, J. and HOARE, Z. (2012). Understanding quantitative research: part 1. *Nursing Standard.* 27 (15-17). p52-57.

HOUGH, J., THOMPSON, A.A., STRICKLAND, A.J. and GAMBLE, J.E. (2011). *Crafting and executing strategy: creating sustainable high performance in South Africa: Text, readings and cases*. 2nd Ed. Berkshire: McGraw-Hill.

HOWELLS, P. and BAIN, K. (2008). *The economics of money, banking and finance: A European text*. 4th Ed. London: Pearson.

JOHNSON, B. and CHRISTENSEN, L. (2012). *Educational research*. 4th Ed. Carlifonia: SAGE.

JORDAAN, J.C. (2013). Impact of interest rate changes on South African GDP and households: A combined macroeconomic and social accounting matrix modelling approach. *Southern African Business Review.* 17 (3). p.156-186.

KESPER, A. (2000). Failing or not aiming to grow? Manufacturing SMMEs and their contribution to employment growth in South Africa. [Online]. Available: http://www.smmeresearch.co.za /SMME%20Research%20General/Reports/Manufacturing%20SMMEs%20in%20SA.pdf. [Accessed: 28 August 2015].

LIND, D.A., MARCHAL, W.G. and WATHEN, S.A. (2012). *Statistical Techniques in Business & Economics*. New York, NY: McGraw-Hill.

MAAS, G. and HERRINGTON, M. (2006). *The global entrepreneurial monitor: South African report*. [Online]. Available: http://www.budgetspeechcompetition.co.za/LinkClick.aspx?link=GEMSouth Africa200 6.pdf. (Accessed: 28 August 2015).

MAGO, S. and TORO, B. (2013). South African government's support to small, medium micro-enterprise (SMMEs): The case of King William's Town area. *Journal of Economics*. 4 (1). p.19-28.

MAHADEA, D. and PILLAY, M.K. (2008). Environmental conditions for SMME development in a South African province. *South African Journal of Economic and Management Sciences*. 11 (4). p.431-448.

MALIK, A. (2010). Oil prices and economic activity in Pakistan. *South Asia Economic Journal*. 11 (2). p.225-244.

NEELY, A., GREGORY, M. and PLATTS, K. (2005). Performance measurement system design: A literature review and research agenda. International Journal of Operations and Production Management. 25 (12). p.1228-1263.

OLAWALE, F. and GARWE, D. (2010). Obstacles to the growth of new SMEs in South Africa: A principle component analysis approach. *African Journal of Business Management*. 4 (5). p.729-738.

PALLISTER, J. and ISAACS, J. (2003). *Oxford dictionary of business*. Oxford: Oxford University.

PARKIN, M. (2013). *Economics: Global and Southern Africa perspectives*. 2nd Ed. Cape Town, South Africa: Pearson.

PARKIN,M., KOHLER, M., LAKAY, L., RHODES, B., SAAYMAN, A., SCHÖER, V., SCHOLTZ, F. and THOMPSON, K. (2010). *Economics: Global and Southern African perspectives*. Cape Town, South Africa: Pearson.

PERERA, S. and BAKER, P. (2007). Performance measurement practices in small and medium size manufacturing enterprises in Australia. *Small Enterprise Research*. 15 (2). p.10-30.

RADEBE, P. (2014). *Small business is the missing middle in banks' service target*. [Online]. Available: http://www.finmark.org.za/finscope/publication/small-business-is-the-missing-middle-in-banks-service-target/. [Accessed: 30 August 2015].

RANKIN, N. (2006). *The regulatory environment of SMMEs: Evidence from South Africa firm level dat*a. [Online]. Available: https://open.uct.ac.za/bitstream/handle/11427/7347/DPRU_WP06-113.pdf?sequence=1. [Accessed: 28 August 2015].

REPUBLIC OF SOUTH AFRICA. (1996). *National Small Business Act*. Cape Town: No.1901.

REPUBLIC OF SOUTH AFRICA. (2003). *National Small Business Amendment Act.* Cape Town: No. 25763.

RWIGEMA, H. and VENTER, R. (2004). *Advanced entrepreneurship*. Cape Town, South Africa: Oxford.

SPB. (2013). *Developing a new path for SMEs in South Africa.* [Online]. 22 July. Available: http://www.politicsweb.co.za/news-and-analysis/developing-a-new-path-for-smes-in-south-africa--sb. [Accessed 30 August 2015].

STRUWIG, F.W. and STEAD, G.B. (2013). *Research: Planning, designing and reporting.* 2nd Ed. Cape Town, South Africa: Pearson.

TRADE AND INDUSTRY POLICY STRATEGIES. (2008). *The impact of rising food and fuel prices on small business.* [Online]. Available: http://www.tips.org.za/files/FABCOS_0.pdf. [Accessed: 28 August 2015].

TSHABALALA, D.B. and RANKHUMISE, E.M. (2011). What impact do economic issues have on the sustainability of small, medium and micro enterprises? *Journal of Management Policy and Practice*. 12 (1). p.108-114.

VAN EEDEN, S.M., VIVIERS, S. and VENTER, D. (2003). A comparative study of selected problems encounted by small businesses in the Nelson Mandela, Cape Town and Egoli metropoles. *Management Dynamics*. 12 (3). p.13-23.

VERMA, J.P. (2013). *Data analysis in management with SPSS software*. New Dehli: Springer.

VON BLOTTNITZ, M. (2009). An economic overview of SMMEs in 2008. *The Small Business Monitor*. 5 (1). p.1-102.

WILLIAMS, B., BROWN, T. and ONSMAN, A. (2012). Exploratory factor analysis: A five-step guide for novices. *Australasian Journal of Paramedicine.* 8 (3). p.1-13.

WOOD, E.H. (2002). An analysis of the predictors of business performance in small tourism and hospitality firma. *International Journal of Entrepreneurship and Innovation*. 3 (3). p.201-210.