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An Exploration of SMEs as a Sustainable Development Goal

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Abstract

Small to medium sector enterprises (SMEs) play a critical role towards the development of any country including that of South Africa. "SMEs play a significant role in the reduction of poverty, reduction of unemployment and promoting entrepreneurship within the country and they make valuable contributions to the gross domestic product (GDP) of any country. SMEs within South Africa constitute ninety-one percent of all formal business and they are recognized to be of great importance to the economy. Many governments employ the development of SMEs as a means of addressing several socio-economic challenges and goals of a country. Despite the significant role played by SMEs in the countries around the world, they face several challenges that hinder their organizational performance and socio-economic development. This research thus explores the challenges faced by SMEs in South Africa and their effects on the business performance based on a case study. The findings from this study revealed that the challenges faced by SMEs have a significant and negative influence on organizational performance. Challenges that arise as a result of individual factors (management's/entrepreneur's age, education, work experience, personal values, professional support network and moral support network) have the most significant impact on business performance. Based on the study findings recommendations were made particularly addressing the individual factors that represent challenges to the company. The recommendations if heeded will resolve the challenges faced and improve the company's business performance."

Keywords

SME, Business Performance, Development Goals, Global Economy, GDP

1. Introduction

SMEs within South Africa constitute ninety one percent of all formal business and they are recognized to be of great

importance to the economy. SMEs assume a basic part in the monetary advancement of nations, creating and built up everywhere throughout the globe. Observational research uncovers that SMEs in creating nations represent 45% of all employments contributing 33% to the nations' Gross Domestic Product (GDP). Confirmation additionally

demonstrates that SMEs in OECD nations contain roughly 99% everything being equal, representing 70% of aggregate work and contributing 50 to 60% of normal esteem included. In view of proof from earlier writing financial development is a crucial supporter of business and monetary improvement inside any nation, South Africa included. However, the ability of SMEs to effectively contribute towards the socio-economic development of countries is constrained by several challenges that affect the overall business performance (Hervas-Oliver, Sempere-Ripoll, and Boronat-Moll 2014).

Aim of the Study

This research aimed to identify the challenges faced by SMEs in South Africa as well as to determine the extent to which these challenges affect firms' business performance, based on the case study of an SME called ABC Security Solutions. The results of this research provided insight into the challenges faced by SMEs and the extent to which these challenges impact the business performance of SMEs within South Africa. Based on the findings of this research recommendations were made on how to best allocate the resources in solving the challenges faced in order to optimize the business performance.

Literature Review

South Africa is riddled with several socio-economic problems including high unemployment, high crime rates, wealth inequality, slow economic growth, and so forth. SMEs play a significant role in the socio-economic development and counter the socio-economic issues that are faced by nations, developing and developed, South Africa included. However, SMEs all over the world face several challenges that hinder their business performance and consequently hinder their contribution to the socio-economic development of the world's nations. This chapter explores concepts, theories and variables associated with SMEs in South Africa, SME business performance, and the relationship between the two. Based on the issues explored in this chapter the theoretical foundation of this study was laid.

Overview of SMEs

Several works of research explored the concept of SMEs and related issues demonstrating the importance of those organizations to economic growth, employment creation, poverty reduction, promotion of entrepreneurship, and so forth (Cowling 2017). It is apparent that SMEs are of great significance to global economies and society as a whole (Schaper and Lee. 2016). The following subsections explore several concepts about SMEs, the definition of SMEs and their importance in the global and South African economy.

The Definition of SMEs

According to (Pandya 2012), defining the term of SME is considered a challenge as its meaning varies widely on a global scale from one country to another, from one industry to another and from one organization to another. Costa, Soares, and de Sousa (2016) noted that SMEs range from part-time or unincorporated businesses within no hired labor(self-employed units) to incorporated corporations 50 individuals as hired labor. Research by Stettner, Aharonson, and Amburgey (2014) noted that different countries "and organizations make use of different criteria which is subject to judgment in defining SMEs. Cowling (2017) adds on and identifies that SMEs can be defined with regard to annual revenues turnover, valuation of the business's assets, the value of productive assets, annual revenues generated, number of employees or the total of the balance sheet. Despite the different definitions and criteria for the definition of SMEs, the organizations are commonly viewed as being not relatively large (Berisha and Pula 2015).

SME definitions reach out in 3 flanks, "definitions by universal foundations, national laws, and businesses (Majumdar and Manohar 2016). The criteria utilized by scholastics, universal foundations and policymakers for characterizing SMEs are generally alluding to descriptive words that are characteristic of size as some quantifiable quantitative marker (Schaper and Lee. 2016). Contrasting the meaning of SMEs crosswise over nations is intricate and testing as in a few nations this definition varies starting with one division of the economy then onto the next. The quantity of employees is the most well-known criteria for recognizing extensive and private ventures (Berisha and Pula 2015). The absence of comprehensiveness and compatibility in the criteria of the definitions is undeniable yet these quantitative definitions are useful in observing the prosperity of a monetary segment over a period. These quantitative definitions are also a useful means of benchmarking sectors within an economy or with other economies for the

determination of the eligibility of firms to receive the public support of some form or another and imposing arbitrary tax thresholds. Based on the findings from literature there is an apparent lack of consensus on the definition of SMEs.

Recognizing the difficulty of defining SMEs in quantitative terms, Storey (2016) argues these organizations can easily be identified through the use of qualitative criteria SMEs. According to Batra et al. (2015) because of the more straightforward practices and structure of SMEs, a superficial survey would easily differentiate them from larger organizations. Trzcieliński (2016) identified qualitative criteria for identifying SMEs as including "unity of capital and leadership" and "personal principle qualitative criteria for defining SMEs based on what is referred to as". "Unity of capital and leadership refers to the manager and proprietor being the same individual; the owner-manager takes up some or all liability risk for the business as well as leadership responsibility (Te and Cvijikj 2017). According to Berisha and Pula (2015), personal principle denotes to the element that the management of a firm doing a central role in the processes of business decision-making, keep up direct contact with customers, suppliers and employees and a life-long commitment to the business (Abdul Hamid, Baharun, and Hashim 2017).

1.1. SMEs in the Global Economy

Kadir et al. (2018) acknowledged that the majority of governments across the globe particularly in developing nations face difficulties of weak investment and trade, low economic growth and income inequality." Against this background SMEs are well-thought out to be of great significance in promoting technological progress, inciting economic growth and benefiting open markets the World's nations improving beneficial across society and economies (Angilella and Mazzù 2015). Knight and Liesch (2016) acknowledged that since the SME sector constitutes a significant portion of developing and developed economies, the activity of SMEs is essential to the socio-economic development in these countries. According to Jamali et al. (2017) SMEs in developing countries contribute at least 33% of the Gross Domestic Product (GDP) accounting for a minimum 45% of all jobs. Knight and Liesch (2016) noted that SMEs in OECD countries contribute over 60% of average value added constituting approximately 99% of all firms accounting for up to 70% of total employment.

SMEs in the South African Economy

Since the freedom of the South African government has been exceedingly centered on the advancement of development of independent ventures this exertion is confirmed by the death of the National Small Business Act in 1996. The death of this law came in the exertion of revising the social treachery and financial disparity that happened because of the politically sanctioned racial segregation period of South Africa (Asah, Fatoki, and Rungani 2015). The institution of this law saw the foundation of the National Small Business Council for the expressed reason to "speak to and advance the interests of private venture" and additionally to exhort the national, common, and neighborhood circles of government on social and financial approach that advances the improvement of an independent company. Moreover, the National Business Act of 1996 additionally accommodated the foundation of the Ntsika Enterprise Promotion Agency which, in accordance with the National Small Business Strategy effectively provides preparing and non-monetary help to SMEs in South Africa (Cant, Wiid, and Hung 2016).

The disappointment of the government's drive to advance independent companies later prompted the alteration of the National Small Business Act in 2004. This took into consideration the foundation of the Small Enterprise Development Agency (SEDA) which under the Bureau of exchange and Industry involved the Community Public Private Partnership Program (CPPP), the National Manufacturing Advisory Centre (NAMAC) and the Ntsika Enterprise Promotion Agency. To grow and streamline SME access to fund, the year 2012 saw the formation of the Small Enterprise Finance Agency (SEFA), which straightforwardly gives financing to businesspeople and proprietors of independent companies. SEFA obtained Khula Enterprise Finance Ltd which effectively provides financing to independent companies to guarantee their supportability and advancement. The private division likewise put the exertion in guaranteeing the advancement and manageability of SMEs in South Africa through the foundation of the Banking Association of South Africa (BASA), an industry body speaking to all banks which work in South Africa. As indicated by BASA (2017), it is "focused on SME improvement and support through partner commitment, and inclusion or responsibility for activities." BASA (2017) distinguished a portion of the SME advancement activities it is associated with, which are:

• Stakeholder engagement through SEDA, Khula, South African Micro-Finance Apex, The Department of Trade and Industry, Gauteng Department of Economic Development, donors, Industrial Development Corporation and so forth

- The Broad-Based Black Economic Empowerment initiative, as a response to the narrow-based Black Economic Empowerment, and the Financial Sector Charter
- Providing SME financial literacy through FSP and BANKSETA
- Knowledge and research management
- Providing credit extensions facilities for financially distressed SMEs after the global crisis through NEDLAC under a finance and investment committee
- Micro-finance, co-operative banks and co-operatives facilitating financial inclusion and downstream banking
- The Financial Sector Program (FSP) is associated with USAID.

A South African government activity that served to review social and financial incongruities coming from the politically sanctioned racial segregation period and also advancing SME improvement is the Black Economic Empowerment (Knies et al. 2017). Ntsika and Khula Enterprise Finance were set up in 1995 and 1996 individually, amid the beginning of the usage of the BEE, in the exertion of financing dark strengthening through SME improvement advancement (Eldor and Harpaz 2016). "However, the BEE initiative was met by much criticism for not being competent enough in addressing real social and economic challenges as it was discriminative against the previously advantaged but highly educated white minority leading to brain drain and was only beneficial to a few elite black individuals (Chinomona and Maziriri 2015). The literature on the effect of the BEE successor the BBBEE on promoting entrepreneurship and SME development is mixed lacking empirical data and inconclusive, there is a knowledge gap in this respect (Eldor and Harpaz 2016). In a 2016 survey by BPL (2016) the distribution of South African SMEs by area of operation yielded showed that the majority of SMEs operate in Gauteng province which is also the study setting for this research as shown in Figure 1 below."

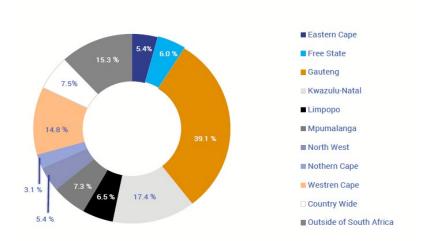


Figure 1. Distribution of SMEs by Location Source: (BASA 2017)

"Research by BPL (2016) also provided statistics on SME ownership in South Africa, regarding gender, as of 2016 as shown in the following Figure 2. Even though male individuals are the majority of SMEs owners, the research shows that the proportion of female business owners has been on the increase, even though slightly, since 2013 and this is positive as females are considered disadvantaged and underrepresented compared to their male counterparts in the world of business."

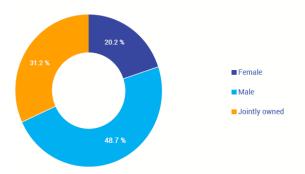


Figure 2. Distribution of SME Ownership by Gender. Source: (BASA 2017)

The South African SME landscape as discussed so far shows that SMEs are of great importance to the South African economy and constitute a considerable proportion of formal business ninety one percent (Olatunji and Houghton 2017). However, their contribution to the economic and social development of the country is not optimal. Zaridis and Mousiolis (2014) and Lukason and Hoffman (2015) argue that the reason for this suboptimal contribution is reduced performance and consequent low growth of the firms. According to Asah, Fatoki, and Rungani (2015), the performance of SMEs is central to the development of SMEs and their contribution to addressing the socio-economic challenges and goals of South Africa. Thus, much attention and effort should be granted towards promoting SME growth.

1.2. Theoretical Framework

The following Figure 3 illustrates the theoretical framework for this study based on the findings of the review of the pertinent literature as adopted from the work of (Sarwoko and Frisdiantara 2016).

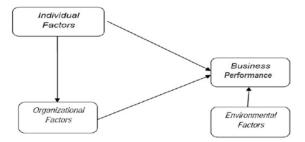


Figure 3. The Impact of SMEs' Challenges on Business Performance Source: (Sarwoko and Frisdiantara 2016)

As shown in Figure 3 above, business performance is affected by SME challenges in the form of individual factors, organizational factors and environmental factors. Individual factors have an influence on organizational factors and both factors also directly influence business performance. On the other hand, environmental factors cannot be influenced by entrepreneurs and the direct influence of business performance. The theoretical framework in Figure 3 above represents the blueprint upon which this research was based.

2. Research Methodology

This research study used a simple random sampling, a probability sampling technique; select a sample of 37 study respondents from the study population. Simple random sampling was adopted as this research sought to generalize about the target population based on the findings obtained from primary research conducted based on smaller study sample. Hence, selecting a sample that was representative of the population was important.

2.1. The Research Instrument

Kumar (2010) postulates that a research instrument is a tool used in collecting data. Bryman and Bell (2011) have recognized that the selection of a research methodology thus mixed, quantitative and qualitative research methodologies have a more significant impact on the selection of a research instrument. Qualitative data collection usually uses structured and semi-structured interviews, observations and also focus groups on obtaining data (Alison and Susan 2021). Quantitative data can be collected using questionnaires, while mixed research uses all of the data collection means found or that are used by quantitative and qualitative research methodologies.

2.1.1. Ouestionnaire Construction

The questionnaire for the research was constructed with strict abidance to the highest principles of objectivity in quantitative research. The questionnaire comprised of three sections as follows:

- Section A: Collected socio-demographic information of the study participants, that is, gender, age, education and work experience.
- Section B: Collected data on the challenges faced by SMEs and comprised of nineteen, five-scale like type
 questions and one structured question.
- Section C: Collected data on the business performance of the organization under study and comprised of six, five-scaled like type questions

Bazeley and Jackson (2015) noted that data analysis is converting raw data into usable information which can be referred to for concluding the research and also future planning purposes. "All primary data collected was stored on a computer-based database and later retrieved for analysis with the assistance of SPSS quantitative data analysis software. Descriptive and inferential statistics were used to analyze the data for this research. Regression analysis and the Spearman Rho correlation test in SPSS were adopted as the methods of choice for inferential data analysis. The primary data was presented in the form of figures, tables and words."

3. Results, Findings and Discussion

3.1. Introduction

A presentation, discussion and interpretation of the findings from the primary research is provided was done in this chapter. This chapter presents the results and findings obtained from the research questionnaire administered to the study participants. The findings from the study are presented in the form of tables, figures and graphs. 35 out of 37 study participants returned the research questionnaires, a responses rate of 95% which is acceptable. The variables considered in the primary data collected were demographic characteristics of the respondents collected from Section A of the research questionnaire (gender, age, level of education and duration of employment); and responses of study participants to Section B of the questionnaire addressing challenges faced by SMEs (individual factors, organizational factors and environmental factors) and business performance (financial and non-financial) of ABC Security Solutions.

3.2. Findings

3.2.1. Biographical Information

3.2.2. Gender

Figure 4 below illustrates the distribution of respondents based on their gender. Out of the 35 research participants the majority (63%) were the majority, while the remaining 37% were female.

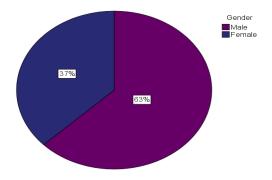


Figure 4. Distribution of Respondents by Gender

Age

Table 1 below shows the distribution of the study respondents based on their age.

Table 1. Distribution of Respondents by Age

Educational Qualification	Frequency (Percentage)
Below 25 years	9%
25-30 years	17%
31-35 years	23%
36-40 years	34%
Above 40 years	17%
Total	100%

Indicated in the Table 1 above is a diagram that shows the majority of the study respondents between the ages of 31 and 35 years constituting of 23% of the study sample and the minority (9%) were below 25 years of age. Research and also future planning purposes. "All primary data collected was stored on a computer-based database and later retrieved for analysis with the assistance of SPSS quantitative data analysis software. Descriptive and inferential statistics were used to analyze the data for this research. Regression analysis and the Spearman Rho correlation test in SPSS were adopted as the methods of choice for inferential data analysis.

Level of Education

Figure 5 below shows the distribution of respondents to the research questionnaire based on their highest level of educational qualification.

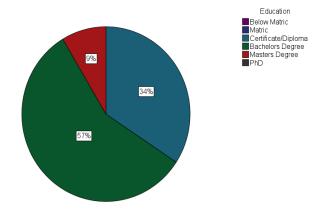


Figure 5. Distribution of Respondents by Level of Education

As reflected in Figure 5, the majority (53%) of the study participants have a bachelor university degree. On the other hand, the minority (9%) have at least a master's degree.

Employment Duration

In Figure 6 below the distribution of respondents to the research questionnaire based on individuals' duration of employment within the particular law firm was illustrated.

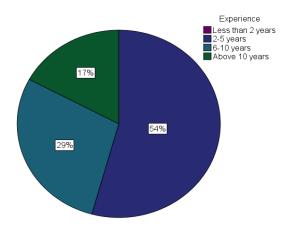


Figure 6. Distribution of Respondents by Duration of Employment

As shown in Figure 4.3 above, the majority of (54%) of the research questionnaire respondents had been in their jobs for between 2 to 5 years. A minority (17%) of the study participants have had jobs for more than 10 years.

Challenges Faced by SMEs

As expressed by Sarwoko and Frisdiantara (2016), in the context of South Africa, these challenges can be categorized into three factors which are individual factors, organizational factors and environmental factors. The following subsection provides a presentation of the findings of challenges faced by ABC Security Solutions Ltd. from the primary research.

Individual Factors

This part provides a presentation of the results obtained from the study from research participants' responses to questions 1 to 6 of Section B of the research questionnaire, concerned with the environmental factors which pose challenges to SMEs. The study findings were thus as follows:

• Question 1: The management/entrepreneur has the appropriate education to effectively carry out their duties within the company

Figure 7 below illustrates the distribution of respondents 'responses to question 1.

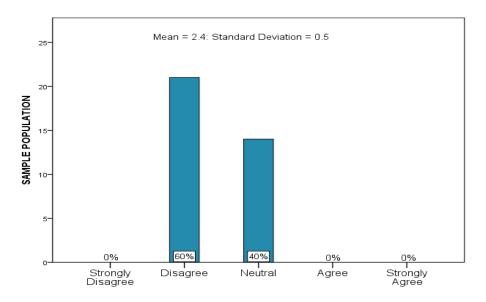


Figure 7. Management's/Entrepreneur's Education at ABC Security Solutions (Pty) Ltd

Based on the Figure 7 above, the majority (60%) of the study respondents responded 'disagree' to whether the management/entrepreneur of ABC Security Solutions has the appropriate education to effectively carry out their duties within the company. A minority (40%) of the respondents responded 'neutral' to this question. "The results also showed a mean of 2.4 and a standard deviation of 0.5. These results suggest that to a greater extent ABC's management/entrepreneur lacks appropriate education to effectively carry out their duties within the company.

• Question 2: The management/entrepreneur is old enough to effectively carry out their duties within the company

Figure 8 below shows the distribution of respondents 'responses to question 2 above. The primary data was presented in the form of figures, tables and words."

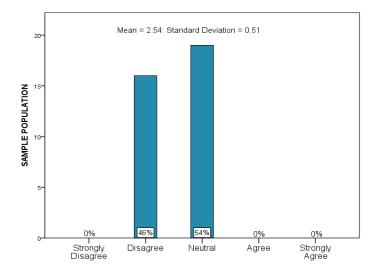
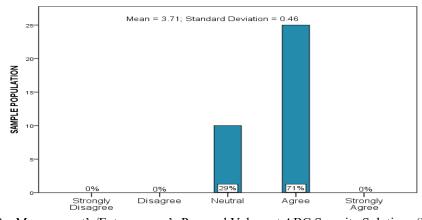


Figure 8. Management's/Entrepreneur's Age at ABC Security Solutions (Pty) Ltd

The results shown in Figure 8 above show that the majority(54%) of the study respondents responded neutrally to whether the management/entrepreneur of ABC is old enough to effectively carry out their duties within the company. The remaining 46% of the study participants responded disagreed with the management/entrepreneur of ABC being old enough to effectively carry out their duties within the company. The study findings also showed a mean of 2.54 and a standard deviation of 0.51. These results suggest that to a greater extent the management/entrepreneur of ABC Security Solutions is not old enough old enough to effectively carry out their duties within the company.

• Question 3: The personal values of the management/entrepreneur promote the effective operation of the company

Figure 9 below provides a presentation of the distribution of responses to question 3 above.



 $Figure\ 9\ .\ Management's/Entrepreneur's\ Personal\ Values\ at\ ABC\ Security\ Solutions\ (Pty)\ Ltd$

Based on the findings in Figure 9 above, it is apparent that the majority (71%) of the study participants responded 'agree' to whether the personal values of the management/entrepreneur promote the effective operation of the company and the remaining 29% responded 'neutral'. The study results also revealed a mean of 3.71 and a standard deviation of 0.46. These results suggest that to a greater extent the management personal values of the management/entrepreneur promote the effective operation of the company.

• Question 4: The management/entrepreneur has the adequate and appropriate experience to promote the effective operation of the company

Figure 10 below illustrates the distribution of responses to question 4 above.

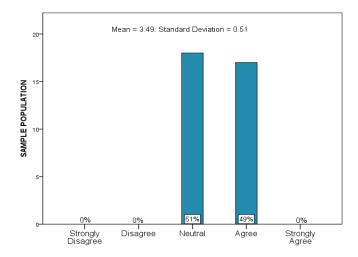


Figure 10. Management's/Entrepreneur's Work Experience at ABC Security Solutions (Pty) Ltd

Based on the Figure 9 above, the majority (51%) of the study respondents responded 'neutral' to whether the management/entrepreneur has the appropriate experience to promote the effective operation of the company. A minority (49%) of the respondents responded 'neutral' to this question. As noted by Bolzani and Der Foo (Bolzani and Der Foo 2018), most SMEs usually fail because of the lack of appropriate and adequate work experience. The lack of work experience by the management and entrepreneurs of SMEs represents a challenge for SMEs hence the findings of this research are not in line with the findings in literature which identified the lack of experience as a challenge faced by SMEs (Bolzani and Der Foo 2018).

• Question 5: The management/entrepreneur has the adequate professional support network to effectively carry out their duties within the company

Figure 11 below provides a presentation of the distribution of responses to question 5 above.

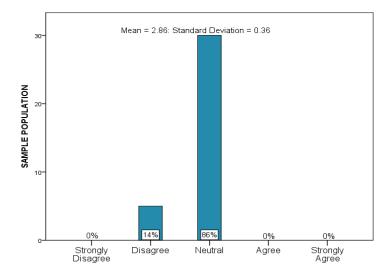


Figure 11. Management's/Entrepreneur's Professional Support Network at ABC Security Solutions (Pty) Ltd

Figure 11 depicts that the majority (86%) of the study respondents responded 'neutral' to whether the management/entrepreneur has the appropriate professional support network to effectively carry out their duties within the company responded 'disagree' to the management/entrepreneur of ABC being old enough to effectively carry out their duties within the company. The study findings also showed a mean of 2.86 and a standard deviation of 0.36. These results suggest that the management/entrepreneur neither has the appropriate nor inadequate professional support network to effectively carry out their duties within the company. Hence the results are uncertain.

• Question 6: The management/entrepreneur has the adequate moral support network to effectively carry out their duties within the company

Figure 12 below provides a presentation of the distribution of responses to question 6.

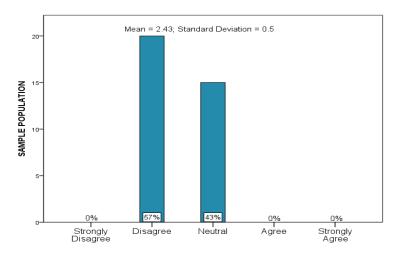


Figure 12. Management's/Entrepreneur's Moral Support Network at ABC Security Solutions (Pty) Ltd

Figure 12 above depicts that it is apparent that the majority (57%) of the study participants responded 'disagree' to whether the management/entrepreneur has the appropriate moral support network to effectively carry out their duties within the company and the remaining 43% responded 'neutral'. The study results also revealed a mean of 2.43 and a standard deviation of 0.5. These results suggest that to a greater extent the management/entrepreneur do not have the appropriate moral support network to effectively carry out their duties within the company.

Organizational Factors

This part provides a presentation of the results obtained from the study from research participants' responses to questions 7 to 11 of Section B of the research questionnaire, addressing the organizational factors which pose challenges to SMEs. The study findings were thus as follows:

• Question 7: The Company has adequate technological capabilities Figure 13 below provides a presentation of the distribution of responses to question 7 above.

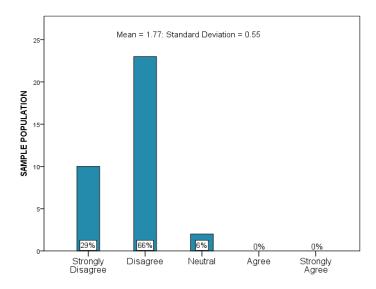


Figure 13. Technological Capabilities at ABC Security Solutions (Pty) Ltd

Based on the findings in Figure 13 above, the majority (66%) of the study respondents responded 'disagree' to whether ABC Security has adequate technological capabilities. 29% of the respondents answered, 'strongly disagree' and (6%) responded 'neutral' to whether ABC Security has adequate technological capabilities. The results also showed a mean of 1.77 and a standard deviation of 0.55. These results suggest that to a greater extent ABC Security Solutions does not have adequate technological capabilities.

• Question 8: The management/entrepreneur exhibits the adequate management skills and competencies Figure 14 below provides a presentation of the distribution of responses to question 8 above.

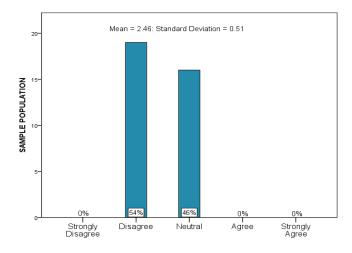


Figure 14. Management's/Entrepreneur's Management Skills and Competencies at ABC Security Solutions(Pty) Ltd

Based on the findings in Figure 14 above, it is apparent that the majority (54%) of the study participants responded 'disagree' to whether the management/entrepreneur of ABC Security exhibit the adequate management skills and competencies. The remaining 46% of the respondents responded 'neutral'. The study results also revealed a mean of 2.46 and a standard deviation of 0.51. These results suggest that to a greater extent the management/entrepreneur of ABC Security do not exhibit adequate management skills and competencies.

• Question 9: The marketing and market research capabilities of the company are adequate Figure 15 below provides a presentation of the distribution of responses to question 9 above.

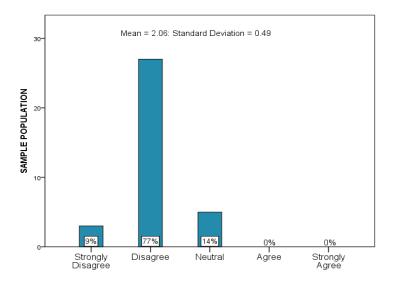


Figure 15. Marketing Capabilities at ABC Security Solutions (Pty) Ltd

Based on the findings in Figure 14 above, the majority (77%) of the study respondents disagree' to whether ABC Security has marketing and market research capabilities. 9% of the respondents answered, 'strongly disagree' and (14%) responded 'neutral' to whether ABC Security has adequate marketing and market research capabilities.

• Question 10: The Company has adequate access to finance

Figure 16 below provides a presentation of the distribution of responses to question 10 above.

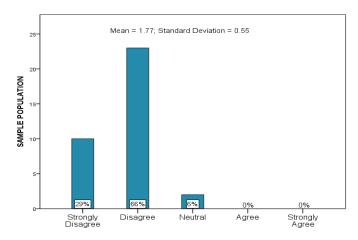


Figure 16. Access to Finance at ABC Security Solutions (Pty) Ltd

ABC Security has adequate and sufficient access to the financial resources to finance its operations. 29% of the participants responded, 'strongly disagree' and the remaining 6% of the study participants responded 'neutral' to ABC

Security having adequate and sufficient access to finance to effectively carry out its operations. ABC Security Solutions does not have adequate and sufficient access to finance for its operations.

• Question 11: The Company has adequate skilled labor.

Figure 17 below provides a presentation of the distribution of responses to question 11 above.

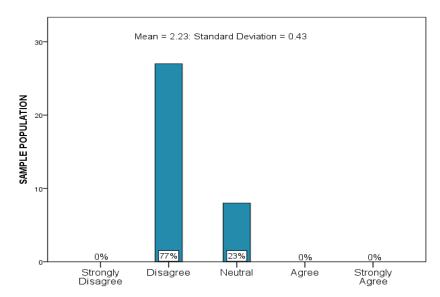


Figure 17. Skilled Labor at ABC Security Solutions (Pty) Ltd

A minority (23%) of the respondents responded 'neutral' to this question. "The results also showed a mean of 2.23 and a standard deviation of 0.43. These results suggest that to a greater extent ABC's lacks adequate skilled labor to effectively carry out its operations. As noted by Yeboah (2015), the lack of the appropriate skilled labor for the growth and development of SMEs is problematic. In agreement, Sarwoko and Frisdiantara (Sarwoko and Frisdiantara 2016) noted that, in the context of South Africa, the failure of SMEs to deliver high quality output.

3.2.3. Environmental Factors

This section provides a presentation of the results obtained from the study from research participants' responses to questions 12 to 20 of Section B of the research questionnaire, concerned with the environmental factors which pose challenges to SMEs. The study findings were thus as follows:

• Question 12: Competition is of benefit to this company Figure 18 below provides a presentation of the distribution of responses to question 12 above.

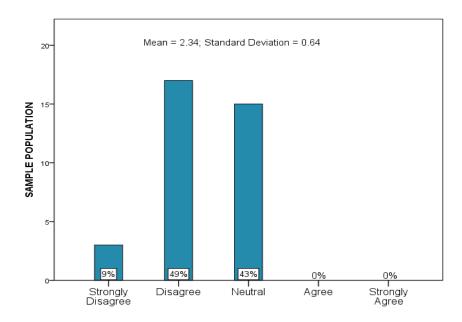


Figure 18. Competition and ABC Security Solutions (Pty) Ltd

Figure 18 above, it is apparent that the majority (49%) of the study participants responded 'disagree' to whether competition is of benefit to ABC Security Solutions and the remaining 43% responded 'neutral'. The remaining 9% of the participants responded, 'strongly disagree'. The study results also revealed a mean of 2.31 and a standard deviation of 0.64. These results suggest that to a greater extent competition is not beneficial for ABC Security Solutions and it represents a challenge.

• Question 13: Government bureaucracy and legislation are of benefit to this company Figure 19 below provides a presentation of the distribution of responses to question 13 above.

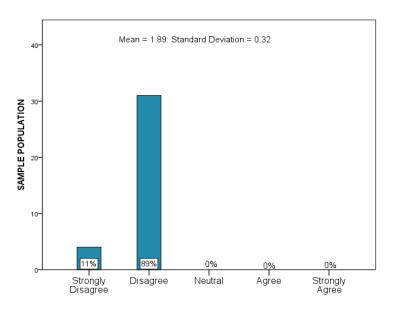


Figure 19. Regulations and ABC Security Solutions (Pty) Ltd

Figure 19 above shows that the majority (89%) of the study respondents responded 'disagree' to whether Government bureaucracy and legislation are of benefit to ABC Security. The remaining 11% of the study participants responded

'strongly disagree' to government bureaucracy and legislation being of benefit to ABC Security. The study also showed a mean of 1.89 and a standard deviation of 0.32. These results suggest that to a greater extent the government bureaucracy and legislation is not of benefit to ABC Security, and it represents a challenge for the company.

• Question 14: The country's economic growth is of benefit for this company

Figure 20 below provides a presentation of the distribution of responses to question 14 above.

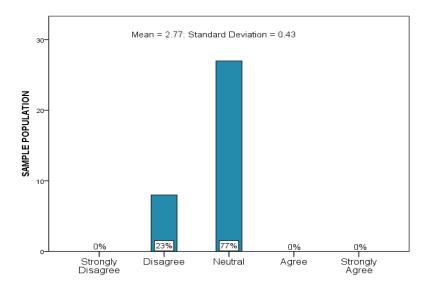


Figure 20. National Economic Growth and ABC Security Solutions (Pty) Ltd

Based on Figure 20 above, the majority (77%) of the study respondents responded 'neutral' to whether the country's economic growth is of benefit to ABC Security Solutions. These results are thus against the findings from literature that economic growth is commonly recognized as having a widespread and significant effect on the performance of companies (Kaseeram and Mahadea 2017). The demand of security services in South Africa thus do not seem to fluctuate with trends in economic growth.

• Question 15: Interest rates are of benefit for this company

Figure 21 below provides a presentation of the distribution of responses to question 15 above.

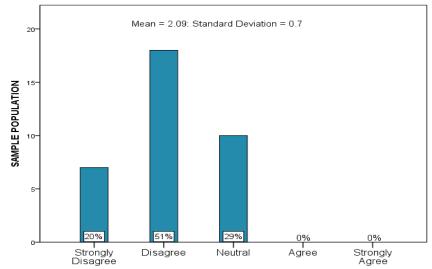


Figure 21. Interest Rates and ABC Security Solutions (Pty) Ltd

The results shown in Figure 21 above show that the majority (51%) of the study respondents responded 'disagree' to whether interest rates are of benefit to ABC Security. 20% of the study participants responded 'disagree' and the remaining 29% responded 'neutral' to trends in the interest rates being of benefit to ABC Security. The study findings also showed a mean of 2.09 and a standard deviation of 0.7.

• Question 16: The strength of the Rand is of benefit for this company

Figure 22 below provides a presentation of the distribution of responses to question 16 above.

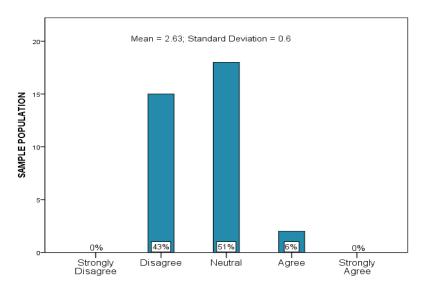


Figure 22. Exchange Rates and ABC Security Solutions (Pty) Ltd

"Based on the findings in Figure 22 above, it is apparent that the majority (51%) of the study participants responded 'neutral' to whether the strength of the rand is of benefit to ABC, 43% responded 'disagree' and the remaining 6% responded 'agree.' The study results also showed a mean of 2.63 and a standard deviation of 0.6. These results suggest that the exchange rate is not of any particular benefit or cost to ABC Security Services.

• Question 17: Crime and corruption are of benefit for this company

Figure 23 below provides a presentation of the distribution of responses to question 17 above.

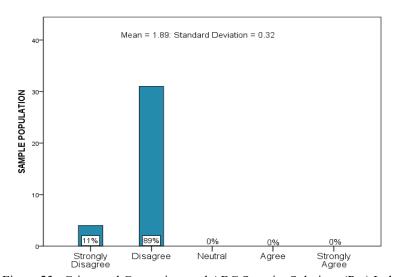


Figure 23. Crime and Corruption; and ABC Security Solutions (Pty) Ltd

Based on the findings in Figure 23 above, it is apparent that the majority (89%) of the study participants responded

'disagree' to whether crime and corruption are of benefit to ABC and the remaining 29% responded 'neutral'. The study results also revealed a mean of 3.71 and a standard deviation of 0.46. These results suggest that to a greater extent crime and corruption are not of benefit to ABC Security Solutions and they represent a challenge for the company.

• Question 18: The trends in power supply are of benefit for this company

Figure 24 below provides a presentation of the distribution of responses to question 18 above.

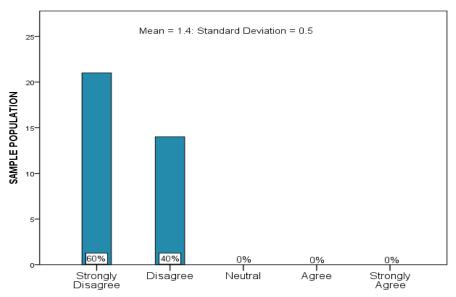


Figure 24. Power Supply and ABC Security Solutions (Pty) Ltd

Based on the Figure 24 above, the majority (60%) of the study respondents responded 'strongly disagree' to whether trends in power supply are of benefit for. A minority (40%) of the respondents responded 'disagree' to this question. The results also showed a mean of 1.4 and a standard deviation of 0.5. These results suggest that to a greater extent trends in power supply are not of benefit to ABC Security and they are a challenge for the company. As noted by Kohler (Kohler 2014) and Mavimbela & Dube (Mavimbela and Dube 2016), power shortages significantly disrupt the operations of businesses and finding alternative sources of power represents an increased cost for SMEs. Hence, the findings from the primary data are in line with those in literature.

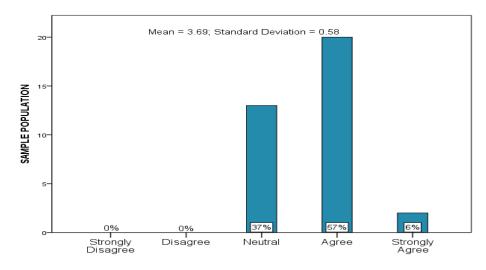


Figure 25. Telecommunication Systems and ABC Security Solutions (Pty) Ltd

Based on the findings in Figure 25 above, it is apparent that the majority (57%) of the study participants responded 'agree' to whether the current telecommunications systems are of benefit to ABC, 37% responded 'agree' and the remaining 6% responded 'strongly agree'. The study results also revealed a mean of 3.69 and a standard deviation of 0.58. These results suggest that to a greater extent the current telecommunications systems are of benefit to ABC. The results are in line with the work of who noted that South Africa's telecommunication systems are of great benefit to SMEs allowing for the improved effectiveness and efficiency in their operations. However, these findings are not in line with those of (Mavimbela and Dube 2016) who identify the cost of internet services as a major concern and challenges for

SMEs in South Africa.

• Question 20: What other challenges, besides the ones identified above, does your company face? In response to question 20 above, no additional challenges were cited by the study participants. These results show that all the challenges faced by SMEs were identified and addressed within this study, the literature review and the research questionnaire.

Business Performance

The delivery of business performance is recognized, universally by academics and practitioners alike, as the principal objective of every business organization. It is also recognized that business performance can come in the form of financial performance and non-financial performance. The following subsections present the study findings concerning the financial and non-financial performance of ABC Security Solutions Ltd.

Financial Performance

This subsection provides a presentation of the study findings concerning the financial performance of the institution. under study. These findings are based on the study participants' responses to questions 21 to 24 in Section C of the research questionnaire.

• Question 21: The Company's returns are profitable relative to its assets
Figure 26 below provides a presentation of the distribution of responses to question 21 above.

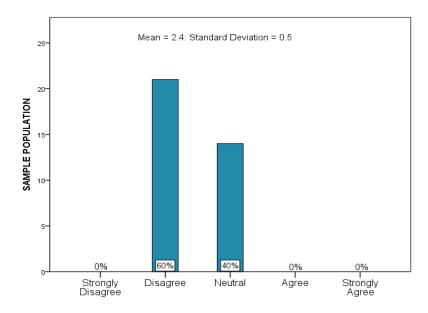


Figure 26. Returns Relative to Assets at ABC Security Solutions (Pty) Ltd

The results shown in Figure 26 above demonstrate that the majority (60%) of the study respondents responded 'disagree' to whether ABC's returns are profitable relative to its assets. The remaining 40% of the study participants responded 'neutral' to this question. The study findings also showed a mean of 2.4 and a standard deviation of 0.51. As Arnold (2013) noted, the returns of a company relative to its assets, also known as return on investment, are a

conventional indicator of the financial performance of a company. These results suggest that to a greater extent ABC's returns are not profitable relative to its assets and these results are suggestive of poor organizational performance."

Question 22: The use of assets by the company is efficient

Figure 27 below provides a presentation of the distribution of responses to question 22 above.

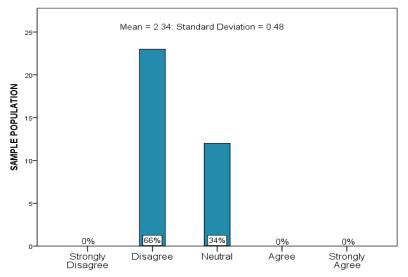


Figure 27. Asset Utilization Efficiency at ABC Security Solutions (Pty) Ltd

The results shown in Figure 27 above show that the majority (66%) of the study respondents responded 'disagree' to whether ANCs returns are profitable relative to its assets. The remaining 34% of the study participants responded 'neutral' to this question. The study findings also showed a mean of 2.34 and a standard deviation of 0.48. As noted by Picker et al. (2016), the efficiency with which a company utilizes its assets is a conventional indicator of the financial performance of that company. Therefore, the results from the study suggest that, to a greater extent, ABC's use of its assets is not efficient, and this is suggestive of poor financial performance."

3.2.4. Non-Financial Performance

A presentation of the study findings concerning the nonfinancial performance of the institution under investigation is presented in this subsection. These findings are based on the study participants' responses to questions 25 to 26 in Section C of the research questionnaire.

• Question 25: Employee turnover within the company is low Figure 27 below provides a presentation of the distribution of responses to question 25 above.

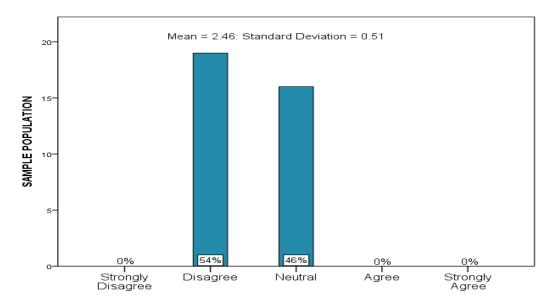


Figure 28. Employee Turnover at ABC Security Solutions (Pty) Ltd

Figure 28 above demonstrates that the majority (54%) of the study respondents responded disagrees to whether ABCs process of acquisition of assets is tied to the long-term plan of the company. A minority, 46%, of the study participants responded 'neutral' to this question. The study findings also revealed a mean of 2.46 and a standard deviation of 0.51. These results point, to a larger extent, towards a high employee turnover. Sauaia (2001) identifies employee turnover as a conventional indicator of non-financial performance. Hence, these results suggest that to a greater extent ABCs non-financial performance is poor.

• Question 26: Employees of the company are motivated and satisfied to perform at their best Figure 29 below provides a presentation of the distribution of responses to question 26 above.

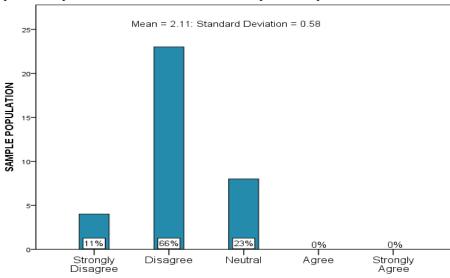


Figure 29. Employee Motivation and Satisfaction at ABC Security Solutions (Pty) Ltd

Figure 29 above shows that the majority (66%) of the study respondents disagrees to whether ABC's process of acquisition of assets is tied to the long-term plan of the company. 23% of the study participants responded neutrally and the remaining 11% responded strongly disagreed to this question. The study findings also showed a mean of 2.11 and a standard deviation of 0.7. These results point, to a larger extent, towards a high employee turnover. Sauaia

(2001) noted that employee motivation and satisfaction is a conventional indicator of nonfinancial performance. Therefore, the results from the study suggest that to a greater extent ABC's non-financial performance is poor."

Challenges Faced by SMEs and Business Performance

Several empirical works of research including those by (Mavimbela and Dube 2016), (Sarwoko and Frisdiantara 2016) (Asah, Fatoki, and Rungani 2015); established a link between the several challenges faced by SMEs and organizational performance. This section provides evidence for this relationship in reference to ABC Security Solutions. The analysis that ensues was conducted through regression analysis, with the assistance of SPSS 23, providing evidence for a causal relationship between the challenges faced by SMEs and organizational performance. Analysis of variance (ANOVA) was used to determine the overall significance of the regression model of the impact of organizational challenges on organizational performance. Table 4.2 below presents the findings of the ANOVA."

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	7.191	3	2.397	84.975	$0.000^{\rm b}$
	Residual	0.874	31	0.028		
	Total	8.05	34			
a. Depe	endent Variable: Org	anisational Performa	ance (OP)			
b. Pred	ictors: (Constant), In	dividual Factors (IF), Organisation	al Factors (OF), Env	rironmental Fac	ctors (EF)

Table 2. ANOVA Analysis

As shown in Table 2 above, the regression model for this research is significant at the 0.05 level of significance shown by the probability value (Sig) of 0.000. Thus, based on these findings the regression model is statistically significant in predicting trend in organizational performance (OP) based on the predictors IF, OF and EF. Below in Table 3 is the model summary for this study showing the extent to which variations in the independent variables (IF, OF and EF) can explain variations in the dependent variable (OP)."

Table 3. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	0.944ª	0.892	0.881	0.16795	

a. Dependent Variable: OP

As shown in Table 3 above, the extent to which the independent variables collectively predict the dependent variables is indicated by the coefficient of determination (R2/R Square). The results of the study show a coefficient of determination of 0.892, this means that 89.2% of the variations in OP of ABC Security Solutions can be explained by the collective variations in IF, OF and EF. The results suggest that the challenges faced by ABC have a highly significant influence on the performance of the organization. Table 4 below provides a presentation of the results from multiple regression analysis, providing the coefficients for the regression model expressing the impact of SME challenges on organizational performance.

Table 1. Summary of Regression Coefficients

Model	Unstandardized Coefficients		Standardized	T	Sig.
			Coefficients		
	В	Std. Error	Beta		

b. Predictors: (Constant), IF, OF, EF

1	(Constant)	-0.664	0.243		-2.735	0.01
	IF	0.637	0.217	0.524	2.936	0.006
	OF	0.349	0.186	0.3	1.878	0.07
	EF	0.169	0.26	0.148	0.650	0.521

The regression model for this research, based on the results shown in Table 4.4 above, in the form of $Y = \beta 0 + \beta 1 X1 + \beta 2 X2 + \beta 3 X3$, $\beta 0$ representing the constant of the model; $\beta 1$, $\beta 2$ and $\beta 3$ representing the regression coefficients; and X1, X2, X3 and Y representing, respectively, the variables IF, OF, EF and OP, came out as, Y = 0.905X1 + 0.529X2 + 0.406X3 - 0.664. Based on the way this research was coded, the higher the score of the coefficients the less severe the challenge faced, the regression coefficients above can be interpreted as follows: holding all dependent variables (IF, OF and EF) constant at zero. The organizational performance would be negative (-0.664). Given that all the regression coefficients are negative, a reduction in the severity of the challenges faced by SMEs.

Th results in an increase in the organizational performance of ABC Security Solutions. The summary of coefficients in Table 4 above also shows that a unit improvement in the IF of ABC's results in a 0.905 increase in the organizational performance of the company. It is also apparent that a unit improvement of ABC Security Solutions results in a 0.529 increase in the organizational performance of the company and a unit increase in EF would result in a 0.406 improvement in the organizational performance. The study findings from the regression analysis that identified that an improvement in the IF, OF and EF of an organization, that is a reduction of the severity of the challenges faced, are in line with those of (Sarwoko and Frisdiantara 2016);(Asah, Fatoki, and Rungani 2015) and (Mavimbela and Dube 2016); who also noted that challenges faced by SMEs "have a negative impact on organizational performance and a reduction in the challenges of SMEs results in an increase in organizational performance. The finding that IF have the greatest influence and significance on the organizational performance of SMEs are in line with the findings in literature by Isaga (Isaga 2018) which identified the individual characteristics of entrepreneurs as, arguably, the most significant factors affecting the performance of SMEs.

4. Recommendations and Conclusions

This study adopted the approach by Sarwoko and Frisdiantara (2016) of categorizing the challenges that SMEs may face under three categories of individual factors, organizational factors and environmental factors. The results from the primary research, in relation to the challenges that SMEs face which fall under individual factors, showed that ABC Security Solutions faced challenges of inadequate entrepreneur/management education; poor performance as a result of the young age of the management/entrepreneur; the lack of a moral and professional support network. These findings were in line with those expressed in literature which identified the challenges as a result of the individual factors of education, age, professional support network and moral support network (Bolzani and Der Foo 2018), (Sarwoko and Frisdiantara 2016). On the other hand, the challenges that arise as a result of the individual factors of personal values and experience were not found as challenges for ABC, against the findings in literature identifying them as challenges for SMEs (Bolzani and Der Foo 2018).

In terms of organizational factors, as challenges faced by SMEs, the lack of technological capabilities; management skills and competencies; marketing capabilities; access to finance and skilled labor represented challenges faced by ABC Security. These results were in line with those of (Maduku, Mpinganjira, and Duh 2016); (Boamah-Abu and Kyobe 2015); and (Asah, Fatoki, and Rungani 2015) who also identified the same organizational factors as representing challenges that are faced by SMEs. In terms of the environmental factors, as challenges faced by SMEs, competitive pressure; government bureaucracy and legislation; interest rates; crime and corruption; and power supply were identified as representing challenges for ABC Security. On the other hand, in terms of environmental factors, the factors of economic growth, exchange rates and telecommunication systems were identified not to represent challenges for ABC. The findings that economic growth and telecommunication systems were against the findings in literature identified these factors as representing challenges for SMEs. On the other hand, the finding that ABC does not find the exchange rate as a challenge is in line with the literature (Makina et al. 2015).

4.1. What is the impact of the challenges identified in the business performance?

In order to assess the impact of challenges on the company's performance, regression analysis, on the primary data, was conducted. Based on the results of this analysis, all the challenges faced by ABC were identified to have a significant impact on the overall business performance of the company. The primary research findings revealed that

"with a resolution of the findings faced by the company, the overall business performance of ABC Security Solutions would improve. These findings were found to be in line with those in literature (Sarwoko and Frisdiantara 2016); and (Mavimbela and Dube 2016). The study findings from the primary research also show that challenges as a result of individual factors have the greatest influence on performance.

4.2. Recommendations

It is recommended that:

- The management and entrepreneur of the company should acquire additional management skills and expertise
 through working towards higher levels formal education qualifications in business for example the master of
 business administration qualification. This would improve the competencies as well as the skills of the
 management. Improved management would enhance the quality of business decisions made, allowing for
 improved efficiency with which the company makes use of its limited resources.
- The management/entrepreneur is encouraged to establish adequate networks for professional and moral support. This would assist in improving the psychological wellbeing of the management/entrepreneur as well as allowing them to obtain advice, assistance and guidance from more experienced businesspeople. This would help optimize the overall performance of the management/entrepreneur. An adequate professional support network can be attained from joining business clubs/associations, participating in professional mentorship programs, attending trade fairs and so forth. An adequate moral support network can be built from friends, family, partners and religious groups.
- The company should increase its investment in the expansion of its technological and marketing capabilities. This would allow the company to increase the efficiency of its operations expand its market share and better handle the competition it faces.
- Career development, training and up skilling of the company's labor force is also recommended to improve their skills to the required and adequate level. Career development is likely to have a positive influence on the employee turnover, satisfaction and motivation.
- To improve the company's access to finance the company should consider other sources of capital particularly listing on South Africa's low market capitalization stock markets and particularly designs to help SMEs obtain public financing.

4.3. Conclusions

SMEs are of great importance; however, they face several challenges that impair their performance and contribution to socioeconomic development. From the study findings it is also apparent that SMEs face challenges as a result of individual, organizational and environmental factors. This research also established that the challenges faced by SMEs have a significant impact on their business performance. The SME under investigation, Lightway Security Solutions, faced several challenges; as a result of individual, organizational and environmental factors; as well as poor organizational performance and based on the study findings this poor performance can be explained by the challenges the company faces.

References

Abdul Hamid, Abu Bakar, Rohaizat Baharun, and Noor Hazarina Hashim. Comparative Analysis of Managerial Practices in Small Medium Enterprises in Malaysia. *Jurnal Kemanusiaan* 4 (2 SE-Articles), 2017.

Alison, Mackey, and M. Gass Susan. Second Language Research: Methodology and Design. Second Language Research: Methodology and Design, Third Edition. 3rd ed. New York: Taylor and Francis, 2021

Angilella, Silvia, and Sebastiano Mazzù, The Financing of Innovative SMEs: A Multicriteria Credit Rating Model. European Journal of Operational Research 244 (2): 540–54, 2015.

Asah, Francis, Olawale Olufunso Fatoki, and Ellen Rungani. The Impact of Motivations, Personal Values and Management Skills on the Performance of SMEs in South Africa." *African Journal of Economic and Management Studies* 6 (3): 308–22, 2015

BASA, Banking Association South Africa (BASA) Annual Report 2017, Parktown, 2015

Batra, Safal, Sunil Sharma, Mukund R Dixit, Neharika Vohra, and Vishal K Gupta, Performance Implications of Industry Appropriability for Manufacturing SMEs, *Journal of Manufacturing Technology Management* 26 (5): 660–77, 2015

Bazeley, P., and K Jackson, Qualitative Data Analysis with NVivo (2nd Ed.). *Qualitative Research in Psychology* 12 (4): 492–94, 2015

- Berisha, Gentrit, and Justina Shiroka Pula, Defining Small and Medium Enterprises: A Critical Review, *Academic Journal of Business. Administration. Law and Social Sciences* 1 (1): 16–28, 2015
- Boamah-Abu, Charles, and Michael Kyobe, IT Governance Practices of SMEs in South Africa and the Factors Influencing Their Effectiveness. In *Strategic Information Technology Governance and Organizational Politics in Modern Business*, 188–207. IGI Global, 2015
- Bolzani, Daniela, and Maw Der Foo, The 'Why' of International Entrepreneurship: Uncovering Entrepreneurs' Personal Values. *Small Business Economics* 51 (3): 639–66, 2018
- BPL, Celebrating Entrepreneurs Who Create Jobs. Johannesburg, 2016
- Bryman, Alan, and Emma Bell, Business Research Methods. 3rd ed. Oxford: xford University Press, 2016
- Cant, Michael C., Johannes A. Wiid, and Yu Ting Hung. Internet-Based ICT Usage By South African SMEs: The Barriers Faced By SMEs. *Journal of Applied Business Research (JABR)* 32 (6): 1877–88, 2016.
- Chinomona, Elizabeth, and Eugine Tafadzwa Maziriri, The Gauteng Province Of South Africa. *International Business & Economics Research Journal* 14 (6): 835–50, 2015.
- Costa, Eric, António Lucas Soares, and Jorge Pinho de Sousa, Information, Knowledge and Collaboration Management in the Internationalisation of SMEs: A Systematic Literature Review. *International Journal of Information Management* 36 (4): 557–69, 2016.
- Cowling, Marc. The SAGE Handbook of Small Business and Entrepreneurship. In *The SAGE Handbook of Small Business and EntrepreneurshipEntrepreneurship*, 1st ed NV. London: SAGE Publications London, 2017
- Eldor, Liat, and Itzhak Harpaz. A Process Model of Employee Engagement: The Learning Climate and Its Relationship with Extra-Role Performance Behaviors. *Journal of Organizational Behavior* 37 (2): 213–35, 2016
- Hervas-Oliver, Jose-Luis, Francisca Sempere-Ripoll, and Carles Boronat-Moll, Process Innovation Strategy in SMEs, Organizational Innovation and Performance: A Misleading Debate? *Small Business Economics* 43 (4): 873–86, 2014.
- Isaga, Nsubili. The Relationship of Personality to Cognitive Characteristics and SME Performance in Tanzania. *Journal of Small Business and Enterprise Development* 25 (4): 667–86, 2018.
- Kadir, Ahmad Rusydan Ab., Azira Aminallah, Azman Ibrahim, Joehary Sulaiman, Mohd Fadzli Mohd Yusoff, Mohd Mahfudz Idris, Mohd Roslee Bahar, Rahayu Hasanordin, Siti Sakinah Ab. Rahim, and Zaitun Abd Malek. The Influence of Intellectual Capital and Corporate Entrepreneurship Towards Small and Medium Enterprises' (SMEs) Sustainable Competitive Advantage: Building a Conceptual Framework BT Proceedings of the 2nd Advances in Business Research International Co. In *Proceedings of the 2nd Advances in Business Research International Conference*, 67–77, 2018
- Kaseeram, Irrshad, and Darma Mahadea. Marginal Employment Growth Effects In The South African Economy. International Business & Economics Research Journal (IBER) 16 (2): 143–56, 2017
- Knies, Eva, Paul Boselie, Julian Gould-Williams, and Wouter Vandenabeele. Strategic Human Resource Management and Public Sector Performance: Context Matters. *The International Journal of Human Resource Management*, December, 1–13, 2017.
- Knight, Gary A, and Peter W Liesch. Internationalization: From Incremental to Born Global. *Journal of World Business* 51 (1): 93–102, 2017
- Kohler, Marcel. Differential Electricity Pricing and Energy Efficiency in South Africa. Energy 64: 524–32, 2014.
- Kumar, Ranjit. Research Methodology: A Step-by-Step Guide for Beginners. 3rd edition. Los Angeles: Sage Publications, 2010
- Lukason, Oliver, and Richard C. Hoffman. Firm Failure Causes: A Population Level Study. *Problems and Perspectives in Management* 13 (1): 45–55, 2015.
- Maduku, Daniel K, Mercy Mpinganjira, and Helen Duh. Understanding Mobile Marketing Adoption Intention by South African SMEs: A Multi-Perspective Framework. *International Journal of Information Management* 36 (5): 711–23, 2016.
- Majumdar, Jyoti Prakas, and B Murali Manohar. Why Indian Manufacturing SMEs Are Still Reluctant in Adopting Total Quality Management. *International Journal of Productivity and Quality Management* 17 (1): 16–35, 2016.
- Makina, Daniel, Ashenafi Beyene Fantaa, Kingstone Jabulani Khumalo Mutsonziwab, and Obert Maposab. Financial Access and SME Size in South Africa, 2015.
- Mavimbela, Regomoditswe, and Erick Dube. Can an Internet Adoption Framework Be Developed for SMEs in South Africa. *Journal of Entrepreneurship and Innovation in Emerging Economies* 2 (2): 120–35, 2016.
- Olatunji, Ayansola, and Ayandibu Jennifer Houghton. The Role of Small and Medium Scale Enterprise in Local Economic Development (LED). *A Journal of the Academy of Business and Retail Management* 11 (2):

- 133–39, 2017.
- Pandya, Viral. Comparative Analysis of Development of SMEs in Developed and Developing Countries. In *The* 2012 International Conference on Business and Management, 426–33. Phuketh, 2012.
- Sarwoko, Endi, and Christea Frisdiantara. Growth Determinants of Small Medium Enterprises (SMEs). *Universal Journal of Management* 4 (1): 36–41, 2016.
- Sauaia, Antonio Carlos Aidar. Evaluation of Performance in Business Games: Financial and Non Financial Approaches. *Developments in Business Simulation and Experiential Learning: Proceedings of the Annual ABSEL Conference* 28: 210–14, 2001.
- Schaper, Michael T., and Cassey Lee. Competition Law, Regulation and SMEs in the Asia-Pacific: Understanding the Small Business Perspective. In *Competition Law, Regulation and SMEs in the Asia-Pacific: Understanding the Small Business Perspective*, 37–68, 2016
- Stettner, Uriel, Barak Aharonson, and Terry Amburgey. Exploration and Exploitation in Early Stage Ventures and SMEs. *Exploration and Exploitation in Early Stage Ventures and SMEs*, 14:i. Technology, Innovation, Entrepreneurship and Competitive Strategy. Leeds: Emerald Group Publishing Limited., 2014.
- Storey, David. Understanding The Small Business Sector. 1st Editio. London: Routledge, 2016.
- Te, Yiea-Funk, and Irena Pletikosa Cvijikj. Design of a Small and Medium Enterprise Growth Prediction Model Based on Web Mining BT Web Engineering. In *Web Engineering*, edited by Jordi Cabot, Roberto De Virgilio, and Riccardo Torlone, 600–607, 2017.
- Trzcieliński, Stefan. Flexibility of SMEs. In *Advances in Ergonomics of Manufacturing: Managing the Enterprise of the Future*, edited by Christopher Schlick and Stefan Trzcieliński, 417–27, 2016.
- Zaridis, Apostolos D, and Dimosthenis T Mousiolis. Elements of a Successful Business. *Procedia-Social and Behavioral Sciences* 148: 463–67, 2014.

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