

IMPROVING SMALL AND MEDIUM ENTERPRISE GROWTH: A FOCUS ON OPERATIONAL EFFICIENCY

Krishna Govender*

University of KwaZulu-Natal, Durban, South Africa

Sandrasen

Regenesys Business School, Sandton, South Africa

Abstract

Small and Medium Enterprises (SMEs) play a fundamental role as the primary contributors to jobs in South Africa (SA), significantly influencing the country's economic development. Therefore, the prosperity and expansion of SMEs directly affect South Africa's GDP and the sustainability of its economic growth. However, SMEs in SA face a significant challenge with a noticeably high failure rate, contributing to one of the highest SME failure rates globally, as many new ventures struggle to survive beyond their second year of operation. This alarming trend casts doubt on the potential of SMEs to make substantial contributions to job creation, economic progress, and poverty alleviation. This study thus probes operational efficiency factors predominantly managed by SMEs, which could profoundly impact their growth trajectory. Employing a quantitative research design, data was gathered through an online survey and subsequently analysed using descriptive and inferential statistical techniques. The research revealed a positive correlation between operational efficiency and SME growth which was measured using eight (8) factors, namely, employment, sales, revenue, gross profit, asset value, number of customers, vendor count, and number of suppliers, and established them as reliable indicators collectively defining growth in small businesses. A noteworthy finding is that Technological Practices and Innovation emerged as significant predictors of small business growth, underscoring their importance in SME survival. Small businesses incorporating technology and innovation into their operational strategies significantly increase their likelihood of success in expanding employment, sales, and assets.

Keywords: South Africa; SMEs; sustainability; operational efficiency; SME growth

**Improving Small
and Medium
Enterprise Growth:
A Focus on
Operational
Efficiency**

Received
June 3rd 2024
Review
June 5th 2024
Publish
December 31st 2024



AFEBI Management
and Business
Review
(AMBR)

P-ISSN [2548-530X](#)
E-ISSN [2548-5318](#)

*Corresponding author. Email address: govenderkrishna@gmail.com

The unemployment rate in South Africa increased from 30.8 percent in quarter three of 2020 to 32.5 percent in quarter four of 2020 (Stats SA, 2021). The increase in the unemployment rate is evidence that a large number of SMEs are failing since they (SMEs) are a major contributor to employment in South Africa (Fakoti, 2014). The Global Entrepreneurship Monitor reported that 70 percent of new SMEs in South Africa fail within the first two years of start-up and SMEs are negatively impacted by both micro and macro-economic factors (Herrington, Kew and Mwanga 2017).

SMEs are fundamental to the growth of the South African economy and its future socio-political stability. The South African Government's National Development Plan (2012) sets out several ambitious goals for the SME sector, including a target for 90 percent of employment opportunities to be created by the SME sector by 2030. The NDP envisions the South African economy growing by at least 5.4 percent growth per year over the next 15 years, to treble in size and identifies the SME sector as a pivotal player in driving this growth.

"Small enterprise" means a separate and distinct business entity, together with its branches or subsidiaries, if any, including cooperative enterprises, managed by one owner or more predominantly carried on in any sector or subsector of the economy, employing between 11 and 250 employees, with an annual turnover between R15 million and R220 million, (Government Gazette, 2019).

Failure and or success in SMEs in South Africa has been widely researched, however research on operational efficiency as a factor contributing to the growth of SMEs is limited and inconsistent. Most previous research efforts concentrated on the factors that contribute to the failure of SMEs and how to avoid or mitigate these factors in an attempt to reduce the failure rate of SMEs. In most instances when a firm fails, the spotlight is on financial competence, financial management skills, cash flow, insufficient revenue, and external factors, and not necessarily on the internal controllable contributing factors (Alfoqahaa, 2018).

Considering that SMEs have multiple dependent stakeholders from inception that include providers of capital, customers, suppliers, employees and the economy of the country are affected by the inability to grow and deliver success, an understanding of the impact of operational efficiency on SME growth and success is imperative for all stakeholders.

LITERATURE REVIEW

According to Kokemuller (2020), operational business efficiency encompasses several strategies and techniques used to accomplish the basic goal of delivering quality goods to customers in the most cost-effective and timely manner. According to Sharma et al. (2014) improving operational efficiency has a direct impact on the company's bottom line. The operational efficiency of work processes is the ability of an organization to execute strategic, tactical and operational plans, optimising the use of their resources and capabilities in each of their work processes (Atristain and Rajagopal, 2012). Resource utilization, production, distribution, inventory management, and cash flow management are some of the factors contributing to operational efficiency.

According to Hermannek (2016), resource efficiency stemming from resource utilisation is the relationship between product output and resource input, therein characterising how resources are efficiently utilized to impact operational efficiency and hence create economic value. This researcher states that getting the most value from resources and eliminating waste in production and operations are operational efficiency considerations. According to Okwang et al. (2015), all firms value operational efficiency, however, few organisations excel in designing, communicating, and managing their performance improvement initiatives, operational efficiency underpins the companies' most basic strategic goals hence improving customer satisfaction and increasing shareholder value both depend on achieving operational efficiency.

Mourougane (2012) notes that on average, small businesses are 80% less productive than large firms since these (small) firms have limited key resources such as equipment, experienced employees, information technology procedures, and the knowledge of how to implement efficient and effective production methods. Small and Medium Enterprises must have exceptional efficiency to compete with larger companies with greater economies of scale and bargaining power with vendors (Kokemuller, 2020).

Given that empirical evidence from ILO (2015) indicates that SMEs are the main providers of employment but show significantly lower levels of productivity than larger firms, SMEs have the potential to raise living standards. Hence, for SMEs to increase wealth creation, they must improve the productivity of their existing activities or move into higher value-added activities. It is in this context, that the ILO (2015) has made SME productivity a new priority area of work, with a particular focus on the cause-and-effect relationship between working conditions and SME productivity.

SMEs aiming at attaining high levels of performance must implement performance management business practices (Bititici et al. 2011). Much of the literature relating to performance, efficiency, and growth has been largely focused on large enterprises and hence there is a gap in research related to SMEs.

Supply chain management (SCM) implementation is described as a contributing factor to increasing productivity in large enterprises by reducing cycle time and cost reduction. The uncertainties for the implementation of supply chain management in SMEs are foremost based on the fact that SMEs are aggressive and in networking with relatively less competition; liquidity focused, short term and promote engagements and incentives for utilising internal know-how which restricts the adoption of supply chain principles (Thakkar, 2008).

According to Chen et al. (2020), in practice, understanding how to manage customers' relationships through trust and commitment is central to the discourse of SME supply chain management. According to Gono et al. (2016), supply chain capability can catalyze transforming the competitiveness of the SME but it can also take the form of 'supply chain slavery' if SMEs become dependent on their larger counterparts for survival and growth. The effectiveness of supply change as a management best practice in improving SME performance in South Africa has not been sufficiently assessed as a factor of efficiency to impact growth positively.

Kalashnikov et al. (2017) state that the improvement of an organisation's processes is through decreasing waste in the product produced. Ciarniene (2012) stated that Lean manufacturing, Lean enterprise, Lean production, or often simply, "Lean," is a practice that considers the expenditure of resources for any goal other than the creation of value for the end customer to be wasteful, and thus a target for elimination. Economies across the globe emphasise their dependency on SMEs for their success and hence are increasingly promoting the involvement of Lean principles in SMEs (Belhadi et al. 2018).

In a study on Lean practices and organizational culture, Sahoo (2021) it was reported that Lean practices contribute positively to operations management theory by confirming empirically that both lean implementation and organizational culture are significantly associated with operational performance. According to the study partial implementation of Lean practices may be beneficial for SMEs. The adoption of lean thinking in SMEs is likely to make a significant contribution to operational performance; however, this theory has not been widely tested in SMEs in South Africa. The implementation of Lean practices and its impact on operational efficiency in SMEs has not been conclusively assessed in South Africa.

Human resources development and retention of talent have a significant impact on SMEs' performance and ultimate growth (Afidiman and Yusuff, 2011). From a labor perspective, SMEs need to get the most production or sales results possible from employees, material resources and mechanical resources. Fabling and Grimes (2007), stated that human resource management; process monitoring, quality, community, and social responsibility are positively related to a firm's profitability, productivity and success.

The current SME environment requires focus on the capability of its workforce as an advantage; organizations should not discard the benefit and value of acquiring and retaining its talented employees for firm performance and growth (Hallén 2007). Since most of the initial employees of SMEs are either unskilled or semi-skilled employees, providing continuous education and training to the employees of SMEs will also contribute to the human capital development of South Africans (Collier et al. 2011). Mourougane (2012) points out that qualified personnel are scarce and the level of education of entrepreneurs in small firms is low, and this causes barriers to productivity growth, which then hampers SME development. Hermannek (2006) researched the contribution of human resources to efficiency and ultimately SME growth, stating that the attracting, retaining, training and upskilling of human resources are important to SME performance. Operational efficiency as a principal way in which human resources are utilized as a way of leading the business, is an area that is insufficiently researched in SME growth.

SMEs that have efficient technological capacity and adopt innovative and sustainable business models can become more competitive and profitable for more extended periods since this can allow them (SMEs) to achieve greater competitive advantage, be more innovative, and improve their corporate performance results (Juárez and Vergara, 2021). According to Hardenberg (2022), SMEs have been critically impacted by the COVID-19 pandemic and many had to close their doors for long periods. To remain competitive, the acceleration of digital transformation is key to operating and doing business. Investing in digital platforms and applications enables SMEs to access new markets, reduce costs and improve efficiency. One of the challenges SMEs face is the dynamic shift in customer behavior as customers now expect companies to be digital across the value chain. Although SMEs are required to offer online shopping and fast delivery, the World Economic Forum (2021), reported that SMEs are still at a low to moderate level of technological maturity with only 23% of SMEs noting that the changes brought on by the pandemic had led to the acceleration of their digital transformation goals.

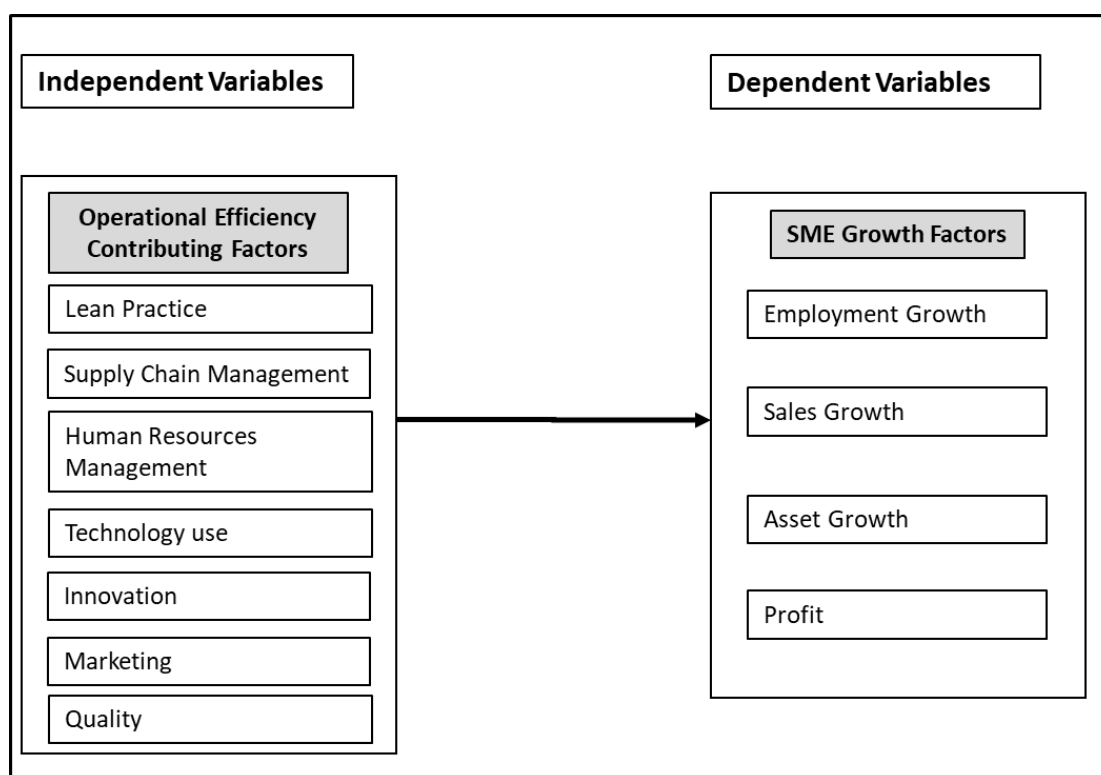
Technological innovation is required to enable an increase in business productivity and creativity for the development of economic enterprises. Hence, the use of technology supports the development of SMEs in accelerating digital transformation in process automation, reducing turnaround times in processing, increasing the speed of decisions that influence competitive economic business performance, and integrating systems from processing to marketing (Surya, et al. 2021). Having internal expertise is critical for ensuring the business impact of information and communications technology (ICT). Hardenberg (2022) mentions that there is a perception among small businesses that enabling digital transformation is difficult to set up, expensive to deploy, and requires large investments to benefit from technology. He concludes that this is not correct, since small incremental implementation of technologies like Artificial Intelligence (AI) in SMEs can optimize any business process or function on any scale and drive development, innovation and growth.

According to Cant (2012), there is a positive correlation between the growth of a business and the need for marketing skills in South African SMEs. Sidik (2012), stated that market orientation's role in the performance of SMEs is robust, and it reflects the extent to which a firm can meet the needs of the client. Wai-Sum et al. (2004) reported that innovative marketing strategy creates value for high-performance SMEs through the application of marketing planning, being more sales-oriented, offering products with high added value and developing good buyer and vendor relations, financial performance and market share. McKenzie and Woodruff (2017) state that marketing, stock control, record keeping, and financial planning are amongst the main business practices that impact performance in sales, SME profits and productivity. These business practices relate to the forecast survival rate and sales growth factors, their direct impact on operational efficiency is inconclusive.

Abor and Quartey (2010) point out that SMEs are viewed to be more innovative when compared to larger firms and that they appear to have favorable circumstances, given their comprehensive skills in technologies and flexibility in adapting easier to customer needs and difficult economic challenges. Mourougane (2012) argues that the major source of SME productivity improvement is likely to be innovation since the driving force for innovation is competitiveness and improved business performance. Sidik (2012) states that for SMEs to be competitive, they need to offer products or services with some basic level of innovation relative to their competitors.

Goedhuys and Veugeleers (2012) stress that combining product and process innovation is vital for significantly improving the success and growth of SMEs. The innovation pillar was identified as the main variable, which contributes to product and process innovation influencing competitive efficiency in SMEs (Ubieta et al., 2021). In a study of critical success factors impacting SMEs, brand reputation, excellence of customer service, and reliable delivery were reported as strongly influencing SMEs' success, while innovation was weakly associated with SMEs' success (Alfoqahaa, 2018). Chen et al. (2020) found that business model innovation has a positive effect on SME growth in the manufacturing sectors, and customer trust and commitment are enhanced through business model innovation resulting in growth in the SME. Terziovski 2010 showed the positive effect of innovation on SME performance when firms adopt practices that formalise the structure and innovation strategy by applying a focus on customer and supplier relations, innovation culture and technological capabilities.

Figure1.
Conceptual
Framework



Fritsch and Schroeter (2011) state that high-quality SMEs have a more profound impact on the growth and development of an economy and in creating jobs, than that of lower quality SMEs. Considering the high failure rate of SMEs these researchers anticipate that the number of high-quality SMEs is small. Ngek (2014) found that when the quality of an SME increases, its contribution to job creation, asset growth and sales growth increases. This study finding showed quality of SMEs is measured in the human capital, growth ambition, innovativeness, motivation, and market orientation remarkably affects the growth of SMEs irrespective of the SME's tenure in operating. Ngek (2014) concluded that the only way South African SMEs will grow and contribute to the country's economic development and employment challenges is through increasing quality. Although growth factors are identified by the researcher as an operational efficiency contributor to the success of SMEs, quality is not singled out as a key measurement of SME efficiency.

Growth is an important pillar of small enterprise success. SMEs' survival essentially depends on their ability to participate in the market together with other big companies (Rauch and Rijskik, 2012). Torres and Watson (2013), argue that the entrepreneurial process does not end with starting the business but also incorporates the intention to grow the business. Levie and Autio (2013), observed that achieving growth is very difficult and requires effort, and if entrepreneurs merely focus on short-term gains and do not intend to invest in longer strategic growth intent for their businesses, then businesses will be less likely to produce the growth intention that benefits stakeholders.

SME growth has been identified as a key driver of the creation of wealth, employment, and economic development in every country around the world (Davidsson et al., 2010). According to Nieman and Nieuwenhuizen (2009), growth is described as the main characteristic of business success. Isaga (2012), stated that SME growth should measure employment growth, sales growth and asset growth.

A brief overview of relevant literature highlights that researchers have emphasized operational efficiency in large businesses, and thus allude to a lack of sufficient research on SMEs. The literature mentions numerous business practices that firms should apply to positively impact performance and growth. Bititici et al. (2011) mentioned that SMEs aiming at attaining high levels of performance must implement business management practices that contribute to an operationally efficient business. The business practices mentioned in the research can be conceptualized as independent variables that enable a business to be efficient and contribute to its growth. Thus, the growth of SMEs can be construed as the dependent variable. Researchers have identified various elements/factors which are related to and contribute to the growth of SMEs. These can be conceptualized and depicted as a framework in Figure 1.

This study aims to evaluate operational efficiency as a contributing factor to the growth of SMEs in South Africa. Thus, the primary hypothesis was stated as follows: H1: There is a positive relationship between operational efficiency and the growth of SMEs in South Africa. The conceptual framework captured in Figure 1 alludes to a relationship between the factors contributing to operational efficiency in SMEs. Thus, flowing from the above, the following sub-hypotheses are postulated:

- H1a: There is a positive relationship between SMEs' lean practices and their operational efficiency.
- H1b: There is a positive relationship between supply chain management implemented by SMEs and their operational efficiency.
- H1c: There is a positive relationship between effective human resources practices of SMEs and their operational efficiency.
- H1d: There is a positive relationship between the technological practices of SMEs and their operational efficiency.
- H1e: Innovation by SMEs is positively associated with their operational efficiency.
- H1f: The marketing practices of SMEs are positively associated with their operational efficiency.
- H1g: The quality practices of SMEs are positively associated with their operational efficiency.

RESEARCH METHODOLOGY

An exploratory research design was used since according to the literature, this is a topic that has not been widely researched in South Africa. George (2022), states that the exploratory research methodology explores research questions that have not previously been studied in depth. The researcher employed a deductive approach, given the study's quantitative nature, ensuring that data-gathering instruments provided empirical evidence. A quantitative research design was chosen to test the hypotheses, ensuring consistency of data collection in predicting the results of the data analysis. The choice of the positivist paradigm was determined by its appropriateness in shaping the research design. The researcher adopted an objective stance in formulating the survey questions and analysing the data to identify significant trends and draw accurate conclusions.

Sampling and Target Population

The research sampling method chosen for this study is probability sampling. The sample size required for this study was 87 as calculated by applying Cochran's sample size formula for continuous data (Bartlett, Kokrlik and Higgins, 2001). The target population consisted of Small Businesses owner-managers in the Gauteng Province, South Africa. The Gauteng province was selected since it is the economic hub of South Africa and the heart of its commercial business and industrial sectors. The most important sectors contributing to GDP are finance, real estate and business services; manufacturing; and general government services. Gauteng is also the financial services capital of Africa.

"Small Business" refers to a separate and distinct business entity, together with its branches or subsidiaries, if any, including cooperative enterprises, managed by one owner or more predominantly carried on in any sector or subsector of the economy, employing between 5 and 200 employees, with an annual turnover between R0.8 million and R50 million, (SEDA, 2022). The Small Business Development Agency (SEDA) acts as the gatekeeper responsible for the secure database of SMEs in the Gauteng province, having oversight for three metropolitan municipalities, namely the City of Ekurhuleni, the City of Johannesburg, and the City of Tshwane.

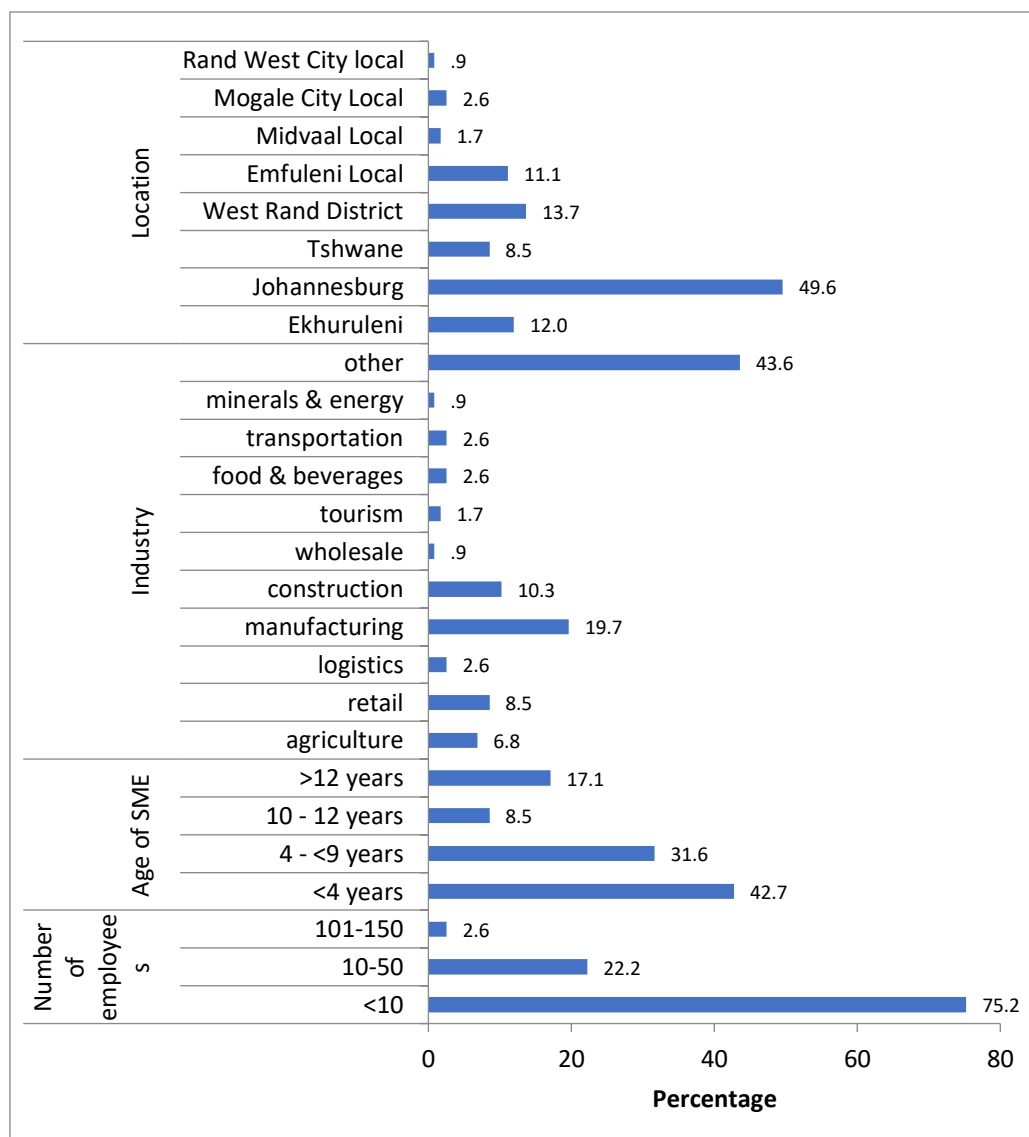
The data collection was done through 'online' survey questionnaires that were distributed to SME owners. The survey contained structured questions aimed at collecting demographic data and testing the hypotheses developed through the conceptual framework supporting the research objectives. The questions consolidated in the questionnaire were adopted and adapted from previous studies. A 5-point Likert scale questionnaire using closed-ended questions was designed consisting of 54 statements, divided into four (4) sections. The 'online' survey link was distributed via email through the SEDA regional office, providing an introduction of the researcher, an explanation of the study's objectives and nature, and encouragement for participation. An internet-based 'online' survey designed using a Google-based questionnaire design in Jot Forms stored the respondent's data in an Excel format. Upon clicking the provided link, respondents were directed to the survey hosted on Google, Jot Forms.

The researcher utilised the Statistical Package for the Social Sciences (SPSS) to conduct hypothesis testing, encompassing t-tests, analysis of variance (ANOVA), regression analysis, and chi-square tests. SPSS allows researchers to summarize and explore their data and apply statistical modeling to interpret and validate data (Hinton, McMurray and Brownlow, 2014). Regression analysis was employed to evaluate hypotheses and ascertain the connections between independent and dependent variables. Predictive analytics were employed to examine trends and interpret the implications of the findings on the future progression of small businesses. Regression analysis is an effective tool to understand and model the strength in relationships among variables, making predictions, and identifying patterns in data (Gelman et al., 2008).

RESULT AND DISCUSSION

Following multiple rounds of distributing questionnaires, 117 Small and Medium Enterprises (SMEs) participated in the online survey, representing a response rate of 67%. Figure 2 depicts the demographics of the respondents, the majority being located in Johannesburg, from manufacturing and employing less than 10 people.

Figure 2.
Demographics of the
respondents



Addressing the Research Hypothesis

The overall aim of the study was to examine the relationship between operation efficiency and the growth of SMEs. Two regression analysis tests were conducted; regression on each OE factor was conducted separately to determine its effect on growth independently of the other OE factors and thereafter, regression including all OE factors in the composite model simultaneously to analyse how each OE factor affects growth when working in conjunction with the combined OE factors. A calculation with White's robust standard errors was done to ensure accuracy, and the analysis revealed that there is fractional graphical evidence that the residuals deviate from normality. This, in effect, alters the p-values associated with the B/regression coefficients and ensures they are accurate. A test was conducted for homoscedasticity, and all factors and conditions were met. A column with the p-values calculated using robust standard errors is presented in Table 1. On the whole, these do not change the conclusions of whether an OE factor has a significant effect on the growth of SMEs. The only change is for Innovation practices, the 'p' values are still within the 90% level, the result is marginal and illustrates that Innovation practices have a fairly strong effect on growth.

Improving Small and Medium Enterprise Growth: A Focus on Operational Efficiency

IV	R ²	F	df1; df2	p-value	B (regression coefficient)	T	p- value	p-value calculated from robust SE
Lean practices	.001	.147	1; 115	.702	.042	.383	.702	.750
Supply chain management	.021	2.500	1; 115	.117	.170	1.581	.117	.171
Human resource practices	.001	.079	1; 115	.779	.032	.282	.779	.810
Technological practices	.061	7.534	1; 115	.007	.314	2.745	.007	.010
Innovation practices	.037	4.383	1; 115	.038	.284	2.094	.038	.080
Marketing practices	.017	2.374	1; 115	.164	.179	1.402	.164	.206
Quality practices	.021	2.463	1; 115	.119	.176	1.569	.119	.183

Table 1.
Regression Analysis
– Effect of OE
Factors on SME
Growth

Table 2 indicates the effect of the individual OE factors on SME growth. The findings illustrate that Technological practices and Innovation practices independently are significant predictors of growth in SMEs, with p values of .007 and .038 respectively.

Table 2 shows that when OE factors are included together in the model, the result is not significant. From this result it is determined that Technological Practices have the most effect on SME growth, the (largest B) is followed by Human Resource Practices, however, this is negative in that an increase in Human Resource Practice leads to a decrease in growth. When analysed cumulatively, the variable with the least effect is Quality Practices. A stepwise regression analysis was conducted, and the model removes the factor that does not improve the model, in effect the model only includes significant OE practices. Technological practice is retained in the model as this OE factor has the largest effect on SME growth.

Table 2.
Multiple Regression
Analysis – Effect of OE
Factors on Growth

IV	R ²	F	df1; df2	p-value	B (regression coefficient)	t	p-value	p-value calculated from robust SE
Lean practices					-.124	-.817	.416	.307
Supply chain management					.198	1.016	.312	.365
Human resource practices					-.321	-1.713	.090	.045
Technological practices	.112	1.972	7; 109	.065	.333	1.842	.068	.068
Innovation					.309	1.454	.149	.248
Marketing practices					-.204	-.922	.358	.355
Quality practices					.101	.472	.638	.694

The 'p' value is <.001, confirming that there is significant agreement that all seven (7) of the OE practices will have a positive effect on the growth of the SME. Thus, H1 is fully supported by the data analysed from a sample of SME owner-managers in Gauteng province, South Africa. The findings concerning H1a- H1g are summarized in Table 3 below.

Table .3
Decision on the
Hypotheses

Sym	Hypothesis Statement	Findings	Decision
H1a	<i>There is a positive relationship between Lean Practices and SME operational efficiency</i>	The 'p' value is <.001, confirming that there is a significant agreement that Lean practices will have a positive effect on the growth of the SME.	Supported
H1b	<i>There is a positive relationship between Supply Chain Management and SME operational efficiency.</i>	The 'p' value is <.001, confirming that there is a significant agreement that Supply Chain Management will have a positive effect on the growth of the SME.	Supported
H1c	<i>There is a positive relationship between Human Management and SME operational efficiency.</i>	The 'p' value is <.001, confirming that there is a significant agreement that Human Resource Management will have a positive effect on the growth of the SME.	Supported

Sym	Hypothesis Statement	Findings	Decision	Improving Small and Medium Enterprise Growth: A Focus on Operational Efficiency
H1d	<i>There is a positive relationship between Technological practices and SME operational efficiency.</i>	The 'p' value is <.001, confirming that there is a significant agreement that Technological practices will have a positive effect on the growth of the SME.	Supported	
H1e	<i>Innovation by SMEs is positively associated with their operational efficiency.</i>	The 'p' value is <.001, confirming that there is a significant agreement that Innovation practices will have a positive effect on the growth of the SME.	Supported	
H1f	<i>The marketing practices of SMEs are positively associated with their operational efficiency.</i>	The 'p' value is <.001, confirming that there is a significant agreement that Marketing practices will have a positive effect on the growth of the SME.	Supported	
H1g	<i>The quality practices of SMEs are positively associated with their operational efficiency.</i>	The 'p' value is <.001, confirming that there is a significant agreement that Quality practices will have a positive effect on the growth of the SME.	Supported	

Discussion

It was hypothesized (H1a and H1b), that there is a positive relationship between Lean Practices and Supply Chain Management and the operational efficiency of SMEs. The SME respondents 'agreed' that they adopt Lean Practices and Supply Chain Management Practices and they perceive that both of these OE factors will contribute to their SME growth. However, Lean Practice and Supply Chain have not been found to be significant predictors of SME growth. Lean practices are however adopted significantly more than Supply Chain Management Practices. Belhadi (2018) and Dombrowski (2010), reported from their findings that large organisations have reached a level of optimization and are competitive through the implementation of Lean practices and they have the necessary budget, time, and expertise to implement Lean practices. However, SMEs lack the tools and skills to implement Lean Practice. These researchers' findings have relevance since although SMEs are positive about Lean Practice and Supply Chain Management, their level of maturity in application and specialist technical skills has not been tested and is inconclusive.

From a growth perspective, an increase in Vendors by SMEs has not been evident from this study, and this may be a reason why SMEs do not necessarily focus heavily on Supply Chain Management as a growth factor.

It was also hypothesized (H1c), that there is a positive relationship between effective human resources management practices of SMEs and their operational efficiency. The Human Resource Management Practices OE factor has the highest regression coefficient which implies that an increase in Human Resource Management Practice leads to a decrease in growth. According to research (Hermannek 2016, Afidiman and Yusuff 2011), human resources management practices (selection, employment, upskilling and retention) are an important factor to be considered for the efficiency, growth and survival of a business. While Hermannek (2016), revealed that resource efficiency is determined by resource utilisation, it is the relationship between product output and resource input.

Technology has become an indispensable resource for SMEs over the past three years and is in direct competition with Human Resources when it comes to operational efficiency. Considering that Technological practice is where SMEs seem to be placing their investment by adopting digitisation, Human Resources may be perceived by SMEs as an expense, inefficient, and not a direct contributor to growth. This factor needs further research.

Concerning H1d and H1e, it became evident that there is a positive relationship between Technology and Innovation by SMEs and their operational efficiency. The findings demonstrated that Technological practices and Innovation practices independently are significant predictors of growth in SMEs. While Technological Practices have the most effect on SME growth, it became apparent that an increase in Human Resource practice results in a decrease in growth. These findings must be seen in context with the shift in business focus due to the recent events that occurred across South Africa and the globe as a whole.

The impact of the COVID-19 pandemic compelled SMEs to reach their customers digitally during prolonged lockdown periods and the Technological boom brought about by the 4th industrial revolution (4IR) necessitated SMEs to re-focus and invest in technology to be relevant. According to the literature, the COVID-19 pandemic has caused immense human suffering across South Africa and is likely to leave an indelible impact on South Africa's small and medium-sized enterprises (SMEs). Unemployment is a serious problem that South Africa is facing, with an unemployment rate of 34.4 percent (Stats SA, 2021). COVID-19 has put further pressure on SME operations in South Africa where SMEs are having to contend with a contracting economy.

Hardenberg (2022), argues that SMEs have been critically impacted by the COVID-19 pandemic and many have had to close their doors for long periods. To remain competitive, the acceleration of digital technological transformation is key to operating and doing business. Investing in digital platforms and applications enables SMEs to access new markets, reduce costs and improve efficiency. One of the challenges SMEs face is the dynamic shift in customer behavior as customers now expect companies to be digital across the value chain. Surya (2021), stated that Technological innovation is required to increase business productivity and creativity for the development of economic enterprises. The use of technology supports the development of SMEs in accelerating digital transformation in process automation, reducing turnaround times in processing, increasing the speed of decisions that influence competitive economic business performance, and integrating systems from processing to marketing.

Goedhuys and Veugeleers (2012), argued that combining product and process innovation is vital for significantly improving the success and growth of SMEs. The innovation pillar was identified as the main variable, which contributes to product and process innovation influencing competitive efficiency in SMEs (Ubieta 2021). Mourougane (2012), argued that the major source of SME productivity improvement is likely to be innovation.

It was also hypothesised (H1f) that the Marketing Practices of SMEs are positively associated with their operational efficiency. SMEs agreed that they positively associate Marketing Practices with the growth of their SMEs. However, the findings do not reflect Marketing Practices as a significant predictor of growth. Previous research (Ali Qalati 2020), found that the SMEs' marketing ability is dependent on technology enablement and that social media marketing has a significant impact on SME performance. However, this study did not find that marketing significantly enhanced operational efficiency. Cant (2012), found that there was a positive correlation between the growth of a business and the need for marketing skills in South African SMEs. Here again, Technology plays a pivotal role in SMEs in getting their brand marketed through digital mediums and thus SMEs are applying marketing skills and practices via Technology and hence having less of a focus on traditional Marketing practices which could be associated with large businesses.

It was also hypothesised (Hg) that the Quality Practices of SMEs are positively associated with their operational efficiency. In analysing which of the seven (7) OE factors as practiced by most SMEs, quality was ranked the lowest. Quality Practices are also not a significant predictor of growth. However, from the literature, it is apparent that SMEs that focus on quality are likely to survive, produce growth, create jobs and contribute to the economy (Fritsch & Schroeter 2011; Ngeki 2014). The reason lesser focus on Quality by SMEs could relate to the fact that the practicing of key quality principles as a discipline requires specialist resources which SMEs may not necessarily be investing in.

CONCLUSION

Research on operational efficiency practices in South African SMEs has been limited, with predominant attention being directed at large enterprises, which typically possess the financial means and resources for operational efficiency initiatives. Consequently, this study fills a key gap by investigating the correlation between operational efficiency and growth specifically within SMEs. Operational efficiency practices represent internal proficiencies within SMEs, offering full control over their daily business operations. The positive relationship uncovered between operational efficiency and SME growth emphasises a critical component to be considered in assessing the growth of small businesses.

The study enhances theoretical understanding by delineating and evaluating seven (7) operational efficiency factors, which in turn affect SME growth. Growth emerges as a pivotal measure for SME success, with the research demonstrating that the combination of eight (8) growth metrics yields a dependable composite variable suitable for gauging and defining growth in small businesses within South Africa's Gauteng province.

A notable finding of the study is that Technological Practices and Innovation serve as significant predictors of SME growth. This finding holds particular relevance for SME sustainability and addressing unemployment in South Africa. It is encouraging to observe the increasing adoption of technological and innovative practices by SMEs to ensure resilience and meet customer demands, especially during disruptive events like the COVID-19 pandemic. Small businesses that invest in technology and innovation are better positioned for success and growth.

Despite drawing extensively from existing literature, it is important to acknowledge certain limitations of the study. While the research issue is pertinent across SMEs in South Africa, constraints related to time and budget compelled the researcher to focus on the Gauteng province. Although Gauteng serves as the economic center of South Africa, it may not fully represent the diversity of small businesses across the country's other eight (8) provinces.

References

- Abor J and Quartey P (2010). Issues in SME Development in Ghana and South Africa. *International Research Journal of Finance and Economics*, Vol. 39, No. 6, 215-228.
- Achtenhagen, L., Naldi, L., & Melin, L. (2010). Business growth: do practitioners and scholars really talk about the same thing? *Entrepreneurship Theory and Practice*, Vol. 34, No. 2, 289-316.
- Afdiman, A. and Yusuff, R.M. (2011). Manufacturing best practices in Malaysian small and medium enterprises (SMEs), Benchmarking. *An International Journal*, Vol. 18, No. 3, 324-341.
- Alfoqahaa, S., (2018). Critical success factors of small and medium-sized enterprises in Palestine. *Journal of Research in Marketing and Entrepreneurship* Vol. 20, No. 2, 2018, 170-188.
- Ali Qalati, S., Li, W., Ahmed, N., Ali Mirani, M., & Khan, A. (2020). Examining the factors affecting SME performance: the mediating role of social media adoption. *Sustainability*, Vol. 13, No. 1, 75.
- Assarlind, M., Gremyr, I. and Backman, K. (2012). Multi-faceted views on a LSS application, *International Journal of Quality and Reliability Management*, Vol. 22, No. 3, 21-30.
- Atristain, C. and Rajagopal (2012). Employment generation and economic development through increased operational efficiency of SMEs in Mexico: some research perspectives, *International Journal of Business Competition and Growth*, Vol. 2, No. 2, 181-199.
- Bartlett, J.E., Kotrlik, J.W. and Higgins, C.C. (2001) Organizational Research: Determining Appropriate Sample Size in Survey Research. *Information Technology, Learning, and Performance Journal*, 19, 43-50.
- Basher, V. (2010). Vendor selection and quota allocation by using fuzzy topics and linear programming. Master of Engineering in Production Engineering. University of Delhi, India. Accessed, 15 June 2021, from: <http://dspace.dtu.ac.in:8080/jspui/handle/repository/13318>.
- Beck, T. (2007). Financing Constraints of SMEs in Developing Countries: Evidence, Determinants and Solutions. Retrieved October 20. Accessed from: research.tilburguniversity.edu/en/publications/financing-constraints-of-smes-in-developing-countries-evidence-de.
- Belhadi, A., Touriki, F.E. and Elfezazi, S. (2019). Evaluation of critical success factors (CSFs) to implement lean implementation in SMEs using AHP: a case study, *International Journal of Lean Six Sigma*, Vol. 10, No. 3, 803-829.
- Bowen, M. (2009). Management of business challenges among Small and Micro Enterprises in Nairobi Kenya. *KCA Journal of Business Management*: Vol. 2, Issue 1, 16-27.
- Cant. M. (2012). Challenges Faced by SMEs in South Africa: Are Marketing Skills Needed? *International Business & Economics Research Journal*, Vol. 11, No.10, 1107-1116.
- Carlson, R. (2019). Managing Asset Growth in Small Business Firms, Types of assets and their growth patterns, *Business Finance, and Financial Management*. Retrieved October 25, 2021 <https://www.thebalancesmb.com/managing-asset-growth-in-small-business-firms-393516>
- Chen, J., Liu, L., and Wang, Y. (2020). 'Business model innovation and manufacturing SMEs: a social exchange perspective'. *Journal of Manufacturing Technology Management*, Vol. 32, No. 2, 2021, 290-312.
- Ciamiene, R. & Vienazindiene, M. (2012). Lean Manufacturing: Theory and Practice: *Economics and Management Journal*, Vol. 17, No. 2, 726-732. Accessed November 15, 2021, from: <https://doi.org/10.5755/j01.em.17.2.2205>
- Collier, W., Green, F., Kim, Y. and Peirson, J. (2011). Education, Training and Economic Performance: Evidence from Establishment Survival Data. *Journal of Labor Research*, Vol. 32, No. 4, 336-361.
- Creswell, J. W. 2013. Research design: Qualitative, quantitative, and mixed methods approach. Sage Publications Inc.
- Davidsson P., L. Achtenhagen., & L. Naldi. (2010). Small firm growth. *Foundations and Trends in Entrepreneurship*, Vol. 6, No. 2, 69-166.
- Dombrowski, U. and Mielke, T. (2013). Lean leadership: fundamental principle and their application, *Procedia CIRP*, Vol. 7, 569-574.
- Fabling, R.B. and Grimes, A. (2007). Practice makes profit: business practices and firm success, *Small Business Economics*, Vol. 29, 383-399.
- Fatoki, O, Garwe, D. (2010). Obstacles to the growth of new SMEs in South Africa: A principal component analysis approach. *African Journal of Business Management*: Vol. 4, No. 5, 729-738.
- Fritsch, M. and Schroeter, A. (2011). Why Does the Effect of New Business Formation Differ Across Regions? *Small Business Economics*, Vol. 36, 383-400.
- Gelman, Andrew, Aleks Jakulin, Maria Grazia Pittau, and Yu-Sung Su. (2008). "A weakly informative default prior distribution for logistic and other regression models." (2008): 1360-1383.
- George, J., Mirsadikov, A., Nabors, M., & Marett, K. (2022). What do users actually look at during video conference calls? Exploratory research on attention, distraction effects, and gender. In *Proceedings of the 55th Hawaii international conference on system sciences*, 4779-4787.
- Ghorbani, H. (2012). Impact of Distribution Channel Innovation on the Performance of Small and Medium Enterprises. *International Business and Management*, Vol. 5, No. 1, 50-60.
- Goedhuys, M. and Veugelers, R. (2012). Innovation Strategies, Process and Product Innovations and Growth: Firm-Level Evidence from Brazil, *Structural Change and Economic Dynamics*, Vol. 23, No. 4, 516-529.

- Gono, S., Harindranath, G., Özcan, GB. (2016). The adoption and impact of ICT in South African SMEs. *Strategic Change*, Vol. 25, No. 6, 1-40. Accessed January 12, 2020 from: https://www.researchgate.net/publication/275329322_The_adoption_and_impact_of_ICT_in_South_African_SMEs.
- Gov.za. (2012). National Development Plan 2030, South African Government. Retrieved from <https://www.gov.za/issues/national-development-plan-2030>.
- Gov.za. (2019). Department of Small Business Development, Retrieved from https://www.gov.za/sites/default/files/gcis_document/201903/423041gon399.pdf
- Hardenberg, F. (2022). Technology is changing the 'face' of Small businesses. Accessed January 10, 2020 from: <https://www.iol.co.za/business-report/entrepreneurs/technology-is-changing-the-face-of-small-businesses-66eb9efe-b47a-41a7-a935-2b69a8ea3caf>.
- Hermannek, P. (2016). Improving Resource Efficiency in SMEs: Guidebook Series How to support SME Policy from Structural Funds, European Commission.
- Herrington, M., Kew, P. & Mwanga, A. (2017). South Africa Report: Can Small Business Survive in South Africa, Global Entrepreneurship Monitor. Retrieved from <https://www.gemconsortium.org/report/gem-2016-2017-global-report>
- Hinton, P. R., McMurray, I., & Brownlow, C. (2014). SPSS explained. Routledge.
- Isaga, N. (2012). Entrepreneurship and the growth of SMEs in the furniture industry in Tanzania. VU University, Management and Organisation, Amsterdam Business Research Institute.
- Juárez, L.E.V.; Vergara, M.C (2021). Technological Capabilities, Open Innovation, and Eco-Innovation: Dynamic Capabilities to Increase Corporate Performance of SMEs. *J. Open Innovation Technology*, Vol. 7, No. 8, 1-19.
- Kalashnikov, V., Benita, F., López-Ramos, F. and Hernández-Luna, A. (2017). Bi-objective project portfolio selection in LSS. *International Journal Production Economics*, Vol. 186, 81-88.
- Kannan, V. R. & K. H. Tan. (2005), Just in Time, total quality management, and supply chain management: understanding their linkages and impact on business performance. *Omega*, Vol. 33, No. 2, 153-162.
- Kalidas, S., Magwentshu, N., Rajagopaul, A. (2020). How South African SMEs can survive and thrive post COVID-19. Mc Kinsey & Company.
- Kokemuller, N (2020). What is the meaning of operational efficiency, accessed January 2021, <https://smallbusiness.chron.com/meaning-operational-efficiency-67982.html>
- Kolstad, I. & Wiig, A. (2015). Education and entrepreneurial success, *Small Business Economics*, Vol. 44, No. 4, 783-796.
- Kongolo, M. (2010). Job creation versus job shedding and the role of SMEs in economic development. *Business African: Journal of Business Management*. Vol. 4, No.11, 2288.
- Kriel, B. & Mogorosi, D. (2015). 2015 SME Insights Report: The South Africa Institute of Chartered Accountants, Sage Pastel.
- Levie, J., & Autio, E. (2013). Growth and growth intentions: A meta-analysis of existing evidence. Enterprise Research Centre (ERC) White Paper No.1. Retrieved from <http://enterpriseresearch.ac.uk/default/assets/File/>
- Mazanai, M. (2012). Impact of just-in-time (JIT) inventory system on efficiency, quality and flexibility among manufacturing sector, small and medium enterprise (SMEs) in South Africa: *African Journal of Business Management*, Vol. 6, No. 17, 5786-5791.
- McKenzie, D. and Woodruff, C. (2017). Business practices in small firms in developing countries, *Management Science*, Vol. 63, No. 9, 2967-2981.
- Miller, T. & Wongsaroj, S. (2017). The Domino Effect: The impact of late payments: A study for Sage. Plum Consulting London LLP. Available online at sage.com/en-us/blog/wp-content/uploads/sites/2/2017/12/Domino-Effect-Late-Payments-Research-Sage.pdf.
- Mourougane A (2012). Promoting SME Development in Indonesia, OECD Economics Department Working Papers, No. 995, OECD Publishing, Paris. Accessed November 12, 2020, from: <http://dx.doi.org/10.1787/5k918xk464f7-en>.
- Muganyi, P., Madanhire, I. and Mbohwa, C. (2019). Business survival and market performance through LSS in the chemical manufacturing industry. *International Journal of LSS*, Vol. 10 No. 2, 566-600.
- Neneh, N. & Vanzyl, J. (2014). Growth Intention and Its Impact on Business Growth amongst SMEs in South Africa: *Mediterranean Journal of Social Sciences*, Vol. 5, 172.
- Ngek, N.B. (2014). Determining high-quality SMEs that significantly contribute to SME growth: regional evidence from South Africa. *Problems and Perspectives in Management*, Vol. 12, No. 4, 253-264.
- Nieman, G. and Neuenhuizen, C. (2009). Entrepreneurship: A South African Perspective. Pretoria: Van Schaik, 277-281.
- Okwang, B.C., Mungania, A.K, and Karanja, A.K. (2015). Analysis of Factors Affecting the Operational Efficiency of Jua Kali Sector: A Case of Apparel Industry in Nairobi, Kenya. *European Journal of Business and Management*, Vol.7, No.30, 119-129
- Pandey, P. and Pandey, M. M. (2015). Research Methodology: Tools and Techniques. Bridge Center, Romania.
- Radic, D. (2019). Small Matters: Global evidence on the contribution to employment by the self-employed, micro-enterprises and SMEs: International Labour Organisation, ILO Enterprises Department.
- Rahi, S. 2017. Research Design and Methods: A Systematic Review of Research Paradigms, Sampling Issues, and Instruments Development. *International Journal of Economic Management Sciences*, Vol. 6, No. 2, 1-5.

- Rauch, A. & Rijskik, S.A. (2013). The effects of general and specific human capital on long-term growth and failure of newly founded businesses. *Entrepreneurship Theory and Practice*, Vol. 37, No. 4, 923-941.
- Robert, J. (2010). Small business failure rates as high as 63% in the first two years. Retrieved from: http://www.businesslive.co.za/southafrica/sa_companies/2010/11/16/small-business-failure-rate-63-in-firsttwo-years
- Sahoo, S. (2021). Lean practices and operational performance: the role of organizational culture. *International Journal of Quality and Reliability Management*, Vol. 39. No. 2, 428-467.
- Sharma, S. (2014). Management of Operational Efficiency: Can Indian SMEs Afford Overseeing IT. *Industrial Engineering Letters: The IISTE*, <http://www.iiste.org>.
- Shin, S., Kevin, E., Spurlin, L. & Paul, W. (2015). Effect of Inventory Management Efficiency on Profitability: Current Evidence from the U.S. Manufacturing Industry. *Journal of Economics and Economic Education Research*; Arden Vol. 16, Issue. 1, 98-106.
- Sidik I (2012). Conceptual Framework of Factors Affecting SME Development: Mediating Factors on the Relationship of Entrepreneur Traits and SME Performance *Procedia Economics and Finance*, Vol. 4, 373-383.
- Statsa.gov. (2020). Quarterly employment statistics (QES). Retrieved from statssa.gov.za/publications/P0277/P0277December2020.pdf
- Stassa.gov. (2021). Statistics South Africa, Annual Report, 2020/2021. Retrieved from: https://www.statssa.gov.za/?page_id=368
- Surya, B., Menne, F., Sabhan, H., Suriani, S., Abubakar, H., & Idris, M. (2021). Economic growth, increasing productivity of SMEs, and open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, Vol. 7, No. 1, 20.
- Taber, K.S (2018). The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Research and Science Education*, 48, 1273–1296 (2018).
- Tarwirei, M. (2015). The impact of managerial competencies on the performance of SMEs in the Buffalo Municipality: (Doctoral dissertation, University of Fort Hare).
- Terziovski, M. (2010). Innovation practice and its performance implications in small and medium enterprises (SMEs) in the manufacturing sector: a resource-based View. *Strategic Management Journal*, Vol. 31 No. 8, 892-902.
- Timans, W., Ahaus, K., van Solingen, R., Kumar, M. and Antony, J. (2016). "Implementation of continuous improvement based on LSS in small-and medium-sized enterprises", *Total Quality Management and Business Excellence*, Vol. 27 No. 3-4, 309-324.
- Torres, J. L. N., & Watson, W. (2013). An examination of the relationship between manager self-efficacy and entrepreneurial intentions and performance in Mexican small businesses. *Contaduría y Administración*, Vol. 58, No. 3, 65-87. 420-438.
- Wai-Sum, S., Wenchang Fang, A. and Tingling Lin, A. (2004). Strategic marketing practices and the performance of Chinese small and medium-sized enterprises (SMEs) in Taiwan. *Entrepreneurship and Regional Development*, Vol. 16, No. 2, 161-178.
- Wirawan, W. (2013). *Evaluasi Kinerja Sumber Daya Manusia*. Jakarta: Salemba Empat.
- Ubieta, S.A., Esquivel, R.M., Leiva, J.C. (2021). The competitive efficiency of Costa Rican small and medium-sized business: a data envelopment analysis approach. *Competitiveness Review: An International Business Journal*, Vol. 31, No. 3, 2021