

**Business Administration and  
Business Economics****Operational Efficiency and Small and Medium  
Enterprise Growth in South Africa****S.R. Chetty<sup>1</sup>, K. K. Govender<sup>2</sup>**

**Abstract:** SMEs are pivotal in South Africa's economic growth path and the sector is identified as the key provider of employment, projecting that by 2030, ninety percent of jobs in SA will be created through SMEs. Unemployment in South Africa is at an all-time high, more than 30 percent of the economically active population is without jobs since South Africa's democratically elected government. Thus, this study explored the operational efficiency factors that are largely controlled by SMEs, which could impact their growth. Data from a quantitative research design using an online survey was analyzed using descriptive and inferential statistical techniques. It was ascertained that operational efficiency (OE) is positively related to SME growth. The study tested eight (8) factors of growth, namely, the number of people employed, sales, revenue, gross profit, value of assets, number of customers, number of vendors and number of suppliers. The findings reveal that all eight (8) growth measures combine to form a reliable composite variable that can be used to measure growth in small businesses. A significant contribution of the study is that the seven OE practices, namely, Lean practice, Supply Chain Management, Human Resource Management, Technology, Innovation, Marketing, and Quality, that comprise sub-elements of OE, Technological Practices and Innovation are significant predictors of small business growth. Thus, SMEs that embrace technological and innovation practices are more likely to survive and grow and consequently create jobs.

**Keywords:** SMEs; Operational Efficiency; Growth; Employment Creation; Developing Country

**JEL Classification:** J2; M13; O3

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## 1. Introduction

SMEs are vital to the South African economy since they drive growth, create employment, especially among youth, and spearhead innovation. SMEs are also customers to larger companies across the supply chain supplying vital goods and services to companies, and households and a key contributor to the GDP of the South African economy. SMEs have the potential to become tomorrow's large corporations and their growth is closely linked to job creation which is vital for the success of the economy (Davidson et al., 2010). SMEs are fundamental to the growth of the South African economy and its future socio-political stability as declared in the government's National Development Plan (NDP, 2012).

Although the creation and sustainability of SMEs are vital for the economic prosperity of South Africa, SMEs suffer from a high failure rate (Robert, 2010). According to this author, South Africa has one of the highest SME failure rates in the world, since many new small businesses do not make it past the second year of trading with failure rates as high as 63 percent. Fakoti (2014) states that the high failure rate of new SMEs paints a bleak picture of the SME sector's potential to contribute meaningfully to job creation, economic growth, and poverty reduction. The creation and sustainability of new SMEs are vital to the economic prosperity of a country or else it risks an economic stagnation (Fatoki & Garwe, 2010). Kongolo (2010) states that SMEs account for roughly 91 percent of formal business entities, contributing between 51 and 57 percent to the GDP and 60 percent of employment in South Africa. It is in these SMEs, and the aspirations of their business owners, where future organic growth opportunities are found, and not necessarily in large-scale corporations.

Employment growth, sales growth and asset growth are factors that determine the success of SMEs (Levie & Autio, 2013). 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. 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 this 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.

Research on SME failures has identified both internal and external factors that contribute to SME failure. The internal environment includes factors in the business

environment that are largely controllable by the business (Kolstad & Wiig, 2015). Challenges in the internal environment of a business, include management competency and skills, limited financial knowledge, a lack of business management training, and limited technological capabilities. Fatoki (2014) argued that SME failure is caused by a lack of management experience and functional skills, for example, planning, organizing, leading, and controlling, and that poor staff training and development leads to poor attitudes towards customers.

SME owners and entrepreneurs have tended to focus heavily on external factors for the survival of their SMEs. Research in SMEs has predominantly focused on the external contributing factors that cause SME failure. The proposed actions for the survival of SMEs in South Africa often include an intervention through the South African government's economic policy statements, making available to SMEs access to finance at lower interest rates through banks and other financing instruments.

From an internal SME perspective, operational inefficiencies within the SME harm the SME growth, profitability, and sustainability and eventually result in uncontrollable debt levels. Sharma (2014), states that operational efficiency is a ratio of actual output versus maximum output and behaves like a financial leverage. It identifies wasteful processes and resources that deplete the organizational profits and can also suggest remedial design of new work processes that improve quality and productivity. Improving operational efficiency has a direct impact on the bottom line of business. According to Kokemuller (2020), operational 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. Resource utilization, production process, inventory management, distribution and revenue control are key elements that contribute to an operationally efficient SME which translates into growth and success.

Considering the critical role SMEs play in South Africa's economic growth and job creation, SME failure is a huge risk. Hence, the factors that contribute to SME success must be understood as they become the key drivers. According to Atristain and Rajagopal (2012), enhancing the operational efficiency ratings of the SME should be considered as a key element for achieving greater business performance and better market position. Thus, this research study aims to evaluate the factors that contribute to successful SMEs and specifically assess their contribution to the operational efficiency of SMEs, thereby evaluating operational efficiency as a contributing factor to the growth of SMEs. It is against the above background that this study was undertaken to assess the relationship between OE and SME growth in SA and the impact of operational efficiency (OE) factors on SME growth in Gauteng Province, South Africa.

“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).

The survival, success and growth of Small and Medium Enterprises (SMEs) depend on how well internal and external factors are managed. The internal environment includes factors of business that are largely controllable by the entrepreneur, management and employees (Kolstad & Wiig, 2015). Prior studies have measured SME growth using three key dimensions focusing on employment growth, sales growth, and asset growth (Isaga, 2012) and the growth factor is a key indicator of SME success. Neneh and Vanzyl (2014), concluded that growth intentions are more associated with sales growth and asset growth as entrepreneurs have been noted to mostly measure their growth in terms of sales growth.

The South African Institute of Chartered Accountants (SAICA) argues that the number of people employed grows rapidly with turnover, and with the length of time a SME remains active, hence it is not sufficient to only stimulate SME creation to create jobs (SAIC Report, 2015). The larger the SME, the more likely it is to employ significant numbers of people. In the SAICA report (2015), it is mentioned that the stimulation of existing SMEs to grow may be more beneficial to job creation in South Africa (Kriel & Mogorosi, 2015). Fatoki and Machirori (2017), highlighted that employee growth is an important measure of firm growth in South Africa, because of the country's current eagerness for job creation.

Isaga, (2012) argued that sales growth is the most essential and widely used measure of SME growth. Researchers (Levie and Autio, 2013) have also emphasized the importance of using asset growth as a key measure of firm growth and sustainability. SME asset growth has to be closely aligned with product demand, hence sales growth is the factor that drives asset growth. Carlson (2019), states that the key to managing asset growth in SMEs is to forecast sales correctly, if actual sales differ greatly from forecasted sales, then assets such as inventory will be impacted.

Defining the quality of a new business can be expressed in various dimensions. Several researchers have established some of these dimensions to include the entrepreneurial skills of the founder; the innovativeness of the start-up; the available human capital of the SMEs; the innovativeness of the supplied goods and services; the qualification of the entrepreneur; the motivations of the entrepreneur (opportunity vs. necessity start-ups) and his/her growth ambitions; the marketing strategy pursued by the start-up; and the productivity and the survival of the start-up over a certain time (Fritsch & Schroeter, 2011).

Fritsch and Schroeter (2011), state that a high-quality SME has a greater positive impact on economic growth and development than a low-quality SME. This is because high-quality firms create comparatively more jobs than other firms and thus have a relatively higher effect on fostering SME growth. Tarwirei (2015), concluded

that the lack of managerial competencies in SMEs is a contributing factor to the failure of SMEs. However, the limitation of his study is that the sample is from a single province within South Africa.

Fatoki (2014), mentioned that the causes of SME failure in South Africa include lack of management experience, lack of functional skills, poor staff training, lack of people development, and poor attitudes towards customers as internal factors. External factors include the non-availability of a logistics chain and a high cost of distribution, competition, rising costs of doing business, lack of finance and crime. These are factors in a firm's environment that are largely uncontrollable by the firm (Fatoki, 2014). Beck (2007) argued that the performance of new SMEs can be influenced by both firm-specific (internal factors) and systemic factors (external factors).

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. Resource utilization, production, distribution, inventory management, and cash flow management are some of the factors that contribute to operational efficiency. The most critical factors vary by the nature of the business which could be a combination of services, manufacturing, distribution or retail. Small and Medium Enterprises must have exceptional efficiency to compete with larger companies with greater economies of scale and bargaining power with vendors.

According to Hermanek (2016), resource efficiency stemming from resource utilization is the relationship between product output and resource input. It defines how efficient resources are used to create economic value. Getting the most value from resources and eliminating waste in production and operations are operational efficiency considerations. From a labor perspective, SMEs need to get the most production or sales results possible from employees, material resources, and mechanical resources. Kokermuller (2020), states that efficient production is a major element of operational efficiency. Production efficiency includes optimizing equipment, product processes, and employee output so that the firm produces the greatest number of quality products possible with the time and financial resources invested. SMEs that have efficient technological capacity and adopt innovative and sustainable business models can become more competitive and profitable for more extended periods (Juárez and Vergara, 2021). Technological innovation is required to enable an increase in business productivity and creativity for the development of economic enterprises (Surya, et al. 2021). 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.

Ghorbani (2012), confirmed that the distribution channel effectiveness mediated the

relationship between distribution channel innovation and SMEs performance. It was found that innovation in certain distribution channel functions, mainly assortment and transportation coordination enhanced the effectiveness of the distribution channel, which ultimately improved the performance of SMEs. Sales are a generator of SME revenue, however efficient delivery and distribution of a product will result in repeat customers. Distribution efficiency is key for manufacturers, wholesalers and retailers. Mazanai (2012) concluded that SMEs need to benefit from the distribution channel partners collaborating in distribution efficiency through supply chain management and applying just-in-time (JIT) inventory principles. Efficient routing and delivery scheduling are common aspects of efficient distribution. Distribution efficiency can be achieved through supporting efficient ways for SMEs to distribute products.

In a study to examine the relationship between profitability and inventory management efficiency, Shin (2015), concluded that better inventory management efficiency is positively related to firm profitability. The main focus of supply chain management (SCM) is to provide the right product to the right customers at the right cost, right time, right quality, and right quantity (Basher, 2010). The concept of SCM has helped many companies to compete more effectively in their business markets. Kannan and Tan (2004) point out the three popular methods used to ensure that the product or service is delivered to the customer in the most efficient way possible. These three methods are JIT, Total Quality Management (TQM), and Supply Chain Management (SCM). All three of these methods are linked and when implemented, they eliminate waste while increasing the quality of products and distribution systems.

Cash flow management is managing the funds an SME has available to readily function as a business. In financial terms, the current assets of the business can cover the current liabilities, often referred to as operating liquidity or working capital. Miller and Wongsaroj (2017) stated in their research on the impact of late payments on SME cash flow, that the failure rate of SMEs in South Africa is one of the highest in the world. A lack of finance is one of the primary reasons, followed by compliance burden and late payments. Late payments are a major problem for SMEs as the lack of cash flow stifles growth and even puts entrepreneurs out of business. Bowen (2009) mentions that disciplined financial management is the highest contributor to SME business success.

Earlier studies have established the importance of operational efficiency in the development of large corporations while little research has explored the possibility of using operational efficiency to help develop the critical sector of the economy, namely, SMEs. Chin (2012) mentioned that large companies have recognized the benefits of SCM, but SMEs are lagging in appreciating how an integrated supply chain drives remarkable changes in business processes and work with positive results

in better quality services, cost reduction, and efficiency. In the McKinsey and Company study, it was identified that most SMEs have focused on increasing sales and managing cash as priorities, however, SMEs that focus on operational efficiencies can drive further competitiveness to support sales, while also potentially creating increased capacity in the business (Kalidas, Magwentshu & Rajagopal, 2020).

According to an International Labour Organisation (ILO) report, understanding how enterprise productivity is shaped by a wider “ecosystem” is essential if the full potential of SMEs to support business growth and the creation of decent jobs is to be unlocked. It is important to address both internal productivity factors at the enterprise level, namely, labour, management practices and processes (Radic 2019). The high incidence of failure is a serious waste of resources. In South Africa, there are both economic and human costs associated with the failure of SMEs. Bowen (2009), argued that given the high failure rate of SMEs, it becomes vital to conduct research into the factors that will enable SMEs to succeed and improve their performance.

The brief literature review highlights that the growth of SMEs is important to support job creation and hence contribute to South Africa’s GDP. Researchers have indicated that business performance, supply chain, distribution business processes, and elimination of waste are contributors to firm operational efficiency. Other factors that researchers mentioned that could impact firm efficiency include resource management, innovation, quality, marketing, and technology. The existing literature has not revealed the impact of efficiency as a contributing factor to SME growth in South Africa. Thus, there is a need to conduct a study to assess how operational efficiency contributes to the growth of SMEs.

Research indicates that a firm’s success is based on its ability to grow and sustain performance which contributes to growth (Isaga, 2012). Neneh and Vanzyl (2014), signify that growth intentions are more associated with sales, asset grow, and employment. According to Kokemuller (2020), operational efficiency factors include resource utilization, production, distribution, inventory management, and cash flow management. The hypothesis for this study is that operational efficiency is a contributing factor to the growth of SMEs in South Africa. Thus, improving the operational efficiency of SMEs may have a positive impact on the growth of SMEs.

The research philosophy applied in this research study is subjective pragmatism and the study is exploratory, applying a quantitative research design to test the hypotheses, ensure standardization of data collection and predict the results of data analysis. The data collection was through an electronic survey of SME owners. The survey contained structured questions aimed at meeting the research objectives. The data collection focused on identifying growth factors in SMEs, identifying the operational efficiency factors that contribute to SME growth, determining the prevalence of operational efficiency factors in SMEs and evaluating the relationship

between operational efficiency and SME growth.

In South Africa, a small enterprise is defined as 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).

The target SME population was a representation from the Gauteng province in South Africa. Although Gauteng is the smallest province in South Africa, it is also the most populous, being home to 13 399,725 people, which is 24.1% of the national population. Gauteng 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. Gauteng continues to serve as the economic engine room of the country and the subcontinent, responsible for over 34.8% of the country's GDP.

The sample size required for the study was calculated by applying Cochran's sample size formula for continuous data (Bartlett, Kokrlik and Higgins, 2001).

The formula applied below, where  $t = 1.96$ ;  $s = .83$ ; and  $d = .15$

$$n_0 = \frac{(t)^2 * (s)^2}{(d)^2}$$

Assume that the alpha level is set a priori at .05; a 5-point Likert scale is used to measure the items; the level of acceptable error is set at 3%; and the estimated standard deviation of the Likert scale is  $5/6 = .83$ .

The acceptable margin of error for the mean is calculated as .15 (number of points on the Likert scale [5] \* acceptable error [.03]). When we used an acceptable error of .035 (3.5%), the sample size calculated was: 87.

An online questionnaire was employed to gather data from respondents. The questionnaire consisted of a series of questions distributed to the targeted audience to gather data for analysis to either confirm or refute the hypothesis. (Pandey & Pandey, 2015). The questionnaire statements incorporated were derived from previous studies in the field of operational efficiency, leading to the creation of a list of standard statements that ensured identical statements were administered to participants in a standardized format. The 'online' questionnaire consisted of 54 statements, divided into four (4) sections, applying a 5-point Likert scale with a scale from 'strongly agree' to 'strongly disagree'.



The Statistical Package for the Social Sciences (SPSS) was used for hypothesis testing, including conducting t-tests, analysis of variance (ANOVA), regression analysis, and chi-square tests. SPSS provided a range of descriptive statistics such as mean, median, mode, standard deviation, and frequency distribution which were applied in the evaluation.

## 2. Results and Discussion

After several distribution cycles of 175 questionnaires, 117 SMEs responded to the online questionnaire, which equates to a 67% response rate. The Johannesburg-located Municipality SMEs had a 49.6% response, 13.7% were from the West Rand District, 12% were from Ekurhuleni, 11.1% from Emfuleni and 8.5% from Tshwane Municipality. From an industry perspective, 19.7% of the respondents were from manufacturing, 10.3% from construction, 8.5% from retail, 6.8% from agriculture and 43.6% were from other industries. In terms of existence, 42.7% were less than 4 years in operation, 31.6% were between 4 and 9 years, 8.5% were between 10 and 12 years and 17.1% greater than 12 years old. Of the number of employees in the target audience that responded, 22.2% have between 10 and 50 employees, 75.2% have less than 10 employees and 2.6% have 101 to 150 employees.

### 2.1. The Adoption of Lean Practices by SMEs

Figure 1 depicts graphically the respondents' agreement that Lean Practices are adopted in their SMEs. When applying the One-Sample Test to the data, the summary in Table 1 confirms that there is a significant agreement that Lean Practices are adopted by SMEs.

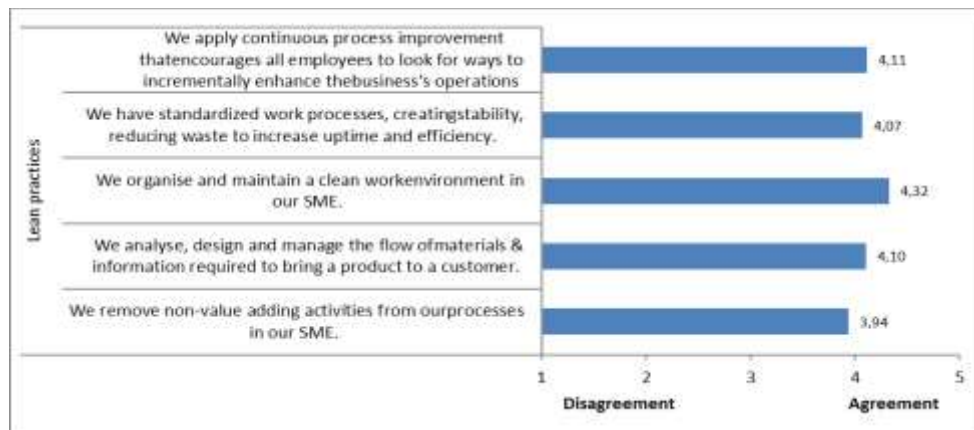


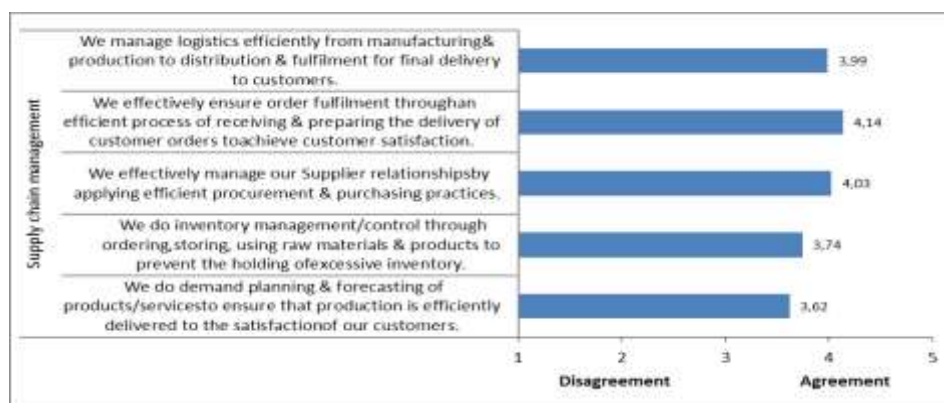
Figure 1. Adoption of Lean Practices by SMEs

**Table 1. One-Sample Test Summary - Adoption of Lean Practices by SMEs**

Lean practices	n	Mean	Standard deviation	t	df	p-value
We apply continuous process improvement that encourages all employees to look for ways to incrementally enhance the business's operations	117	4.11	1.143	10.515	116	<.001*
We have standardized work processes, creating stability, reducing waste and increasing uptime and efficiency.	117	4.07	1.112	10.392	116	<.001*
We organize and maintain a clean work environment in our SME.	117	4.32	1.041	13.768	116	<.001*
We analyse, design, and manage the flow of materials and information required to bring a product to a customer.	117	4.10	1.163	10.259	116	<.001*
We remove non-value-adding activities from our process in our SME.	117	3.94	1.011	10.058	116	<.001*

**2.2. The Adoption of Supply Chain Management Practices by SMEs**

Figure 2 displays that the respondents agree that Supply Chain Management practices are adopted in their SMEs. Order fulfillment through efficient processing of customer orders is a practice in Supply Chain Management that respondents rated strong agreement (4.14).



**Figure 2. The Adoption of Supply Chain Management Practices by SMEs**

Table 2 reflects that there is a significant agreement that Supply Chain Practices are adopted by SMEs.

**Table 2. One-Sample Test - Adoption of Supply Chain Management Practices by SMEs**

Supply Chain Management Practices	n	Mean	Standard deviation	t	df	P-value
We manage logistics efficiently from manufacturing and production to distribution, fulfillment, and final delivery to customers and end users.	117	3.99	1.030	10.415	116	<.001*
We effectively ensure order fulfillment through an efficient process of receiving, preparing, and delivering customer orders to achieve customer satisfaction.	117	4.14	.946	12.998	116	<.001*
We effectively manage our Supplier relationships by applying efficient procurement and purchasing practices.	117	4.03	.951	11.665	116	<.001*
We do inventory management through ordering, storing and using raw materials and products without creating overstock and excessive inventory.	117	3.74	1.115	7.211	116	<.001*
We do demand planning & forecasting of products/services to ensure that production is efficient and delivered successfully to the satisfaction of our customers.	117	3.62	1.127	5.986	116	<.001*

### 2.3. Adoption of Human Resource Management Practices by SMEs

Figure 3 illustrates that the respondents agree that Human Resource Management practices are adopted in their SMEs. Employee satisfaction, employee value and employee wellbeing were rated at (3.88), high in the adoption of Human Resource practice as a contributing factor in OE.



**Figure 3. The Adoption of Human Resource Management Practices by SMEs**

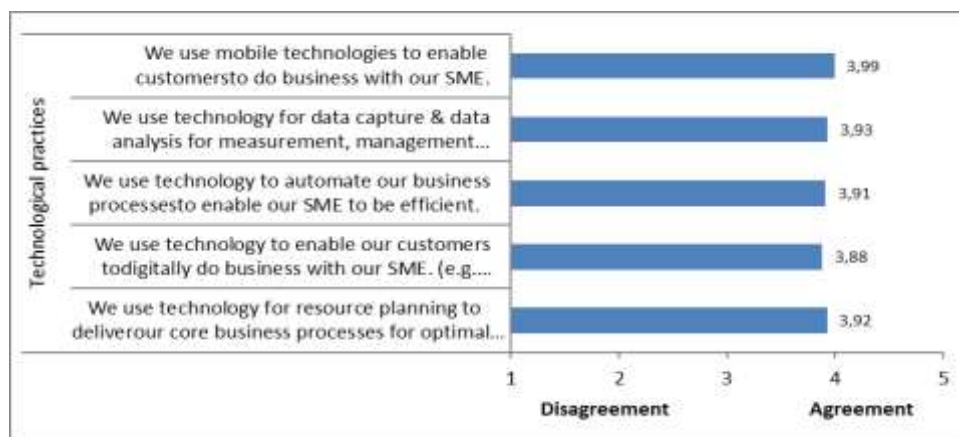
Table 3 shows that there is a significant agreement that Human Resource Practices are adopted by SMEs.

**Table 3. One-Sample Test – Adoption of Human Resources Practices**

Human Resource Practices	n	Mean	Standard deviation	t	df	P-value
We ensure employee satisfaction, employee value and well-being through effective human resource management/leadership practices.	117	3.88	1.027	9.273	116	<.001*
We apply talent management practices to support succession planning and recognition of our employees (e.g. filling of vacancies, promotions, etc.)	117	3.68	1.113	6.563	116	<.001*
We determine pay and benefits for our employees through sound human resource practices (e.g. payroll, job descriptions, skill levels, formal qualifications, etc.)	117	3.71	1.189	6.451	116	<.001*
We use a formal performance management system to monitor employee contributions to business objectives	117	3.71	1.043	7.359	116	<.001*
Our employees undergo regular training and development	117	3.80	1.044	8.323	116	<.001*

#### 2.4. Adoption of Technology Practices by SMEs

Figure 4 displays the respondents' agreement that Technology practices are adopted in their SMEs. Mobile technology adoption scored (3.99), which is the higher rating on the mean for the adoption of technology practices in SMEs.



**Figure 4. The Adoption of Technology Practices by SMEs**

Table 5 reflects that there is a significant agreement that Technology Practices are adopted by SMEs.

**Table 4. One-Sample Test – Adoption of Technology Practices by SMEs**

Technology Practices	n	Mean	Standard deviation	t	df	p-value
We use mobile technologies to enable customers to do business with our SME.	117	3.99	1.046	10.250	116	<.001*
We use technology to capture and analyse our data to ensure we have analytics for measurement, management reporting and effective decision-making.	117	3.93	1.032	9.768	116	<.001*
We use technology to automate our business processes to enable our SMEs to be efficient.	117	3.91	1.042	9.404	116	<.001*
We use technology to enable our customers to digitally do business with our SME. (e.g. Online orders, purchases, payments, etc.)	117	3.88	1.131	8.421	116	<.001*

We use technology for resource planning to deliver our core business processes for optimal performance.	117	3.92	.975	10.239	116	<.001*
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### 2.5. Adoption of Innovation Practices by SMEs

Figure 5 illustrates that the respondents agree that Innovation practices are adopted in their SMEs. There is a strong agreement of (4.10) rating that SMEs regularly create new products and search for ways to improve existing products as an innovation practice in OE.

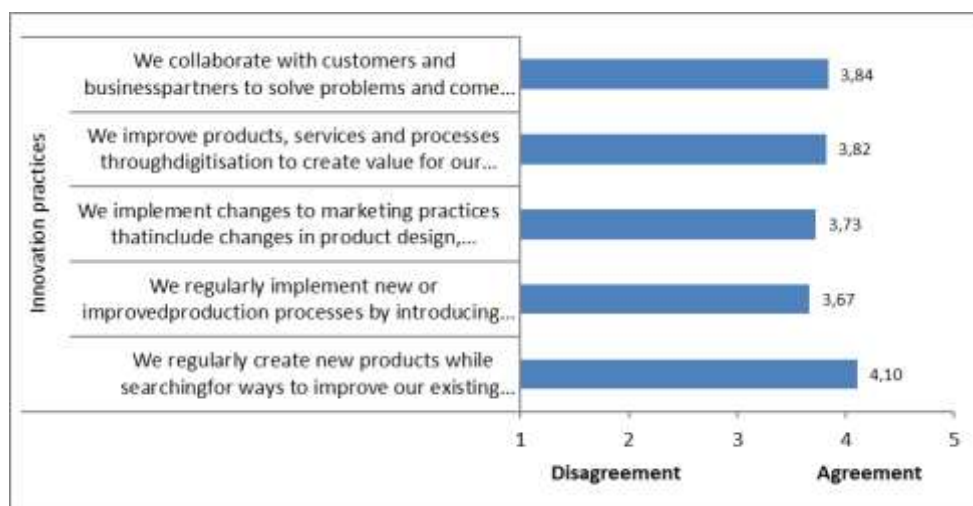


Figure 5. Adoption of Innovation Practices by SMEs

Applying a one-sample test analysis, Table 5 reflects that there is significant agreement that Innovation Practices are adopted by SMEs.

Table 5. One-Sample Test - Adoption of Innovation Practices by SMEs

Innovation Practices	n	Mean	Standard deviation	t	df	p-value
We collaborate with customers and business partners to solve problems and come up with new ideas for products and services.	117	3.84	1.050	8.628	116	<.001*
We improve products, services and processes through digitisation to create value for our customers.	117	3.82	1.055	8.409	116	<.001*

We implement changes to marketing practices that include changes in product design, packaging, placement, promotion or pricing.	117	3.73	1.111	7.071	116	<.001*
We regularly implement new or improved production processes by introducing changes to standards, practices and equipment.	117	3.67	1.130	6.384	116	<.001*
We create new products and are always searching for ways to improve our existing products.	117	4.10	.950	12.549	116	<.001*

## 2.6. Adoption of Marketing Practices by SMEs

Respondents agree that Marketing practices are adopted in their SMEs, as depicted in Figure 6. The branding of SMEs for customers to identify and recognize the value of the SME is a Marketing practice that scored (4.09), there is strong agreement from the respondents.



**Figure 6. Responses to the Adoption of Marketing Practices by SMEs**

Table 6 reflects that there is significant agreement that Marketing Practices are adopted in SMEs.

**Table 6. One-Sample Test - Adoption of Marketing Practices by SMEs**

Marketing Practices	n	Mean	Standard deviation	t	df	p-value
We practice customer relationship marketing through engagements with customers to improve loyalty, customer alignment and secure long-term customer value.	117	4.06	1.124	10.198	116	<.001*
We use online/digital marketing practices to promote brands, products and services of our SME.	117	3.92	1.123	8.891	116	<.001*
We apply segmentation, targeting and positioning of our products and services in our marketing approach.	117	3.83	.994	9.023	116	<.001*
We brand our SME so that customers recognise and identify with the value we give to them through products and service.	117	4.09	.952	12.700	116	<.001*
We do market research to gather and analyse information about customers to provide better services and products	117	3.72	1.252	6.205	116	<.001*

**2.7. Adoption of Quality Practices by SMEs**

Figure 7 shows that respondents agree that quality practices are adopted in their SMEs. Continuous quality improvements to products and services is a Quality practice rated (3.87), rated high by the respondents in the group of quality practices.



**Figure 7. The adoption of Quality Practices by SMEs**



Table 7 shows that there is significant agreement that Quality Practices are indeed adopted by SMEs.

**Table 7. One-Sample Test - Adoption of Quality Practices by SMEs**

Quality Practices	n	Mean	Standard deviation	t	df	P-value
We implement continuous quality improvements to our processing to ensure a progressive incremental improvement in our products and services.	117	3.87	.996	9.468	116	<.001*
We have training programs for our employees to maintain quality standards in our SME.	117	3.62	1.104	6.112	116	<.001*
We use quality management systems & and tools to measure process quality across the product life cycle	117	3.59	1.161	5.495	116	<.001*
We do quality assessments to measure and test conformity to standard practices and customer satisfaction.	117	3.83	.967	9.269	116	<.001*
We have documented quality control standards and procedures which are accurately maintained	117	3.62	1.159	5.746	116	<.001*

In the previous section, it was determined that each of the operational efficiency factors is significantly adopted by the SMEs. This section will elaborate on which of the OE factors are used more by the SMEs. For each of the seven (7) constructs/factors, an analysis was conducted to determine if a composite variable can be formed from the items in the construct that will yield a reliable measure for that construct. Reliability was determined using Cronbach's alpha, where an alpha >0.7 is considered to indicate adequate reliability (Taber, 2018). Composite variables are formed by calculating the average of items included in the construct. It is evident from Table 8 that all of the composite variables are reliable measures for the respective construct

**Table 8. Reliability of Composite Variables**

Construct	Label	Items included	Cronbach's alpha
Lean practices	LEAN	1.1 - 1.5	.907
Supply chain management	SCM	2.1 - 2.5	.924
Human resource practices	HRM	3.1 – 3.5	.919
Technological practices	TECH	4.1 – 4.5	.891
Innovation	INN	5.1 – 5.5	.743
Marketing practices	MARK	6.1 – 6.5	.784
Quality practices	QUAL	7.1 – 7.5	.896

An analysis was conducted to determine if there is any significant difference in the adoption of the seven (7) OE practices across SMEs. The test conducted was a repeated measures ANOVA with Bonferroni post hoc analysis on pairs and the results revealed that there is indeed a significant difference in the agreement among the respondents ( $F= 4.731, 548.779) = 6.352, p<.001$ ), that these OE factors had indeed been adopted. Post-hoc analysis with a Bonferroni adjustment showed that 'Lean' was adopted significantly more than Supply Chain Management ( $p=.001$ ), Innovation ( $p=.017$ ), and Quality Practices ( $p<.001$ ).

## 2.8. SME Growth

Respondents were requested to rate the level of change (increase/decrease) in the growth factors in their SMEs and a one-sample t-test to test for a significant increase/decrease in variables measuring growth was conducted. Table 11 reflects that there is a significant increase in growth for all the growth factors except for the number of Vendors in SMEs. These eight (8) growth measures were combined to form a reliable (Cronbach's alpha = .957) composite variable that can be used to measure growth.

**Table 11. One-Sample T-Test – SME Growth**

SME growth measures	n	Mean	Standard deviation	t	df	P-value
Number of people employed in the SME	117	3.32	1.181	2.976	116	.004*
Sales	117	3.39	1.364	3.117	116	.002*
Revenue	117	3.37	1.387	2.866	116	.005*
Gross Profit	117	3.26	1.335	2.147	116	.034*
Value of assets	117	3.46	.987	5.056	116	.001*
Number of customers	117	3.44	1.329	3.617	116	.001*
Number of vendors	117	3.16	1.273	1.380	116	.170
Number of suppliers	117	3.33	1.160	3.109	116	.002*

\* indicates significance at 95% level

## 2.9. Perceived effect of Operational Efficiency (OE) on SME growth

In this section of the online questionnaire, the respondents were requested to rate their perception of operational efficiency factors having a positive effect on the growth of an SME. The effect of quality practices was rated at strongly agree (4.48), applying human resource practices (4.32) strongly agree, applying innovation (4.28) strongly agree, applying technology practices (4.28) strongly agree, applying supply chain management (4.21) strongly agree, applying marketing practices (4.21) strongly agree, application of lean practices (4.13) strongly agree.

A one-sample t-test was conducted where the average agreement score was tested against the central score of '3' to determine if it differed significantly from '3'. If there is a significant difference ( $p < .05$ ), the interpretation is a significant agreement that the mean score is  $>3$  and a significant disagreement if the mean score is  $<3$ . In the analysis conducted using the Statistical Package for the Social Science (SPSS), a 'p' value given as .000 is very small and reported as  $p < .001$ . Table 12 reveals that the mean score for all seven OE factors is  $>3$ , and the 't' statistical test comparing the means of the groups of data shows a high level of confidence in the coefficient as a predictor of the OE factors on growth in SMEs. The standard deviation is low and shows that the data is closely clustered to the mean. The 'p' value is  $< .001$ , confirming that there is a significant agreement that all seven (7) of the OE practices will have a positive effect on the growth of the SME. Quality practices are perceived as having the highest effect on growth as an OE contributing factor.

**Table 12. One-Sample Test Summary - Perceived effect of OE on SME growth**

Construct	n	Mean	Standard deviation	t	df	P-value
Lean practices	117	4.13	1.047	11.659	116	<.001*
Supply chain management	117	4.21	1.024	12.819	116	<.001*
Human resource practices	117	4.32	1.056	13.485	116	<.001*
Technological practices	117	4.28	1.082	12.822	116	<.001*
Innovation	117	4.28	1.074	12.917	116	<.001*
Marketing practices	117	4.21	1.016	12.926	116	<.001*
Quality practices	117	4.48	1.022	15.647	116	<.001*

The results indicated that SMEs strongly agree that growth will be positively impacted by adopting all the operational efficiency factors. More specifically, the statistical testing confirmed that SMEs significantly agree that by adopting operational efficiency practices there would be a positive effect on the growth of their enterprises. Okwang et al. (2015) mentioned that all businesses value operational efficiency to growth value for stakeholders, however, few businesses excel in designing, communicating, and executing their efficiency initiatives.

The OE factor that is mostly implemented by SMEs is Lean Practice which had a score of 4.11, followed by Technological Practice (3.93), Marketing (3.92), Human

Resource Practices (3.90), Innovation (3.83), Supply Chain Management (3.76) and Quality Practices (3.71). From the assessment of the level of adoption of OE, Lean practice is adopted significantly more than Supply Chain Management, whilst Quality practices are at the lowest end of the rating amongst the 7 OE factors. Interesting SMEs perceived Quality as having the highest impact on their SME growth, whilst adopting Quality practices may not necessarily be receiving the highest operational focus.

Sharma et al. (2014) found that the need for operational efficiency enhancement is key for survival and SMEs that were not applying Lean practices were failing. Belhadi (2018) found that SMEs are increasingly promoting adopting Lean principles. Sahoo (2021), found 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. Timans (2016), Muganyi (2019), Assarlind (2012), Kalashnikov (2017), and Ciarniene (2012), found positive effects on efficiency when all the seven operational effectiveness factors were adopted.

Rauch and Rijkskik, (2012) stated that growth decreases the possibility of small business failure. Several researchers (Isaga 2012; Levie & Autio 2013; Achtenhagen et al. 2010) confirmed that growth should be a measure of employment, sales, and asset growth. Torres and Watson (2013) argued that the entrepreneurial process does not end with starting the business but also incorporates the intention to grow the business. This finding of Torres and Watson (2013) is important as it aligns with the findings of the current study where it was established that SMEs that adopt OE practices promote the growth of the organization. This is also supported by the findings of Levie and Autio (2013) who observed that achieving growth is very difficult and requires effort, and if entrepreneurs merely focus on short-term gains and do not invest in longer strategic growth intent for their businesses, their businesses will be less likely to produce the growth which benefits all stakeholders.

Neneh and Vanzyl (2014) stated that business success is dependent on the growth intentions of the SME owner which is not apparent once the SME is launched. However, the findings of the current study revealed that after a few years of operation, the focus on growth is evident as demonstrated in the demographics of this study where 42.7% of the respondents were less than 4 years in operation and 31.6% between 4 & 9 years in operation. This made up 74.3% of the respondents who in essence are positive that their SMEs have grown in the past two years.

Achtenhagen (2010) reported that frequent growth measurements may be inconsistent and that the use of different growth measurements may provide different non-comparable results. Davidsson (2010) stated that growth is not merely the result but is derived from a set of activities and factors and should be seen as a process. Clark (2014) analysed growth from a co-evolutionary perspective and considered it

adequate to conceive an economic aspect of growth with sustainability based on three (3) aspects, one of which included collectivity since growth is a product of collective activities. This study has also found that the eight (8) growth factors can be used as a composite to measure the growth in SMEs.

The findings demonstrated that Technological and Innovation practices independently are significant predictors of growth in SMEs. Whilst Technological Practices have the most effect on SME growth since it produced the largest B regression coefficient, it was followed by Human Resource Practices. These findings must be seen in the context of the shift in business focus due to the recent events that occurred across South Africa and the Globe as a whole, namely, the impact of the COVID-19 pandemic. SMEs have had to reach their customers digitally during prolonged lockdown and the Technological boom brought about by the 4<sup>th</sup> industrial revolution (4IR) necessitated SMEs to re-focus their operations to be relevant. 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 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 behaviour as customers now expect companies to be digital across the value chain.

Surya (2021), stated that Technological innovation is required to enable an increase in 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) alluded, 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 contributed to product and process innovation by influencing competitive efficiency in SMEs (Ubieta 2021). Mourougane (2012), also argued that the major source of SME productivity improvement is likely to be innovation.

The Human Resource OE factor produced the highest regression coefficient which implies that an increase in Human Resource Practice leads to a decrease in growth. According to some researchers (Hermanek 2016; Afidiman and Yusuff 2011), human resources management is an important factor to be considered for the efficiency, growth, and survival of a business. 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 focus on by adopting digitization, Human Resources may be perceived by SMEs as an expense, inefficient, and not a direct contributor to growth. Thus, this factor needs further research.

SMEs agreed that they adopt Lean Practices and Supply Chain Management in their SMEs and they perceive that both these OE factors will contribute to their SME growth. However, Lean Practice and Supply Chain have not been found to a significant predictors of SME growth although Lean practices are adopted significantly more than Supply Chain Management Practices. Belhadi (2018) and Dombrowski (2010), concurred that large organisations have reached a level of optimization and are competitive through the implementation of Lean practices, since they have the necessary budget, time and expertise to implement Lean practices, whilst SMEs lack the tools and skills to implement Lean Practice. These researchers' findings have relevance to the findings of this (current) study. Although SMEs are positive about Lean Practice and Supply Chain Management, the level of maturity in application and specialist technical skills to practice has not been tested and is inconclusive in SMEs. From a growth perspective, an increase in Vendors by SMEs has not been evident in this (current) study, and this may be a reason for the view that SMEs do not necessarily focus heavily on Supply Chain Management as a growth factor.

SMEs agreed that they positively associate Marketing Practices with growth and are indeed adopting Marketing Practices in their organizations. However, when analyzing the data using regression, Marketing practices are not a significant predictor of organizational growth. Ali Qalati (2020), found that SMEs' marketing ability is dependent on technology enablement and that social media marketing has a significant impact on SME performance, and builds brand awareness. However, this researcher 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 media and thus SMEs are applying marketing skills and practices via Technology, and hence less focus on traditional Marketing practices which could be associated with large businesses.

The Quality Practices of SMEs are positively associated with their operational efficiency. SMEs strongly perceived Quality Practices as an OE factor that will have a positive impact on SME growth, and rated it at 4.48 out of 5. However, when analysing which of the seven (7) OE factors are practiced the most by SMEs, Quality was ranked the lowest. Furthermore, when the data was analysed using regression techniques, alongside multiple OE factors, Quality Practices were not found to be a significant predictor of growth. However, some researchers (Fritsch and Schroeter 2011; Ngek 2014), have stated that SMEs that focus on quality are likely to survive,

produce growth, create jobs, and contribute to the economy.

The study contributes to theory by defining and assessing seven factors that contribute to operational efficiency and impact SME growth. Growth was found to be a significant measure of SMEs being successful. The findings were that the eight (8) growth measures combine to form a reliable composite variable that can be used to measure and define growth in small businesses in the Gauteng province in South Africa.

A significant contribution of the study is the finding that Technological Practices and Innovation are significant predictors of SME growth. This finding is of relevance in the context of SME survival as the potential to address employment in South Africa. A positive finding is that SMEs are embracing technological and innovation practices to ensure sustainability and relevance for customers, notably during disruptive periods such as the COVID-19 pandemic. A small business that adopts and invests in technology and innovation will have a significantly greater opportunity for success and growth.

Although the study was based on a detailed review of previous literature, certain limitations need to be acknowledged. Although the research problem is overarching across SMEs in South Africa, due to time and budget constraints, the researcher chose the Gauteng province as the target sample. The researcher acknowledged that the Gauteng province is the economic hub of South Africa, however, there are certain limitations in that the SMEs in the Gauteng Province will not necessarily include the diversity of small businesses across the other eight (8) provinces in South Africa.

## References

- Achtenhagen, L.; Naldi, L. & Melin, L. (2010). Business growth: do practitioners and scholars talk about the same thing? *Entrepreneurship Theory and Practice*, Vol. 34, No. 2, pp. 289-316.
- Afdiman, A. & Yusuff, R.M. (2011). Manufacturing best practices in Malaysian small and medium enterprises (SMEs), Benchmarking. *An International Journal*, Vol. 18, No. 3, pp. 324-341.
- 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, p. 75.
- Assarlind, M.; Gremyr, I. & Backman, K. (2012). Multi-faceted views on an LSS application, *International Journal of Quality and Reliability Management*, Vol. 22, No. 3, pp. 21-30.
- Atristain, C. & 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, pp. 181-199.
- Bartlett, J.E.; Kotlik, J.W. & Higgins, C.C. (2001) Organizational Research: Determining Appropriate Sample Size in Survey Research. *Information Technology, Learning, and Performance Journal*, 19, pp. 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, Vol. 202, Accessed from: [research.tilburguniversity.edu/en/publications/financing-constraints-of-smes-in-developing-countries-evidence-de](http://research.tilburguniversity.edu/en/publications/financing-constraints-of-smes-in-developing-countries-evidence-de).

Belhadi, A.; Touriki, F.E. & 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, pp. 803-829.

Bowen, M. (2009). Management of business challenges among Small and Micro Enterprises in Nairobi Kenya. *KCA Journal of Business Management*: Vol. 2, Issue1, pp. 16-27.

Carlson, R. (2019). Managing Asset Growth in Small Business Firms, Types of assets and their growth patterns. *Business Finance, Financial Management*. Retrieved October 25, 2021 <https://www.thebalancesmb.com/managing-asset-growth-in-small-business-firms-393516>.

Chen, J.; Liu, L. & Wang, Y. (2020). 'Business model innovation and manufacturing SMEs: a social exchange perspective. *Journal of Manufacturing Technology Management*, Vol. 32, No. 2, pp. 290-312.

Ciarniene, R. & Vienazindiene, M. (2012). Lean Manufacturing: Theory and Practice: *Economics and Management Journal*, Vol. 17, No. 2, pp. 726-732. Accessed November 15 from: <https://doi.org/10.5755/j01.em.17.2.2205>

Davidsson P., L.; Achtenhagen., & Naldi, L. (2010). *Small firm growth. Foundations and Trends in Entrepreneurship*, Vol. 6, No. 2, pp. 69-166.

Department Working Papers, No. 995, OECD Publishing, Paris. Accessed November 12, 2020, from: <http://dx.doi.org/10.1787/5k918xk464f7-en>.

Dombrowski, U. & Mielke, T. (2013). Lean leadership: fundamental principle and their application, *Procedia CIRP*, Vol. 7, pp. 569-574.

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, pp. 729-738. Retrieved November, 03, 2021. Available online at <http://www.academicjournals.org/AJBM>.

Fritsch, M. & Schroeter, A. (2011). Why Does the Effect of New Business Formation Differ Across Regions? *Small Business Economics*, Vol. 36, pp. 383-400.

Ghorbani, H. (2012). Impact of Distribution Channel Innovation on the Performance of Small and Medium Enterprises. *International Business and Management*, Vol. 5, No. 1, pp. 50-60.

Goedhuys, M. & 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, pp. 516-529.

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](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.

Hermanek, P. (2016). *Improving Resource Efficiency in SMEs: Guidebook Series How to support SME Policy from Structural Funds*, European Commission.

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.

Kalashnikov, V.; Benita, F.; López-Ramos, F. & Hernández-Luna, A. (2017). Bi-objective project portfolio selection in LSS. *International Journal Production Economics*, Vol. 186, pp. 81-88.

Kalidas, S.; Magwentshu, N. & Rajagopaul, A. (2020). How South African SMEs can survive and thrive post COVID-19. Mckinsey & Company.

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, pp. 153-162.

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. & Wongsaraj, 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](http://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

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.

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.

Rauch, A. & Rijkskik, 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](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*, Vol. 16, Issue. 1, pp. 98-106.

Statsa.gov. (2020). *Quarterly employment statistics (QES)*. Retrieved from [statssa.gov.za/publications/P0277/P0277December2020.pdf](http://statssa.gov.za/publications/P0277/P0277December2020.pdf).

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, p. 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, pp. 1273–1296.

Tarwirei, M. (2015). The impact of managerial competencies on the performance of SMEs in the Buffalo Municipality. *Doctoral dissertation*, University of Fort Hare.

Timans, W.; Ahaus, K.; van Solingen, R.; Kumar, M. & 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, pp. 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, pp. 65-87.

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, pp. 420-438.