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## OPERATIONAL RISK FACTORS AND THE SUSTAINABILITY OF SMALL AND MEDIUM MANUFACTURING ENTERPRISES IN SOUTH AFRICA

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**Abstract.** In South Africa, the success of Small and Medium-sized Enterprises (SMEs) is essential in developing the economy as these businesses are known as drivers of economic growth. However, these SMEs have a high failure rate, mainly caused by operational risks. According to Scholarly literature, operational risk is any event that disrupts the normal flow of business processes. It generates financial loss or damage due to operational risk factors: people, process, system and external events. It was further established in South Africa that when these operational risk factors are not controlled, they can adversely impact the sustainability of SMEs. Most of these manufacturing enterprises do not implement operational risk management as they consider it a privilege of large enterprises. These Manufacturing companies must implement operational risk management to mitigate potential threats. This research study aims to investigate the operational risk factors affecting Manufacturing SMEs' sustainability in the Cape Metropole. Quantitative data was acquired from 85 respondents (managers/or owners) of Manufacturing SMEs in the Cape Metropole. Based on the results, it was found that all four of these operational risk factors still affect the sustainability of these business entities. To deal with these operational risk factors effectively, SMEs need operational risk management to identify, minimise and mitigate risks that negatively affect their sustainability.

**Keywords:** Small Medium Enterprises; manufacturing SMEs; sustainability; operational risks; South Africa

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**JEL Classifications:** M1, M13, D23

### 1. Introduction

South African Small and Medium Enterprises (SMEs) are known as the lifeblood of the national economy due to their potential to assist in attaining core socio-economic objectives (Naicker et al., 2017; Nanziri & Wamalwa, 2021). SMEs were officially introduced to the national economy by the South African government to create jobs, alleviate poverty, and stimulate the national economy (Smit & Watkins, 2012). Furthermore, SMEs are drivers of economic growth, are essential in reducing poverty (Morongwa, 2014), creating employment, contributing to the Gross Domestic Product (GDP) (Lekhanya & Mason, 2014), and play a crucial role in developing countries (Morongwa, 2014).

Despite the above-mentioned, Kalida, Magwentshu, and Rajagopaul (2020) aver that SMEs are struggling to fulfil their potential with great success as an estimate of 70 to 80 per cent of SMEs are reported to fail within their first five years of existence. Most SMEs face several obstacles hampering their sustainability, which, in turn, negatively affect their economic growth (Phaho & Pouris, 2008; Bvuma & Marnewick, 2020). Prior research has suggested that SMEs are exposed to risks, which influence daily processes, reduce proceeds, or increase overheads (Certified Practising Accountant (CPA) Australia, 2018). These risks adversely affect business sustainability, causing the failure of some of these businesses.

One of these major risks that business entities face is an operational risk (Engle, 2009; Bai, Gao & Sarkis, 2021), which is inherent in every human activity and ascends from activities such as acts of fraud, errors, negligence, violations, technological failure events, process deficiencies, system flaws, acts of terrorists and vandalism, as well as natural disasters like floods, earthquakes etc. (Hussain & Shafi, 2014). Operational risk is the potential loss resulting from inadequate or flawed internal processes, people and systems, or external events. However, operational risk is still not prevalent amongst manufacturing SMEs. The research study explores what operational risk factors affect manufacturing companies as there is less research done in this sphere of operational risk in SMEs. According to the survey by Renault Agumba & Ansary (2020), most SMEs do not develop a viable operational risk management program to identify internal risks.

Furthermore, there are no studies done on operational risk management within the manufacturing SMEs in South Africa. Therefore, this research will assist manufacturing companies in identifying their critical operational risks. Finally, it will fill the knowledge gap, add to the existing body of knowledge regarding operational risks and provide valuable guidelines to SME owners and/or managers on how to better manage operational risks more efficiently and effectively to improve the sustainability of their businesses.

## **2. Review of literature**

### **2.1 SMEs in the manufacturing sector**

The South African manufacturing sector is a primary contributor to the country's GDP and has significant potential to create employment opportunities and improve national economic growth (Signé, 2018). According to the DTI (2018), the manufacturing sector contributes directly to the country's GDP, employment, exports and human capital development. The manufacturing industry in South Africa employs over 1,6 million people. It is rated among the top three multiplier sectors concerning value addition, employment creation, export incomes, and revenue generation for each rand invested (Rodseth, 2018). According to the Western Cape Economic Overview (2010) and Stats SA (2019), the Western Cape manufacturing industry is the third largest contributor to national manufacturing output and employment and the dominating private sector in the province. The manufacturing industry plays an essential role in the reduction of unemployment, alleviation of poverty and the increase in economic growth. The DTI (2008) aims to evaluate and improve the manufacturing capabilities of South Africa into a sustainable and globally competitive industry. However, the manufacturing sector is declining for its influence on employment and economic growth. According to Katanamrp (2022), some challenges affect manufacturing industries. One of the challenges that face manufacturing companies is operational risks. Operational risks are most prevalent in the manufacturing and mining industries (Qeke & Dubihlela, 2018; Bai, Gao & Sarkis, 2021). Manufacturing businesses encounter undesirable events and unwanted setbacks such as machine breakdowns, material shortages, accidents, and absenteeism that make the system unreliable and inconsistent (Islam & Tedford, 2012; Islam, Tedford & Haemmerle, 2008). Bai, Gao & Sarkis (2021) study found several operational risks such as fire, natural disasters and air pollution. The combined effect of different operational risk events could effectively cripple an SME's business performance, which may ultimately put it at risk of complete failure (Islam, Tedford & Haemmerle, 2008; Allen, 2016).

The failure rate of SMEs in South Africa is usually pinned on various economic factors such as management negligence, high-interest rates and ineffective internal control (Ahmad & Seet, 2009; Bushe, 2019; Saah & Musvoto, 2020). These factors ultimately lead to the weak sustainability rate within South African SMEs (Bruwer et al., 2013; Petersen, Bruwer & Le Roux, 2018; Bruwer et al., 2019; Mbomvu et al., 2021). The South African manufacturing industry is thus failing, considering its GDP contribution plummeting for over ten years from 18 per cent (1997) to 11 per cent (2017), resulting in devastating 105,000 job losses (Macpherson, 2018). The inference could be made that South African manufacturing SMEs are ineffective and inefficient as they suffer from various internal and external influences like people, internal processes, technological systems, and external events (Qeke & Dubihlela, 2018), which, in turn, generate operational risks (Bushe, 2019). These risks adversely affect business sustainability, causing the failure of some of these businesses. Hence, this study aims to determine the operational risk affecting manufacturing SMEs' sustainability in the Cape Metropole.

## **2.2 Sustainability of SMEs**

SMEs contribute to a country's national GDP and economic development in South Africa (Erdirin, & Ozkaya, 2020; Saah, 2021). SMEs play numerous roles within an economy, such as generating employment and contributing to the GDP (Lekhanya, 2016; Bruwer, 2020). Stats SA, 2020 reports that small businesses generate just over one-fifth of total turnover. According to Kalidas, Magwentshu & Rajagopaul (2020), SMEs are recognised as an engine of growth, are imperative in reducing poverty, and play an essential role in mainly developing countries. Additionally, they are indispensable for ensuring a competitive and productive market. Business activities and functions should be instrumental in small businesses' future growth and sustainability (Saah & Musvoto, 2020). SMEs' sustainability in a growing South African economy is of paramount importance as they represented 97.5 per cent of actively registered businesses in 2001 and 96.9 per cent between 2001 and 2007 while contributing approximately 30 per cent to the GDP and an estimated 80 per cent to all local employment opportunities (DTI, 2008). The sustainability of SMEs is a critical component in ensuring the future success of a business (Eccles, Ioannou & Serafeim, 2012; Hoffman, 2018; Saah & Musvoto, 2020).

Despite the importance of SMEs, most SMEs face several obstacles hampering their sustainability and, consequently, harming their economic development (Phaho & Pouris, 2008; Saah & Musvoto, 2020). According to Mbomvu, Hlongwane, Nxazonke, Qayi & Bruwer (2021), South African SMEs have been performing very poorly during the past few years, indicating that several factors are hindering their efforts to operate efficiently and sustainably. There are many reasons why SMEs fail; those mentioned above are attributed to some constraints SMEs face (Msomi & Olarewaju, 2021; Mbomvu et al., 2021). According to Rehman and Anwar (2019) and Yakob, Hafizuddin-Syah, Yakob, and Raziff (2019), risk management significantly affects business performance.

Business entities face several significant risks: strategic, reporting, compliance, and operational risks (Engle, 2009; Chowdhury, Lau, & Pittayachawan, 2019; Xing et al., 2022; Koeplin & Lele, 2022). Within the ambit of this study, the focus will be on operational risk.

## **2.3 Operational risk factors for SMEs**

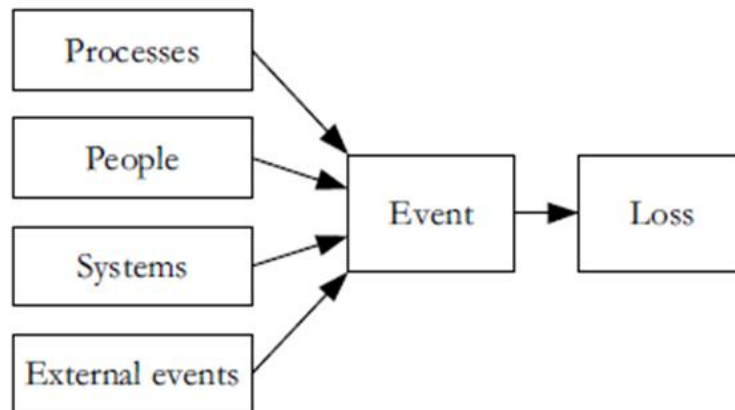
The Basel Committee on Banking Supervision (2001) defines operational risk as "the risk of loss resulting from inadequate or failed internal processes, people and systems or external events.

Operational risk refers to the possibility of error in information processing, insufficient documentation procedures, or delay in work completion. All manufacturing businesses face unwanted events and impediments (internal and external) in their daily operations (Islam & Tedford, 2012). Furtado, Kolaja, Mueller and Salguero (2020) are in support that manufacturing companies do face operational challenges. The internal causes of failure

include poor management, lack of risk management planning, and failure to adopt a risk limit threshold. The external causes included government policies, the vulnerability resulting from small size, competition from larger businesses, civil strife, natural disasters, and general economic downturns (Arif, Jan & Kulsoom, 2016)

Operational risk factors may be internal or external to the business and are usually generated by people, processes, and systems (Strzelczak, 2007). Internal factors involve people, products or services offered, and operational systems. External factors are the causes from which operational risk may arise (Global Association of Risk Professionals, 2011). These factors emphasised the need for reinforcing controls over operational risk, particularly in the financial area and utilising indicators to keep track of risk exposure tendencies (Ferretti & Birindelli, 2017). Internal and external events to its day-to-day operation put an SME at risk regarding production, safety, and the business itself (Islam, Tedford & Haemmerle, 2008; Bodnar et al., 2019). According to Bai, Gao & Sarkis (2021), small businesses are more likely to have operational risk events as large companies have more significant slack and capacity to absorb the risk. Operational risk can be found at various levels such as a 1) personal level (e.g., unintended errors, inexperience, fraudulent behaviour (recorded as destructions, fabricated or hidden information); 2) procedural level (inappropriate procedures and control regulations to generate detailed reports for national institutions responsible for operational risk, to observe and take decisions); 3) technique level (lack of insufficient tools used to measure operational risk); and 4) technological level (system errors) (Radu & Olteanu, 2008). Major accidents and emergencies rarely occur in SMEs, although small losses, near misses, unsafe acts and unsafe conditions are common occurrences. But, problems, failures and mistakes, as well as incorrect or ineffective actions, are very likely occurrences in the daily business of SMEs (Islam & Tedford, 2012; Ntshangase & Msosa, 2022).

Figure 1 graphically depicts the dimensions of operational risk – a loss that is caused by an operational event, which, in turn, is caused by four different factors: processes, people, systems, and external events (Van den Brink, 2002; BCBS, 2003; Van Grinsven, 2009; Islam & Tedford, 2012; South African Reserve Bank, 2020).



**Figure 1.** Dimensions of operational risk  
*Source:* Van Grinsven (2009:24)

An operational risk loss arises only from an actual operational risk event (Coleman, 2010). According to Bai, Gao & Sarkis (2021), the effect of an operational risk event on a firm financial performance depends on the direct financial losses and the information timeliness of the risk event. Operational losses are mostly known to be caused by individuals but can be caused by all levels of staff, including the Boards of Directors, whether intentional or not (De Jongh et al., 2013). Further, operational losses result from weak management, subcontracting nontactical activities, or external factors (Coleman, 2010). Most substantial losses occur due to operational failures at the

senior level (Advisory & Perrin, 2010). According to Shahudin, Zulkeflee and Cipriano (2018), operational risk arises because of "failure in systems, processes, people and external events", and if this risk is not addressed appropriately, it can result in business failure.

Basel II provides a set of seven categories of operational risk event types having the potential to result in substantial losses, including the following:

- internal fraud (acts meant to deceive, steal property or avoid regulations, company policy or the law); external fraud (acts by a third party intended to defraud, avoid the law or misappropriate property);
- employment practices and workplace safety (unpredictable acts concerning health, safety agreements or employment, which result in the payment of personal wound claims or claims relating to multiplicity or discrimination issues);
- clients, products, and business practices (unintended or neglectful failure to meet a professional obligation to explicit clients or due to the nature or design of a product);
- damage to physical assets (loss or damage to physical assets from natural catastrophes or other events);
- business disruption and system failures; execution, delivery, and process management (fruitless transaction processing or process management, or relations with trade counterparties and vendors). (Rhanoui & Belkhoutout, 2018).

Operational risk events are growing radically, and organisations must develop ways to mitigate them. Operational risks can be mitigated efficiently if organisations learn the core operational vulnerabilities of their businesses and set the risk indicators accordingly.

## **2.4 Operational Risk Management**

Successful SMEs use operational risk management (ORM) to assist them with contemplating risk when making decisions, as it has been proven to be the critical success component of any SME organisation. Mohamud and Salad (2013) define ORM as a process of managing or reducing risks appearing from technical- and human errors. ORM is very effective in preventing the risk that causes operational losses by managing those risks. Therefore, organisations need to implement ORM to succeed.

### **2.4.1 Stages of operational risk management**

According to Pearson (2020), there are different stages in regards to implementing ORM:

**Risk identification:** Understanding the risks specific to a business is critical, but many potential risks affect any business, and you need to identify all of them, both those that are recurring and those that can be once-off events. The identification process needs to involve staff from all levels of the business, bringing various backgrounds and experiences to make a cohesive result. Risks identified by work floor staff will be very different and no less critical than those identified from the boardroom.

**Risk Assessment:** Once the risks have been identified, they need to be assessed. This needs to be done from a quantitative and qualitative perspective, and factors like the frequency and severity of occurrence need to be considered. The assessment needs to prioritise managing these risks concerning those factors.

**Measurement and Mitigation:** Mitigating these risks (if not eliminating them) is the next stage, with controls that should limit the business's exposure to the risks and the potential damage caused by them.

**Mentoring and reporting:** Any ORM plan must have something in place for the ongoing monitoring and reporting of these risks, if only to demonstrate how effective the plan has been. Most of all, it is to ensure that the

solutions put in place continue to be effective and do their job in managing the risks.

The above stages are crucial in implementing ORM as they ensure a successful strategy.

ORM aids management in understanding the cause of the risk to determine what factors affect earnings and manage the risk effectively. This improves a business's overall operation as losses are reduced, and a financial crisis can be avoided.

### **3. Research Methodology**

The research study was empirical, making use of a survey research questionnaire and quantitative research, and fell within the positivistic research paradigm as data were collected from the owners and/or managers of the manufacturing SMEs within the Cape Metropole. The owners and/or managers of manufacturing SMEs were invited to participate in the study, of which a total of 85 participated in this research study. Since all the owners and/or managers mentioned above were invited to participate in the study, the sampling method used was twofold and included both convenience and purposive sampling.

The owners and/or managers participated in the study out of free will (voluntary participation) and could withdraw from the study at any time and without any consequences. To justify a valid response, each respondent had to adhere to the following delineation criteria:

- Respondents must be owners and/or managers of their businesses.
- Respondents must be actively involved in the daily operations of the company.
- Respondents' SMEs must adhere to the South African definition of SMEs stipulated in the National Small Enterprise Act of 2019.
- Respondents' SMEs must employ between five and two hundred and fifty employees.
- Respondents' SMEs must be non-franchised.
- Respondents' SMEs must operate in the manufacturing industry in the Cape Metropole.
- Respondents' SMEs must be in existence for at least three years.

Descriptive statistics were used to present and interpret the basic features of the collected data and derive meaningful, informative results.

### **4. Results and Discussions**

SMEs adhered to strict delineation criteria whereby respondents were asked questions about demographical matters. 85 questionnaires were completed in 2021 (January – June) by the owners and/or managers of manufacturing SMEs operating in the Cape Metropole. Table 1 below summarises the socio-demographic information of the participants from Section A.

**Table 1.** Demographic Summary of Sampled SMEs

Decision-Making Power	95.3% had decision-making power 4.7% did not have	
Position in SMEs	16.5% were owners 54.1% were managers 29.4% were managers and owners	
Type of Business	22.4% operated in Clothing and textiles 14.1% were wood 11.8% were metal 4.7% were unknown	2.4% operated in Chemical 1.2% operated in Petroleum 3.5% operated in Paper
Education Level	1.2% had a Master's degree 9.4% had an Honors degree 28.2 had Higher Diploma	10.6% Higher Certificate 14.1% had below grade 12 23.5% had grade 12
Type of Sales used	31.8% use cash sales 5.9% use credit sales 62.4% use cash and credit sales	

Decision-Making Power: The average respondent was a manager with decision-making power and between 11 and 50 full-time employees. Most respondents (95.3%) had decision-making power within their respective manufacturing businesses. The goodness of fit test shows that there are statistically significant more respondents with decision-making power within their business compared to those who do not have decision-making power. Position within the company shows that 16.5% of the respondents acted as the owner of their manufacturing business, 54.1% worked as the business manager, and 29.4% served as both the owner and manager. Statistically, significantly more respondents acted as managers compared to owners or both the owner and manager of the company.

Regarding the type of business operation for respondents, 22.4% of the respondents who completed the survey acted as the owner and/or manager of a clothing and textile business, followed by 14.1% in wood businesses and 11.8% in metal businesses. The smallest number of respondents came from paper businesses (3.5%), chemical businesses (2.4%), and petroleum businesses (1.2%). 4.7% of the respondents did not respond to the question and were indicated as "unknown". Three respondents who selected "other" types of businesses described their businesses as packaging, paint, and pottery. The goodness of fit test shows that the various types of businesses were not equally distributed. For the level of education, 14.1% of the respondent's highest level of education was lower than Grade 12, 23.5% of the respondents had Grade 12/Senior Certificate/Matric, 10.6% had a National Higher Certificate/Higher Certificate/National Certificate, 28.2% had a Higher Diploma/Diploma/National Diploma, 12.9% had a Bachelor's Degree/Advanced Degree, 9.4% had an Honours Degree/Postgraduate Diploma, and only 1.2% had a Master's Degree. Furthermore, respondents were not equally distributed over the highest level of education groups.

Type of Sales used: In total, 31.8% of the respondents' businesses made use of cash sales only, 5.9% made exclusive use of credit sales, and 62.4% made use of cash and credit sales. The respondents were not equally distributed over the types of sales groups. Section B's design consisted of two Likert scale questions (see Table 2 overleaf). These questions were centred on achieving business objectives from which a conclusion can be made about the overall sustainability of manufacturing SMEs. Respondents were provided with a list of possible answers and had to rate their level of agreement or disagreement with the statement.

**Table 2.** Summary of perceived sustainability of sampled SMEs

Statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Income is greater than expenses (profitability)	63.5%	18.8%	8.2%	3.5%	3.5%
There is sufficient cash on hand (liquidity)	64.7%	16.5%	7.1%	4.7%	3.5%
Assets are greater than liabilities (solvency)	68.2%	21.2%	4.7%	1.2%	1.2%

From the results in Table 2, the inference can be made that the sustainability of the sampled SMEs by respondents is perceived as very good. These business entities agreed to have income higher than expenses (63.5% of the time). However, some of these businesses did experience unprofitability as they strongly disagreed that their income is greater than their expenses (3.5% of the time). Most respondents did not perceive their businesses as having weak business liquidity (64.7%) and weak business solvency (68.2%). However, these entities show weak business liquidity (3.5% of the time) and weak business solvency (1.2% of the time).

**Table 3.** Types of operational risks encountered in SMEs

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Staff errors	1.2%	7.1%	8.2%	9.4%	65.9%
System processing errors	1.2%	3.5%	9.4%	12.9%	64.7%
Inadequate auditing procedure	2.4%	4.7%	2.4%	9.4%	69.4%
Inadequate segregation of duties	2.4%	1.8%	3.5%	12.9%	69.4%
Failed systems and transactions	0%	3.5%	8.2%	5.9%	71.8%
Poor systems design	1.2%	3.5%	3.5%	7.1%	74.1%
Poor human resources policies	1.2%	2.4%	7.1%	8.2%	63.5%
Inadequate security measures	1.2%	2.4%	5.9%	7.1%	68.2%
Internal and external frauds	1.2%	2.4%	3.5%	9.4%	70.6%
Lack of management supervision	2.4%	1.2%	3.5%	9.4%	68.2%
Lack of internal control	1.2%	3.5%	3.5%	7.1%	65.9%
Inadequate staff training	1.2%	1.2%	1.2%	7.1%	67.1%
Non-compliance issues	1.2%	1.2%	2.4%	11.8%	75.3%
Insufficient training	1.2%	2.4%	2.4%	5.9%	69.4%
Customer attrition	1.2%	1.2%	0%	7.1%	67.1%

Although respondents were mainly unaware of the term operational risk, Table 3 shows that respondents had to indicate whether they experienced certain types of operational risks or not. A high percentage of those who strongly disagreed is expected to be the ones that stated that they do not know the term operation risk, and also, some respondents did encounter these risks. However, Islam & Tedford's (2012) study found that the internal events were found to be the most significant once than the external events.

A conclusion can be drawn that most of these entities do not encounter these risks as they strongly disagree (more than 50% of the time). However, a minority implementing operational risk management has indicated that they have encountered these risks as they strongly disagreed (less than 5% of the time).



**Table 4.** Operational risk factors

Operational risk factors	Very much	Much	Average	Little	Very little
External risk	1.2%	3.5%	11.8%	8.2%	69.4%
System risk	3.5%	7.1%	15.3%	3.5%	65.9%
Process	3.5%	7.1%	11.8%	8.2%	62.4%
People	9.4%	9.4%	11.8%	8.2%	57.7%

Table 4 shows results about the respondents’ identification of their level of agreement with the aspects of operational risks and losses in their organisations. Most SMEs indicated very little to none of all the operational risks. These findings contradict the findings by Islam & Tedford (2012) as SMEs face operational risk within their businesses, especially with 49.4% of the vetted SMEs that were not implementing operational risk management.

**5. Limitations and recommendations**

One of the main limitations of this research is the small sample size, which could give different results with a larger sample or if clustered across industrial regions. Therefore, it is proposed that further research be conducted with larger sample size. The second limitation is that most of the sampled SMEs have been in existence for 15.4 years on average, which is a long time considering that most SMEs fail within the first two years of existence. It could be that many of them have attained some level of sustainability due to other reasons that may have been important other than operational risk management. Hence, it is recommended that future research look at SMEs with a higher age of existence and find out how they can attain sustainability without implementing operational risk management. Triangulation of methodology with a qualitative flair could also provide rigour to the research results.

**6. Conclusions**

Despite SMEs being regarded as the drivers of economic growth, academic literature shows that South African SMEs have the worst sustainability rates globally, as 70-80% fail within three years. It is believed that this stems from the harsh environment South African SMEs have to operate in, which affects their sustainability and various factors, including numerous internal and external challenges. If left unmanaged, these internal and external challenges may lead to operational risks, resulting in losses. To prevent this occurrence of operational risks translating to loss events, it is highly recommended that these businesses implement operational risk management. This is one of the most effective ways of detecting operational risks, which can help prevent and mitigate the risk. This study focused on operational risk factors that negatively influence the sustainability of the sampled manufacturing SMEs in South Africa, specifically in the Cape Metropole.

From the research, it is clear that the sustainability of the sampled SMEs is above average, even though 49.4% of them do not implement operational risk management. This questions the significance of operational risk management as these businesses have survived, on average, for 15.4 years without it. Despite the preceding, it was discovered that the people are the internal factor that results in the most risk, which in turn causes loss events and affects the SMEs' sustainability. However, the overall findings do provide reasoning for further research.

Furthermore, the data gleaned from the research results were not in congruence with past literature as the majority of the manufacturing SMEs have been in existence on average for 15.4 years without implementing operational risk management. Therefore, it is astonishing that these SMEs have achieved this level of sustainability, as literature has shown that they fail within their first three years of existence. It is not the intention of this research study to discuss possible reasons for this success as the questionnaire did not have questions about this; however, it is worth discussing a few points.

The suspected reason for this sustainability level is that most manufacturing SMEs might have been family enterprises. Employees in these kinds of entities always feel like they are part of the family, which makes it very personal. Therefore, a lot of trust and teamwork is exhibited in family enterprises, and there is a willingness to follow instructions as leadership is perceived to be mentoring. These kinds of organisations can manage knowledge well through sharing it and often create a culture of learning and creating knowledge. Research studies have shown that correctly capturing and sharing knowledge can assist the business in mitigating operational risks. Lastly, it seems these entities have managed to be sustainable through knowledge management and not operational risk management.

The main question is what type of operational risk factors affect manufacturing SMEs. We find that most manufacturing SMEs do not encounter these risks, which is worrisome as these were the same responses that stated that they do not know the term operational risk. Thus, the government should offer a course on operational risks to encourage SME owners and/or managers to improve their operational risk knowledge and skills. These entities should ensure that managers/owners have the skills to identify, assess and measure the risks. Such a process could assist them in identifying, addressing, and understanding operational risk factors, improving their businesses' sustainability and helping to create favourable conditions in which small businesses can grow and flourish.

## References

- Advisory, O.R. & Perrin, T. 2010. A New Approach for Managing Operational Risk: Addressing the Issues Underlying the 2008 Global Financial Crisis. <http://bit.ly/2YdmJeI> [21 June 2022].
- Ahmad, N. & Seet, P. 2009. Dissecting behaviours associated with business failure: A qualitative study of SME owners in Malaysia and Australia. *Asian Social Science*, 5(9), 98-104. <https://doi.org/10.5539/ass.v5n9p98>
- Arif, M., Jan. S., & Kulsoom, A. 2016. Operational Risk Exposure to Islamic Banks. *Abasyn Journal of Social Sciences*, 9(2), 1-29.
- Bai, C., Gao, W. & Sarkis, J. 2021. Operational risks and firm market performance: Evidence from China. *Decision Sciences*, 52(4), 920-951. <https://doi.org/10.1111/deci.12467>
- Basel Committee on Banking Supervision. 2001. Working paper on the regulatory treatment of operational risk. <https://www.bis.org/publ/bcbzca07.pdf> [21 June 2022].
- Bodnar, G. M., Giambona, E., Graham, J. R., & Harvey, C. R. 2019. A view in-side corporate risk management. *Management Science*, 65(11), 5001–5026. <https://doi.org/10.1287/mnsc.2018.3081>
- Bruwer, J-P., Beck T., Smith, J., Naidoo, V., & Green, P. 2019. Do Accountancy Skills of Management Influence the Attainment of Key Financial Objectives in Selected South African Goods Small, Medium and Micro Enterprises? *Acta Universitatis Danubius CEconomica*, 15(2), 288-297.
- Bruwer, J-P., Masama, B., Mgidi, A., Myezo, M., Nqayi, P., Nzuzi, N., Phangwa, M., Sibanyoni, S. & Va, N. 2013. The need for a customised risk management framework for small enterprises. *Proceedings of the Southern African Accounting Association*, Somerset West, South Africa, 26 –28 June: 999-1030.
- Bruwer, J. 2020. Fortifying South African small medium and micro enterprise sustainability through a proposed internal control framework: The sustenance framework. *Expert Journal of Business and Management*, 8(2), 147-158.
- Bushe, B. 2019. The causes and impact of business failure among small to micro and medium enterprises in South Africa. *Africa's Public Service Delivery and Performance Review*, 7(1), 1-26. <https://doi.org/10.4102/apsdpr.v7i1.210>
- Bvuma, S. & Marnewick, C. 2020. Sustainable livelihoods of township small, medium and micro enterprises towards growth and development. *Multidisciplinary Digital Publishing Institute*, 12(8), 1-17. <https://doi.org/10.3390/su12083149>

- Certified Practising Accountant (CPA) Australia. 2018. Risk management guide for small to medium businesses. <http://bit.ly/2MyJmEA> [21 June 2021].
- Chowdhury, P., Lau, K.H. & Pittayachawan, S. 2019. Operational supply risk mitigation of SME and its impact on operational performance: A social capital perspective *International Journal of Operations & Production Management*, 39(4), 478-502. <http://doi.org/10.1108/IJOPM-09-2017-0561>
- Coleman, R. 2010. *Operational Risk*. *Wiley Encyclopedia of Operations Research and Management Science*. Imperial College London: John Wiley & Sons. <https://doi.org/10.1002/9780470400531.eorms0591>
- De Jongh, E., De Jongh, D., De Jongh, R. & Van Vuuren, G. 2013. A review of operational risk in banks and its role in the financial crisis. *South African Journal of Economic and Management Sciences*, 16(4). 364-382. <https://doi.org/10.4102/sajems.v16i4.440>
- Department of Trade and Industry (DTI). 2008. Annual review of small business in South Africa: 2005–2007. Pretoria: DTI. <https://bit.ly/2Q1EOnT> [15 May 2021].
- Department of Trade and Industry (DTI). 2018. Annual report 2017/2018. Pretoria: DTI.
- Eccles, R., Ioannou, I. & Serafeim, G. 2012. *Is responsibility now the key to corporate success*. Guardian Professional Network. Boston: Harvard Business School.
- Engle, P. 2009. Enterprise risk management time. *Industrial Engineer*, 41(5), 20-21.
- Erdin, C., & Ozkaya, G. 2020. Contribution of small and medium enterprises to economic development and quality of life in Turkey. *Heliyon*, 6(2), p.e03215. <https://doi.org/10.1016/j.heliyon.2020.e03215>
- Ferretti, P. & Birindelli, G. 2017. *Operational Risk Management in Banks. Regulatory, Organisational and Strategic Issues*. London: Palgrave Macmillan. <https://doi.org/10.1057/978-1-137-59452-5>
- Furtado, V., Kolaja, T., Mueller, C. & Salguero, J. 2020. Managing a manufacturing plant through the coronavirus crisis. *Mckinsey & Company Operations Practice article*.
- Global Association of Risk Professionals. 2011. *Operational Risk Management*. New Delhi, India. <https://www.garp.org/#!/home> [17 June 2022].
- Hoffman, A.J. 2018. The next phase of business sustainability. *Stanford Social Innovation Review*, 16(2), 34-39. <https://doi.org/10.2139/ssrn.3191035>
- Hussain, M.S. & Shafi, M. 2014. Operational Risk in Banks: A Review. *ELK Asia Pacific Journal of Finance and Risk Management*, 5(2), 2349-2325.
- Islam, A. & Tedford, D. 2012. Risk determinants of small and medium-sized manufacturing enterprises (SMEs) - an exploratory study in New Zealand. *Journal of Industrial Engineering International*, 8(1), 8-12. <https://doi.org/10.1186/2251-712X-8-12>
- Islam, M.A., Tedford, J.D. & Haemmerle, E. 2008. Managing operational risks in small-and medium-sized enterprises (SMEs) engaged in manufacturing—an integrated approach. *International Journal of Technology, Policy and Management*, 8(4), 420-441. <https://doi.org/10.1504/IJTPM.2008.020167>
- Kalidas, S., Magwentshu, N. & Rajagopaul, A. 2020. How South African SMEs can survive and thrive post COVID-19. Available from: <https://www.mckinsey.com/featured-insights/middle-east-and-africa/how-south-african-smes-can-survive-and-thrive-post-covid-19>. [Accessed 31 July].
- Katanamrp. 2022. 10 common manufacturing challenges businesses have to face. Available from: <https://katanamrp.com/blog/manufacturing-challenges/> [Accessed 19 July].
- Koeplin, J.P., & Lele, P. 2022. Human capital management accounting issues for SOX compliance with Basel III final framework operational risk standards. *Journal of Corporate Accounting and Finance* <http://doi.org/10.1002/jcaf.22578> Early Access JUL 2022

- Lekhanya, L.M. & Mason, R.B. 2014. Selected key external factors influencing the success of rural small and medium enterprises in South Africa. *Journal of Enterprising Culture*, 22(3):331-348. <https://doi.org/10.1142/S0218495814500149>
- Lekhanya, L.M. 2016. Determinants of survival and growth of small and medium enterprises in rural KwaZulu–Natal. Unpublished Phd thesis, University of the Western Cape, Cape Town.
- Macpherson, D. 2018. South Africa’s manufacturing sector needs a rescue plan. Daily Maverick. <https://www.dailymaverick.co.za/article/2018-08-10-south-africas-manufacturing-sector-needs-a-rescue-plan/>
- Mbomvu, L., Hlongwane, I.T., Nxazonke, N.P., Qayi, Z. & Bruwer, J.P. 2021. Load shedding and its influence on South African Small, Medium and Micro Enterprise profitability, liquidity, efficiency and solvency. *Business Re-Solution Working paper BRS/2021/001*. <https://doi.org/10.2139/ssrn.3831513>
- Mohamud, I.A. & Salad, M.D. 2013. Internal auditing and operational risk management for some selected remittance companies in Mogadishu-Somalia. *African Journal of Business Management*, 7(35), 3374-3380. <https://doi.org/10.5897/AJBM2013.7136>
- Morongwa, M. 2014. Do SMMEs play a role in the South African economy? SMME Statistics in South Africa. <https://bit.ly/2ShI4k0> [4 November 2020].
- Msomi, T.S. & Olarewaju, O.M. 2021. Factors affecting small and medium enterprises’ financial sustainability in South Africa. *African Journal of Inter/Multidisciplinary Studies*, 3(1), 103-117. <https://doi.org/10.51415/ajims.v3i1.893>
- Naicker, V., Le Roux, S., Bruwer, J. & Bruwer, J.P. 2017. Knowledge sharing as a value-adding initiative for South African SMME sustainability: A literature review. *Expert Journal of Business Management*, 5(2), 51-60.
- Nanziri, L.E., & Wamalwa, P.S. 2021. Finance for SMEs and its effect on growth and inequality: evidence from South Africa. *Transnational Corporations Review*, 13(4), 450-466. <http://doi.org/10.1080/19186444.2021.1925044>
- Ntshangase, B.A., & Msosa, S.K. 2022. Enhancing service delivery for metropolitan municipalities in South Africa via project management. *Insights into Regional Development*, 4(3), 127-138. [https://doi.org/10.9770/IRD.2022.4.3\(8\)](https://doi.org/10.9770/IRD.2022.4.3(8))
- Operational risk advisory & Towers Perrin. 2009. A New Approach for Managing Operational Risk: Addressing the Issues Underlying the 2008 Global Financial Crisis. Sponsored by Joint Risk Management, Section Society of Actuaries, Canadian Institute of Actuaries & Casualty Actuarial Society. Available from: [https://www.casact.org/cms/files/research-new-approach\\_1.pdf](https://www.casact.org/cms/files/research-new-approach_1.pdf)
- Pearson, S. 2020. What is Operational Risk Management – Definition and Core Concepts. [Online]. Available from: <https://tallyfy.com/operational-risk-management/> [Accessed 14 May 2021].
- Petersen, A., Bruwer, J-P. & Le Roux, S. 2018. Occupational fraud risk, internal control initiatives and the sustainability of Small, Medium and Micro Enterprises in a developing country: A Literature Review. *Acta Universitatis Danubius. Economica*, 14(4), 100-135.
- Phaho, D. & Pouris, A. 2008. From Silos to Synergies: An Institutional Framework for the Growth & Sustainability of Innovative SMEs in South Africa. Paper presented at the International Council for Small Business World Conference, Halifax, Nova Scotia, Canada, 22-25 June 2008.
- Keke, S. R. & Dubihlela, J. 2018. Influence of environmental and social programs on dimensionality of triple bottom line of manufacturing smes in South Africa. *International Journal of Business and Management Studies*, 10 (1), 63-79.
- Radu, A.N. & Olteanu, A.C. 2008. The operational risk management. Paper presented at the 4th International Conference of ASECU, Bucharest, Romania, 22-24 May 2008, p. 503-510. ISBN 978-606-505-234-5.
- Rehman, A.U., & Anwar, M. 2019. Mediating role of enterprise risk management practices between business strategy and SME performance. *Small Enterprise Research*, 26(2), 207-227. <http://doi.org/10.1080/13215906.2019.1624385>
- Renault, B.Y., Agumba, J.N., & Ansary, N. 2020. Underlying structures of risk response measures among small and medium contractors in South Africa. *Construction Economics and Building*, 20(1), 1-16. <http://doi.org/10.5130/AJCEB.v20i1.6721>
- Rhanoui, S., & Belkhouout, K. 2018. Operational Risk in Both Conventional and Islamic Banking Perceptions: Differences and Similarities. *European Scientific Journal, ESJ*, 14(13), 110. <https://doi.org/10.19044/esj.2018.v14n13p110>

- Rodseth, P. 2018. The importance of manufacturing for SA's economic growth. EE Publishers. <http://www.ee.co.za/article/the-importance-of-manufacturing-for-sas-economic-growth.html> [13 June 2022].
- Saah, P. & Musvoto, W.S. 2020. A management approach for enhancing the sustainability of small and medium size enterprises in the North West Province of South Africa. *Journal of Contemporary Management*, 17(2):179-197. <https://doi.org/10.35683/jcm19119.70>
- Saah, P. 2021. The impact of small and medium-sized enterprises on the economic development of South Africa. *Technium Social Sciences Journal*, 24(1), 549-561.
- Shahudin, H.A., Zulkeflee, N.N. & Cipriano, N.A.A. 2018. Operational risk and its determinants among five companies in manufacturing industry in Germany. Paper presented at the Munich Personal RePEc Archive, University of Munich, Germany. 5 June 2018. <https://doi.org/10.2139/ssrn.3184331>
- Signé, L. 2018. The potential of manufacturing and industrialisation in Africa: Trends, opportunities, and strategies. Available from: <https://www.brookings.edu/wp-content/uploads/2018/09/Manufacturing-and-Industrialization-in-Africa-Signe-20180921.pdf> [Accessed on 30 July 2022].
- Smit, Y. & Watkins, J.A. 2012. A literature review of small and medium enterprises (SME) risk management practices in South Africa. *African Journal of Business Management*, 6(21), 6324–6330. <https://doi.org/10.5897/AJBM11.2709>
- South African reserve Bank. 2020. Compliance and Operational Risk. [Online]. Available from: <https://www.resbank.co.za/Markets/ForeignReserves/RiskManagement/Pages/Compliance-and-operational-risk.aspx> [Accessed 3 April 2022].
- Stats SA. 2019. Four facts about our provincial economies. Available from: <https://www.statssa.gov.za/?p=12056> [Accessed 30 July 2022].
- Stats SA. 2020. Three facts about small business turnover in South Africa. Available from <https://www.statssa.gov.za/?p=13900> [Accessed 30 July 2022].
- Strzelczak, S. 2007. *Operational Risk Management*. OWPW. ISBN: 0860-2506
- Xing, W., Ma, S.S., Zhao, X., Liu, & L.M. 2022. Operational hedging or financial hedging? Strategic risk management in commodity procurement. *Production and Operations Management* <http://doi.org/10.1111/poms.13748>
- Van den Brink, G. J. 2002. *Operational Risk: The New Challenge for Banks*. New York: Palgrave.
- Van Grinsven, J.H.M. 2009. *Improving operational risk management*. BG Amsterdam, Netherlands: IOS Press, Delft University Press.
- Western Cape Economic Overview. 2010. Economic Overview – Western Cape. Available from: <http://wesgro.co.za/internationalbuyers/index.php?readnews+1967> [Accessed 30 July 2022].
- Yakob, S., Hafizuddin-Syah, B.A.M., Yakob, R., & Raziff, N.A.M. 2019. The Effect of Enterprise Risk Management Practice on SME Performance. *South East Asian Journal of Management*, 13(2), 151-169. <http://journal.ui.ac.id/index.php/tseajm/article/viewArticle/11785>

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