A Systemic Exploration of The Risk Factors Impacting SME Survival in South Africa

By

Tinashe Patrick Chimenya (CHMTIN007)

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Supervisor: Professor Emeritus P.A. Bowen

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Abstract

Small and Medium Enterprises (SMEs) in developing countries have a high failure rate, and South Africa is no exception with most SMEs failing within their early years of commencement. Notwithstanding efforts to support SMEs in South Africa, the failure rate has remained high, and despite ongoing research, most SMEs are likely to fail. While research has been conducted in South Africa, few studies have identified the risk factors affecting SMEs, with none focusing on the interrelations of these factors. As a result, this research aimed to explore the key risk factors affecting the survival of SMEs in South Africa and to determine their interrelations using Interpretive Structural Modelling. This objective was addressed through the following research questions.

a) What are the key risk factors affecting the survival of SMEs in South Africa?
b) What is the relationship between the identified key risk factors?
c) What is the root cause of the identified key risk factors?

Interactive Management (IM), a systems thinking methodology, was used in the study. This approach was most suitable because of its applicability in addressing complex issues in a pluralistic environment. The IM methodology introduced a collaborative learning framework that enhanced research on the risks faced by SMEs in South Africa. This approach acknowledges the intricate and often chaotic nature of the SME business environment, characterized by rapid changes and unpredictability. By fostering collaboration among stakeholders, the IM methodology enhanced deeper insights for more effective strategies to be formulated for SMEs to thrive amidst the threatening presence of risks.

The research was conducted through the four IM stages, namely, idea generation, idea clarification, idea structuring, and model interpretation. A total of 15 risk factors were selected for idea structuring by participants through voting for the most critical risk factors. The 15 risk factors were structured through a pairwise comparison activity to produce a digraph that shows the interrelations of the risk factors. Amongst these risk factors, skills shortages and natural disasters proved to be the core risk factors affecting SME survival in South Africa and, consequently, these two risk factors aggravate the other risk factors in the model.

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Plagiarism Declaration

Declaration

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3. This research report is my own work.
4. I have not allowed, and will not allow, anyone to copy my work with the intention of passing it off as his or her own work.

Tinashe Patrick Chimenya

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Glossary of Terms

AI	Artificial Intelligence
BBBEE	Broad-Based Black Economic Empowerment
CIMA	Chartered Institute of Management Accountants
ESCAP	Economic and Social Commission for Asia and the Pacific
GDP	Gross Domestic Product
ID	Identification
IM	Interactive Management
ISM	Interpretive Structural Modelling
IT	Information Technology
NDP	National Development Plan
NGT	Nominal Group Technique
OECD	Organization for Economic Cooperation and Development
SA	South Africa
SCR	Supply Chain Risk
SME	Small and Medium Enterprise
SSIM	Structural Self-Interactive Matrix
SSM	Soft Systems Methodology
StatsSA	Statistics South Africa
TISM	Total Interpretive Structural Modelling

1 Chapter One: Background to the study

1.1 Introduction

The failure rate of SMEs (Small and Medium Enterprises) in developing nations such as South Africa is high despite the numerous studies on SME business resilience and risk management. Most SMEs in South Africa fail within five years of commencement (Bushe, 2019; Krüger et al., 2020; Mtombeni, 2023). In addition to the many challenges faced by these entities, their closures could be attributed to risk exposure and their inability to address it (Shipanga et al., 2022). Although studies have been done on SME risk management and business resilience, little attention has been given to the risk factors affecting their survival in South Africa along with other developing countries (Saad et al., 2021). Given the relevance and function of SMEs in the development and sustainability of nations (Abisuga-Oyekunle et al., 2019), more attention should be given to them, emphasizing their survival and success. This is especially true in the context of developing countries where businesses are extremely vulnerable to their environments (Saad et al., 2021).

The definition of Small and Medium Enterprises (SMEs) varies across different countries, and this may be attributed to geographical and cultural differences (Sidek et al., 2020). However, SMEs are usually defined based on the number of employees, sector type, investment, assets, sales and revenue generation (Page and Söderbom, 2015; Sidek et al., 2020). In South Africa, the definition of SMEs is based on the number of personnel employed in the organization and it is outlined in the National Small Business Act, 102 of 1996, amended in 2004. According to the National Small Business Act, 102 of 1996, organizations with a maximum of 200 employees are categorized as SMEs (National Small Business Act, 1996). As indicated by Kot (2018), there has been no widely accepted definition of SMEs, hence for this study, the definition given in the National Small Business Act No. 102 of 1996 is adopted. This definition is in line with the current definition used by authors of SME literature such as Galawe (2017). Furthermore, in this study, the term SME will be used interchangeably with small businesses and other similarly related terms.

In the following section, a study background is given where the significance of SMEs in developing countries is justified. A discussion surrounding some of their challenges is also outlined, including the pertinent issue of risk in SMEs.

1.2 Background to the Study

1.2.1 Significance of SMEs in developing countries

SMEs have been key to the development of first-world countries. For instance, in Australia a developed country (ESCAP et al., 2017), 99.8% of the enterprises were SMEs in 2018, and their employment contribution in the private sector was 66% (OECD, 2022). Similarly, in another developed country, Canada (ESCAP et al., 2017), 98% of all businesses were SMEs in 2019, and their employment contribution in the private sector was 67.7% (OECD, 2022). Since SMEs have played a significant role in developed nations, it has been claimed that SMEs will also be crucial for growth and development in third-world countries such as South Africa (Mutezo and Sassi, 2013; OECD, 2022). SMEs are important in both developed and developing countries because of their significant contributions through employment creation and economic growth (Abisuga-Oyekunle et al., 2019; Cant and Wiid, 2013; Hanggraeni et al., 2019).

While large organizations are key players in national development, the significant contribution of SMEs to economic growth and employment creation should not be overlooked (Varga, 2021; Wang, 2016). The uniqueness of SMEs results in a competitive edge over large organizations (Abisuga-Oyekunle et al., 2019; Varga, 2021). For example, SMEs are more adaptable and flexible unlike large organizations that may be limited when it comes to capitalizing on emergent opportunities in the market because of complex organizational processes (Varga, 2021). In addition, the participation of SMEs in their respective industries enhances competition and entrepreneurship which leads to a healthy market that is innovative, and economically efficient (Abisuga-Oyekunle et al., 2019).

The efforts of SMEs in developed nations have been important for their economic growth. For instance, in the case of China, Wang (2016) acknowledges that SMEs have been fundamental to the economic growth of the nation. In South Africa, SMEs in the formal business sectors contributed a combined 32% to the country's annual turnover in 2019, which amounted to R 3,36 Trillion (StatsSA, 2020). Amongst the estimated 2,6 million SMEs in South Africa, only 37% are considered formal (OECD, 2022), therefore the aforementioned percentage contribution to annual turnover could be higher if the informal business sector is considered. However, despite the significant contributions to economic growth, it is indicated that most SMEs cannot reach the expected level of efficiency in their performance, and they end up failing because of the extremely harsh market environments (Saad et al., 2021).

In addition to economic growth, SMEs are also key contributors to employment creation (Abisuga-Oyekunle et al., 2019). Employment creation is one of the important drivers for the sustainable development of nations (Prasanna et al., 2019). Therefore, SMEs are active players in the sustainable development of their countries. In South Africa, the contribution of SMEs to employment is at 60% (Mtombeni, 2023). Although some authors argue about the quantity and quality of employment (Abisuga-Oyekunle et al., 2019; Page and Söderbom, 2015), it is commonly acknowledged that SMEs are significant contributors to employment creation (Wang, 2016). Aside of the contribution to employment, the job creation effort of small firms is often overlooked because of their high failure rate (Page and Söderbom, 2015). The closures and failure of small firms often leads to a significant drop in the expected output of employment creation by SMEs.

In addition to employment creation and economic growth, poverty reduction is also emphasized among the key contributions of SMEs in developing countries (Wang, 2016). Through employment creation, SMEs have become active players in reducing poverty and balancing income distribution in various countries as highlighted in SME literature (Abisuga-Oyekunle et al., 2019; Shipanga et al., 2022). In South Africa's National Development Plan (NDP), SMEs are placed at the forefront of addressing poverty through employment creation (OECD, 2022; Commission, 2011). According to the Plan, it is envisioned that by 2030, the SME sector will be responsible for 90% of the country's employment, in addition to a contribution of between 60 and 80% to the country's GDP. The provision of jobs should reduce poverty and this is revealed in South Africa where SMEs in townships enhance sustainability through employment creation, economic and social development (Cant and Rabie, 2018; Maloka, 2013). However, despite this phenomenon, multiple authors also highlight that these respective SMEs in townships are facing significant challenges that are consistently threatening their survival, and this tends to nullify their positive contributions (Cant and Rabie, 2018; Leboea, 2017; Shipanga et al., 2022).

1.2.2 Challenges in Developing Countries

SMEs play an important role in the various sectors of a country as highlighted in the previous section. However, these entities still experience high failure rates as attested by multiple authors, and this is mostly true in developing countries (Saad et al., 2021; Page and Söderbom, 2015). The expected growth in the economy, employment, and country's GDP is usually never realized because of SME failure or closure (Leboea, 2017). It is therefore necessary to examine

the challenges faced by SMEs in developing countries that impede success and lead to their closure. Some of the most common challenges outlined in SME literature include: access to funding, stringent policies and laws for SMEs in the country, and stiff competition, (Leboea, 2017; Saad et al., 2021). These factors affect the performance of SMEs, and they have an impact on their business resilience (Hanggraeni et al., 2019).

In the case of funding, it is regularly difficult for SMEs to access funding or credit for their respective projects, and this is because SMEs are profiled as high-risk entities, hence financial institutions are usually unwilling to assist them in this regard. Although the reason may be justified, the fact remains that organizations need external funding at some point for financial sustainability and survival (Olawale and Garwe, 2010). SMEs are often at a disadvantage regarding financial support because financial institutions are more willing to lend money to large organizations where the associated risk may be lower relative to small businesses (Leboea, 2017). The lack of access to finance is a challenge that limits the growth and sustainability of SMEs in South Africa (OECD, 2022). In addition to SMEs being high-risk entities, informality in these businesses also contributes to their limited access to finance (OECD, 2022). It is estimated that 58% of SMEs in South Africa are trading as informal entities (Motsomi et al., 2021). Furthermore, banks implement strict lending criteria before extending credit to SMEs, and as a result, even formal SMEs will have limited access to credit. The banks and financial lending institutions are naturally predisposed to assisting larger and well-established businesses instead of SMEs who cannot satisfy their lending requirements (OECD, 2022).

Another notable challenge is the stringent policies and laws governing SMEs. The governments of different nations widely recognize the significant role of SMEs in economic development, employment creation, and their contribution to the countries' GDP (Wang, 2016). However, despite this recognition, the stringent policies implemented by the government usually end up harming SMEs and discouraging their business operations (Ayandibu and Houghton, 2017). For instance, the lockdown implementation in South Africa during the Coronavirus disease of 2019 (COVID-19) meant that SMEs were prohibited from business operations (Naidoo, 2021). Although measures were implemented to assist SMEs, most of these entities remained under full closure after the lockdown period (OECD, 2022). Despite some support from the government through grants, direct loans, and guarantees (OECD, 2022), most SMEs are still

stifled by policies that are not conducive to their growth and sustainability in their respective markets (Leboea, 2017).

Another factor that hinders SMEs in developing countries is competition. SMEs often succumb to stiff competition from other SMEs in similar industries and large companies who often monopolize their respective markets (Leboea, 2017). This makes it difficult for SMEs to survive in their respective markets. SMEs usually survive due to their high dynamism and innovative nature which enables them to embrace the instigated changes in the market (Leboea, 2017). A healthy amount of competition may be desirable, however, this is not always the case as indicated by various authors because competition often leads to SME closures (Shipanga et al., 2022; Leboea, 2017). In addition, globalization has also increased the competition and pressure on local SMEs as they are forced to reduce production costs and increase productivity so that they are competitive at a global scale (Leboea, 2017). The demand of globalization, for research and development, and economies of scale leave SMEs at a considerable disadvantage because most of them may be limited in financial capacity to sustain their competitiveness at such a stage. As a result, local SMEs will fail because of their inability to compete and keep up with international companies. Figure 1.1 illustrates the sources of competition to SMEs that result from globalization.

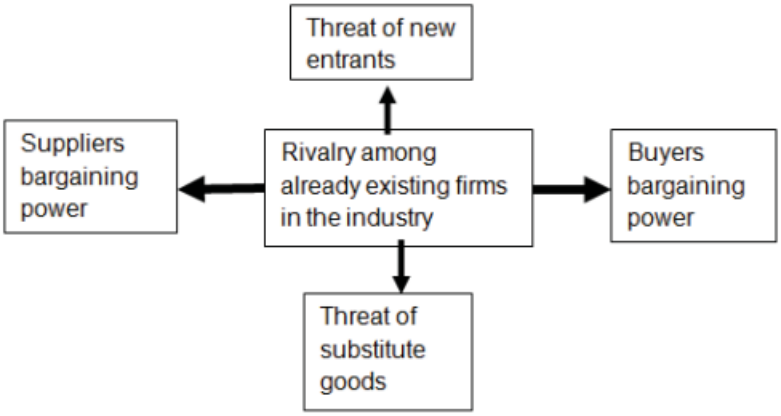

Figure 1.1 Sources of competition to SMEs (Adopted from Leboea, 2017: 64)

1.2.3 Risk in SMEs

In addition to the mentioned challenges, the SME business environment in developing countries is characterized by high volatility, uncertainty, and hostility (Tengeh, 2016; Shipanga et al., 2022). In other words, SMEs are inherently exposed to risk from their respective business environments. Risk can be defined as an uncertainty that will have a positive or negative impact

on achieving objectives when it occurs (PMI, 2018). A positive risk can be described as an upside risk event that could potentially result in a profit or loss prevention, whilst a negative risk is a downside risk event that could possibly result in a loss (Young, 2018). Since failure is usually associated with negative risk events, risk in this study implies uncertainty that leads to a negative impact on business objectives and success.

SMEs are known to fail because of their inability to address risks (Smit and Watkins, 2012; Krüger et al., 2020). While this may apply to both contexts of developed and developing nations, Saad et al. (2021) highlight the need to pay more attention to developing countries where the business setting is more complex and hostile. An example of this turbulent and hostile environment is given in the study of small grocery stores in a South African township by Tengeh (2016). In that study, it is revealed that foreign business owners consistently deal with the threats of crime, theft, and xenophobic attacks on their businesses (Tengeh, 2016).

As a result of the mentioned hostility and volatility, researchers have identified a study gap in the context of developing countries. According to Saad et al. (2021), a debate should be established in this context whereby the relevant factors are assessed and explored. Exploring the risk factors faced by SMEs could assist these entities in implementing suitable strategies and plans to address the risks facing their organizations. Risk management strategies involve risk avoidance, mitigation of risk's negative effects, transfer of risks to a third party, and acceptance of the risk implications (Chakabva and Tengeh, 2023; Young, 2018). Risks can be addressed using the aforementioned risk management strategies. However, it has been highlighted that in South Africa, SMEs lack the management abilities and strategies for controlling risk (Brustbauer, 2016). This is because the risk management strategies employed by SMEs in South Africa are strongly and significantly related to their owner-manager characteristics instead of theory (Chakabva and Tengeh, 2023).

Amongst the various strategies, risk avoidance is often preferred in South Africa (Chakabva and Tengeh, 2023). SME owners prefer avoiding risk to implementing risk control measures (Astrini et al., 2020). However, this may not be the most suitable strategy for SME sustainability because they may fail to capitalize on the available market opportunities, and this could impede organization growth. It is therefore necessary to increase the awareness of risk factors by SME owners, so that they may be better positioned and skilled to address the risks facing their entities and to implement suitable risk management strategies instead of always avoiding risk.

Furthermore, most SME owners and managers in South Africa generally lack awareness of the risk factors challenging their organizations (Krüger et al., 2020). This is concerning because risk awareness is essential for risk management which is very important because of its potential to reduce the high failure rates of SMEs through good management practices (Krüger et al., 2020; Hanggraeni et al., 2019). Therefore, given the above discussion, a gap in the extant literature may exist for exploring the risk factors affecting the survival of SMEs in South Africa. Exploring these factors could potentially enhance risk awareness among owners and managers, and this could also address their limited skills and expertise (Leboea, 2017; Saad et al., 2021). This is important for the fight against SME failure in South Africa, and other developing nations.

1.2.4 Complex and Pluralistic Nature of SMEs

In the previous subsections, details surrounding the unique nature of SMEs were given, including some of the most common risks or challenges faced in developing countries. As discussed, SMEs are characterized by complexity (Okręglicka et al., 2015; Nguyen et al., 2014), especially in the context of developing countries where efforts made have been inadequate to address the pertaining closures and high failure rates of these entities (Krüger et al., 2020; Saad et al., 2021). Furthermore, addressing risk in SMEs is a complex matter by itself because a generic solution may be inappropriate and not applicable to all SMEs in South Africa.

In addition to complexity, SMEs are also characterized by pluralism or diversity (Boudreaux, 2020). As indicated by Barrett and Burgess (2008), individuals often resort to the vehicle of small businesses and entrepreneurship to capitalize on their differences and diversity. Pluralism refers to the synergy of people existing in the same society despite their difference in race, beliefs, and culture (Press, 2008). It is acknowledged that pluralism is synonymous to diversity (Dahl, 1978), however, as highlighted by Eck (2006), it is the engagement of diversity that leads to pluralism (Eck, 2006). In other words, the relationships formed between individuals or organizations of diverse backgrounds result in pluralism (Eck, 2006). In addition to co-existence with one another, the individuals or organizations must be engaged, for instance, through business relations. Pluralism is more than a tolerance of differences; rather, it involves thorough knowledge and allows room for them (Eck, 2006). Pluralism in SMEs is derived from the following:

i. A wide variety of owners and managers in the SME business environment with diverse backgrounds, beliefs, and values (Karayiannis, 1993; Boudreaux, 2020)

ii. The cultural and social differences of the owners and managers in the SME environment which have the potential to influence entrepreneurial activities (Karayiannis, 1993)

Amongst individuals, pluralism is reinforced by the differences in attitude and characteristics between entrepreneurs which determines their entrepreneurial activities (Karayiannis, 1993). As a result of this difference, SMEs will usually adopt different cultures at an organizational level. Acknowledging complexity and pluralism in SMEs is important for the determination of suitable approaches to manage risk and address SME failure in such a context.

1.3 Problem Statement

As discussed previously, SMEs have a high failure rate with most failing in their early years of initiation. This is the case in most developing nations. Whilst these entities are significant contributors to the growth and sustainability of developing nations, their high failure rate undermines their positive contributions towards the countries' growth and sustainability. This phenomenon is also true in South Africa where SMEs have a high failure rate which is between 70 and 80%, with most failing within five years of commencement (Bushe, 2019; Krüger et al., 2020; Mtombeni, 2023).

The high failure rate of SMEs in South Africa among other developing nations could be attributed to their exposure to risk because of the high turbulence of their respective business environment. This presents a complex issue whereby a relevant approach is required to explore the issue of risk in the context of SME business failure in South Africa.

Although studies have been done on the risk factors affecting SMEs, there has been little attention given to the risk factors affecting the survival of SMEs in South Africa, and their interrelations. As a result, there is a need to explore the risk factors affecting SME survival in South Africa and to determine the existing relationships between these factors.

1.4 Research Questions

Given the background to the study, and the problem stated above, the following research questions will apply to this study:

a) What are the key risk factors affecting the survival of SMEs in South Africa?
b) What is the relationship between the identified key risk factors?
c) What is the root cause of the identified key risk factors?

1.5 Research Aim

The research aim is to explore the key risk factors affecting the survival of SMEs in South Africa and to determine their interrelations using Interpretive Structural Modelling.

1.6 Research Objectives

In addressing the stated research problem, the following objectives will apply to this research:

a) To identify the unique risk factors in the SME business environment that typically affect success.
b) To understand the existing relationships between the identified risk factors.
c) To determine the root causes of these risk factors in SMEs.

1.7 Research Methodology

The following methodology was adopted to achieve the research objectives mentioned in the previous section:

a. Conduct a critical review of the relevant risk factors affecting SMEs.
b. Conduct an Interactive Management (IM) study exploring risks in SMEs in South Africa.
c. Identify and select suitable workshop participants for the IM study through a research questionnaire.
d. Conduct an idea-generation activity of the risk factors affecting SMEs in South Africa through the research questionnaire.
e. Conduct an idea clarification activity of the generated risk factors through the second stage of the IM workshop.
f. Conduct an idea structuring activity on the clarified risk factors using Interpretive Structural Modelling (ISM) software.
g. Generate a model (digraph) depicting the key risk factors and their interrelations.
h. Interpret the model to the workshop participants and restructure until participants approve the final model.
i. Discuss and review the research findings from the IM workshop.
j. Draw conclusions and outline recommendations for future studies.

1.8 Limitations

The study is subject to the following limitations:

a) This research is limited to the production of level one design outcomes for an Interactive Management study where the focus is on defining the problem. As a result, discussions on solutions and their implementation will not be done in this study.
b) The research was carried out on SMEs in South Africa and some of the findings may not apply to other countries since the constructs under study may differ across regions.

1.9 Structure of Research

Chapter One: Background to the Study

In Chapter One, the research topic is introduced, and the rationale of the study is given. An outline of the research approach is provided, as well as the dissertation structure.

Chapter Two: Literature Review

In Chapter Two, a critical literature review is conducted on SME risk, with a focus on developing countries such as South Africa.

Chapter Three: Research Methodology

In Chapter Three, a detailed description is given of the Interactive Management methodology, and a justification is made for its application to the context of this study.

Chapter Four: Research Findings and Discussion

In Chapter Four, the research findings are presented, and an analysis is carried out on the findings from the Interactive Management workshop used on the study.

Chapter Five: Conclusion and Recommendations

Chapter Five concludes this Research Report with a validation of the research questions. The study limitations and recommendations for future research are also outlined in this chapter.

References

All references and literature sources cited in the dissertation are outlined in this section.

2 Chapter Two: Literature Review

2.1 Introduction

As the background to the study suggests, the high failure rate of SMEs in South Africa and other developing nations could be due to risk exposure (Dahles and Susilowati, 2015). In this chapter, the risk factors affecting SMEs in developing countries will be reviewed with much attention given to South Africa, a developing nation (ESCAP et al., 2017). The following section provides an overview of SME risk and its management before discussing the risk factors affecting SMEs.

2.2 SME Risk Management Overview

2.2.1 Risk

SMEs are inherently exposed to risk from their respective business environments. Young (2018) highlights that risk has two sides, an upside and a downside. On the upside, it is necessary to take risks to capitalize on opportunities for the reward of a profit. On the downside of risk, the main goal is to prevent potential losses by minimizing the risks taken. It can be argued that the exposure of SMEs to risk is beneficial as it could potentially result in positive gains. However, most SMEs end up failing due to risk and their inability to address it (Smit and Watkins, 2012; Krüger et al., 2020). In other words, the downside of risk usually prevails among these small business entities.

Regarding the definition of risk, there is general agreement in risk management literature. According to the PMI (2018), risk is an uncertainty that will positively or negatively impact the achievement of objectives when it occurs. Young (2018) also defines risk as the uncertainty of an event that could result in a loss or positive outcome if it occurs, and according to CIMA (2021:2), “risk is a condition in which there exists a quantifiable dispersion in the possible outcomes from any activity”. CIMA (2021) further highlights that although risk can be good, it is often perceived as purely bad. People are generally aware and conscious of the downside of risk. As a result, most SMEs do not capitalize on risk, rather, they succumb to the pressure and end up closing.

The presence of SMEs in volatile and turbulent environments necessitates risk management in these entities to minimize the negative impact of downside risk events. Risk Management (RM) is defined as “the process of understanding and managing the risks that the organization is inevitably subject to in attempting to achieve its corporate objectives” CIMA (2021:38).

Similarly, Young (2018:3) regards risk management as "the process of managing risk exposures with the objective of preventing a loss event from occurring or minimizing the effect should such an event occur". Risk management has been traditionally viewed as an attempt to avoid the downside of risk, and as highlighted by multiple authors, effective risk management practice in SMEs has the potential to reduce their high failure rates (Krüger et al., 2020; Hanggraeni et al., 2019). Effective risk management is essential for growth and success in SMEs (Fauzi et al., 2023).

In addition, risk management enhances SME business resilience. Business resilience refers to adaptability to disruptions, positive performance, growth, and businesses' ability to seize opportunities despite an unfavourable business environment (Saad et al., 2021). Therefore, effective risk management practices and processes enhance risk resilience in SMEs. The following section discusses the risk management process framework for organizations.

2.2.2 Risk Management Framework

The risk management process framework involves the following stages (Smit, 2012):

1) Risk identification

   Risk identification is the first phase of the risk management process, and this phase involves a comprehensive identification of the factors that could impede the organization's objectives. A list of the identified risks is documented in a risk register (CIMA, 2021).

2) Risk evaluation

   The risk evaluation process involves quantifying risk levels using the frequency or likelihood of the risk event, and the resultant impact if it occurs.

3) Risk control

   Risk control involves the implementation of necessary measures to control or manage the impact of risk. In this process, various risk management strategies can be applied to control risk. As highlighted in the background section, these risk management strategies include risk avoidance, mitigation, transfer, and acceptance (Chakabva and Tengeh, 2023; Young, 2018).

4) Risk monitoring

   Through risk monitoring, the efficiency and effectiveness of the implemented control measures are evaluated. In this regard, the risk management tools such as the risk register are frequently reviewed and updated accordingly (CIMA, 2021).

This study's research aim pertains to identifying and evaluating risk factors affecting SME survival in South Africa. Hence, in the following section risk identification in SMEs is discussed.

2.3 Risk Factor Identification in SMEs

As outlined by Kokot-Stępień (2023), a well-carried-out risk identification process increases the effectiveness of risk management. The risk identification process involves a comprehensive listing of risk factors that could impede the organization's objectives (Smit, 2012). Rostami (2016) also concurs that the risk identification process is crucial in structuring the risk management framework, and failure in this step would be detrimental to achieving business objectives. With a properly executed risk identification process, effective risk management is enhanced in SMEs (Smit, 2012), thereby decreasing their chances of failure. Ansary and Renault (2018) also acknowledge the positive relationship between risk identification and performance in SMEs. However, despite the aforementioned importance of risk identification, research reveals that most SME owners and managers do not practice it, especially in the context of South Africa (Krüger et al., 2020). Most SME owners are unaware of the necessary risk identification techniques, and as a result, they often reactively respond to risk by utilizing risk avoidance or transfer strategies (Chakabva and Tengeh, 2023; Smit, 2012). This could be seen as a natural reaction since most SME owners have a limited understanding of risk identification (Krüger et al., 2020).

Rostami (2016) also attests to the need to use appropriate tools and techniques to identify risk factors. Authors of SME literature acknowledge that the risk identification techniques are multiple and vary depending on the context and industry (Chiliya et al., 2015). According to Rostami (2016), the most common risk-identifying techniques include documentation review, expert judgment, checklist analysis, and information gathering. However, Rostami (2016) acknowledges that these may not be ideal for application in other industries since the findings were based on SMEs from the UK construction industry alone. Some of the risk identification methods as cited by Young (2018) include the following:

- Workshops and interviews
- Brainstorming sessions
- Questionnaires
- Comparisons with other organizations

- Discussion with peers
- Risk process flow analysis
- Checklists
- Losses history

Young (2018) also acknowledges that these methods are mostly subjective and usually depend on the judgment and experience of participants. As a result, it may be necessary to use multiple methods to identify risk factors in SMEs. In the following sections, the risk factors identified in SME literature are discussed starting with a global narrative and moving to a local SME (South Africa) perspective.

2.3.1 SME Risk Factors from a global perspective

In SME literature, the risk factors affecting SMEs have been categorized in multiple ways by authors. As pointed out by Krüger (2018), risk could be classified by origin or outcome. According to Krüger (2018), classifying risks by outcome may be considered suitable for determining the worth of a potential investment, however, it often makes the identification and mitigation of risk difficult. On the other hand, classification by origin paves the way for holistic management of risks because risk factors would be broken down into individual themes that can be uniquely addressed. In a study by Falkner and Hiebl (2015), the risk factors were classified using their origin, and the following risk types were laid out as the most frequent in SMEs:

- Interest rate risk
- Raw material price risk
- Supply chain risk
- E-business and technological risks
- Growth risks
- Management and employee risk

In the research, Falkner and Hiebl (2015) discovered that most studies relating to risk management were conducted in developed countries, and a gap in developing countries was identified. This remains the case as highlighted by Saad et al. (2021) in a more recent and related study. Authors of SME literature have attempted to close this gap, as seen in the case of Wang (2016) who sets out to identify the obstacles impeding SME growth in developing countries. Although the study is not exclusively focused on SME risk and its management, this

could be arguably the most comprehensive global study that contributes towards SME business resilience in developing countries. This is because data from 135 developing countries across the globe was used for the study (Wang, 2016). Wang (2016) highlights that the most significant obstacles on the list are access to finance, tax rate, competition, electricity, and political factors. The following is a summary of the obstacles according to the findings of Wang (2016):

- Non-response
- Access to finance
- Access to land
- Business licensing and permits
- Corruption
- Court system
- Crime, theft and disorder
- Customs and trade regulations
- Electricity
- Functioning of the courts
- Inadequately educated workforce
- Labor regulation
- Macroeconomic instability
- Political instability
- Practices of competitors
- Tax administration
- Tax rates
- Telecommunications
- Transportation

Another study aimed at addressing the aforementioned literature gap was done by Hanggraeni et al. (2019). Hanggraeni et al. (2019) examined the sustainability and resilience of SMEs in risk-vulnerable areas. The research was conducted in the underdeveloped regions of Indonesia, a developing country (ESCAP et al., 2017) to investigate the role of internal and external factors and risk management variables on SME business performance. Although the study is not exclusive to risk identification, the authors highlight the importance of internal and external organizational factors and conclude that risk identification and management is highly influential towards business performance and success (Hanggraeni et al., 2019). The authors

focused on the internal variables of organizational management, marketing, technical, and technology. The external variables included the firm's reaction or positioning in the industry, organizational strategy, and distribution channels relative to competitors (Hanggraeni et al., 2019). The relationships of these factors to profitability and market share performance were significant to business success and performance (Hanggraeni et al., 2019). However, despite the significance of the highlighted factors, the list may be inexhaustive as it excludes relevant factors for each respective risk category. The authors admit to their study's limitations and recommend including other relevant factors in future studies so that findings may be comprehensive (Hanggraeni et al., 2019).

Table 2.1 Risk Factors in Polish SMEs (Adopted from Grondys et al., 2021:6)

Risk category	**Risk factors**
Market risk	Loss of customers
	Strong competition in the sector
	Stagnation in the market
	Unreliable suppliers
Economic risk	Increase in taxes and compulsory contributions
	Poor availability of financial resources (grants, loans)
	Increase in interest rates
	Increase in prices of all types of energy
Operational risk	Incomplete use of production capacity
	Obsolete production facilities
	Low level of innovation
	Growing number of complaints
Financial risk	Insufficient profit of the company
	Foreign capital (a significant part of foreign capital)
	Unpaid claims
	Inability to pay obligations (insolvency)

Following the outbreak of the COVID-19 pandemic, Grondys et al. (2021) set to identify the most important risk factors in Poland-based SMEs. The study was motivated by the potential change in intensity levels of SME risk factors following the pandemic (Grondys et al., 2021). The authors studied SMEs in Poland, a developed nation. The respective risk categories adopted for the study were operational, market, economic, and financial risk (Grondys et al., 2021). Table 2.1 highlights the relevant risk factors identified in each category. According to the authors, after the pandemic, the key risk factors affecting Polish SMEs were strong competition, an increase in energy prices, insufficient profits, low innovation, and incomplete use of production capacity (Grondys et al., 2021).

Table 2.2 Risk Factors affecting SMEs (Adopted from Garcia et al., 2022:13-17)

Risk category	Risk factors
Entrepreneur characteristics	Profile
	Personal Characteristics
	Lack of capacity building and training
	Lack of technical knowledge
	Management skills and competencies
	Lack of experience in business management
Business management	Problems in economic and financial management
	Problems in accounting management
	Lack of legal guidance
	Sales management issues
	Inventory management problems
	Problems in logistics management
	Quality management problems
	Problems in Purchasing Management
	Problems in strategic management
	Operations management problems
	Problems in personnel management
	Problems in marketing management
	Lack of strategic planning
	Difficulty in obtaining credit
	High competition
	Failures, underutilization, and lack of information
	Lack of strategic alliances and cooperation networks
	Lack of advertising
Business innovation	Lack of innovation in the development of products, services, and processes
	Lack of technologies
	Lack of sustainable environmental
	policies and practices
	Absence of corporate
	social responsibility
Customer difficulties	Difficulty in winning customers
	Difficulties in retaining customers
	Inadequate location
	Lack of adequacy and accessibility in the infrastructure
External influence	Economic and financial crises
	High tax burden
	Lack of public policies
	Disruptive forces

In another study by Garcia et al. (2022), the authors identify the key risk factors leading to business mortality or failure in SMEs. Thirty-six risk factors were identified and these were categorized into entrepreneur characteristics, business management, business innovation,

customer difficulties, and external influence risk factors (Garcia et al., 2022). Table 2.2 illustrates the identified risk factors in their respective categories. According to the authors, the risk dimensions that stood out in the study were management, innovation, and entrepreneurship (Garcia et al., 2022).

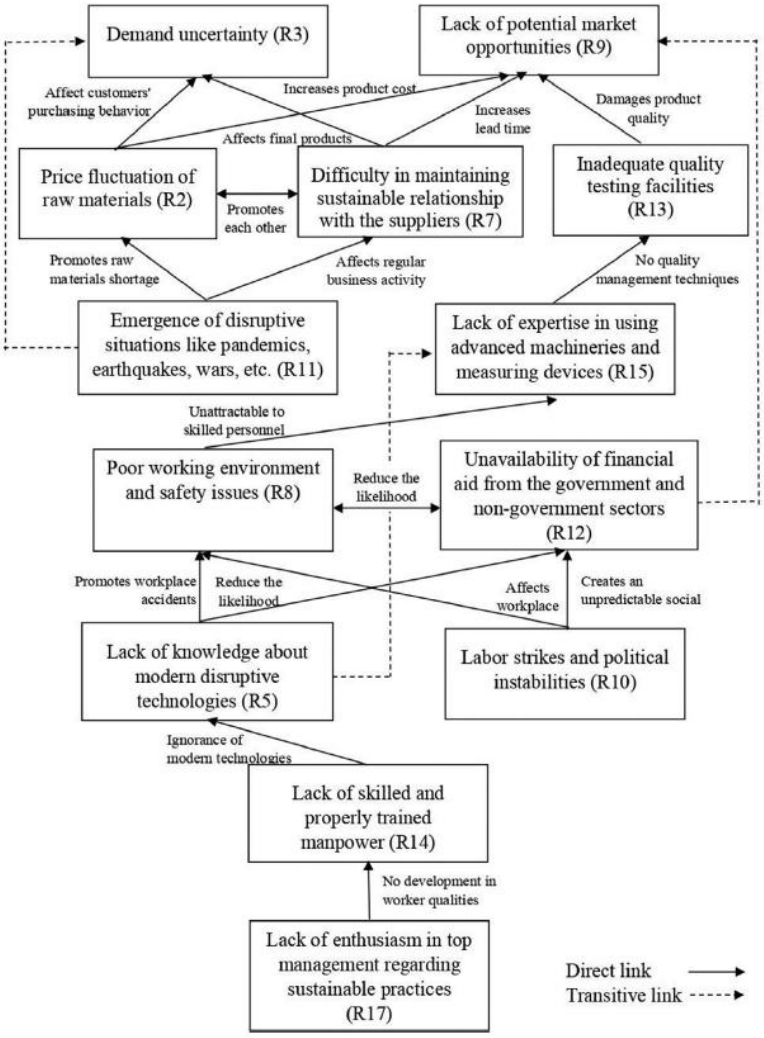

Figure 2.1 Fuzzy TISM model for Risk Factors (Adopted from Karmaker et al., 2023: 9)

Karmaker et al. (2023) conducted a study to determine the supply chain risk factors affecting sustainability and production in SMEs. The study was conducted in Bangladesh, a developing nation (ESCAP et al., 2017), and 17 risk factors were identified (Karmaker et al., 2023). Figure 2.1 illustrates the total interpretive structural model (TISM) of the relevant risk factors and their interrelations. According to the study findings, the most critical risk factor in SMEs is a lack of enthusiasm in top management for sustainable practices. This risk factor is very influential to all the other risk factors, hence it lies at the bottom and first level of the model (Karmaker et al., 2023). Amongst the reviewed work thus far, Karmaker et al. (2023) have been

the only authors to show how the risk factors are interrelated through a TISM digraph. It is also striking to note that the usually common risk factor of strong competition was not significant according to the findings of Karmaker et al. (2023).

Similar to Falkner and Hiebl (2015), Garcia et al. (2022), and Kokot-Stępień (2023) identify the risk factors that pose the greatest threat to Polish SMEs. Table 2.3 shows the identified risk factors and their respective categories.

Table 2.3 Risk Factors affecting Polish SMEs (Adopted from Kokot-Stępień, 2023:594)

Risk type	**Risk factor**
Market risk	Economic downturn
	Increasing competition
	Loss of customers (decrease in demand)
	Material and commodity price fluctuations
	Changes in legal regulations
Financial risk	Availability and cost of capital
	Loss of liquidity
	Rising costs of business
	Late payments by contractors
	Currency fluctuations
Operational risk	Halts in doing business
	Disruption/interruption in the distribution process
	Product quality/increase in the number of complaints
	Physical damage to property
	Technological failure
Human resources	Employee absences
	Difficulty in retaining qualified staff
	Employee accidents
	Lack of proper staff on the market
	Employee dishonesty
Business management	Social responsibility
	Loss of reputation
	Lack of innovation
IT risk	Data violation/loss
	Failure of information systems

In another recent study by Fauzi et al. (2023), the significant risk factors in Malaysian SMEs were identified, and the weighting of each risk factor was determined. These risk factors are given in Table 2.4. and entrepreneurial traits ranked first on risk category weighting. Whilst authors of previously discussed literature stated the most significant factors in their respective studies, only Karmaker et al. (2023) includes the relative rankings of risk factors and their interrelations through TISM. Fauzi et al. (2023) also includes the rankings of the most

significant risk factors identified in the study, however the risk factor interrelations are not shown.

According to the findings of Fauzi et al. (2023), there are five major risk factors affecting startup SMEs, and the most significant factor threatening these SMEs is entrepreneurial traits with the least threat coming from political risk. Authors such as Leboea (2017) also acknowledge that the characteristics of the owner or manager significantly impact the survival of SMEs and their ability to cope with risk and other challenges presented to them. Although the risk factors identified by Fauzi et al. (2023) are quite prominent in the SME literature, certain arguments may exist regarding the weighting and rankings of these risk factors. For instance, in a study by Ayandibu and Houghton (2017), government imposition, a political risk factor, is shown to be the most important factor threatening SME survival. However, this discrepancy could be attributed to the study contexts and different geographical locations of the SMEs under investigation.

Table 2.4 Risk Factors affecting SME startups (Adopted from Fauzi et al., 2023:66)

Ranking	Risk factor	Risk sub-categories
1	Entrepreneurial Traits	Null
2	Strategic Risk	Changes among customer/ in demand
		Reputational Damage
		Competition
		Location
		Lack of marketing strategy
		Human resource issues
		Lack of planning
3	Financial Risk	Underperformance
		Economic condition
		Poor financial management
		Capital issues
		Cost pressure
		Market/ industry changes
4	Operational Risk	Quality control process
		Production process
		Equipment failure
		Logistics
5	Political Risk	Null

From the above discussion, the identified risk factors by the different authors concur with each other, with the main discrepancies coming from the different risk categorizations used by the authors. Furthermore, certain authors do not go into detail in listing the relevant factors in each

respective category. For instance, Hanggraeni et al. (2019) does not produce a comprehensive listing of the respective internal and external factors affecting business performance. Another stark contrast in the findings is regarding the most influential risk factors cited by each author. The most significant factors alternate between competition, entrepreneurial traits, and innovation (Fauzi et al., 2023; Garcia et al., 2022; Karmaker et al., 2023). This difference in perspective could be attributed to the different geographical locations and contexts of study. Furthermore, most of the findings are limited to the geographical setting of SMEs under study, except for the case of Wang (2016) who uses data based on 135 developing countries. Although other authors transcend beyond geographical limitations using systematic literature reviews, this technique could oftentimes lead to a generic perspective that may be irrelevant to the specific contexts of individual organizations.

2.3.2 SME Risk Factors in Africa

Whilst most of the articles discussed thus far are orientated towards developed countries to reflect a global perspective, it is important to explore developing countries as suggested in SME literature (Saad et al., 2021; Falkner and Hiebl, 2015). In Ghana, a developing country (ESCAP et al., 2017), SMEs in varying industries were examined to understand the issues regarding risk, and the findings were grouped into pure and price risks (Kerubo et al., 2012). Table 2.5 shows the most occurring risk components in their respective groupings.

Table 2.5 Actual Risk Factors in SMEs (Adopted from Kerubo, 2012:41)

Risk Type	**Risk Factor**
Pure risk	Fire
	Theft
	Staff turnover
	Legal costs
	Employee benefits
Price risk	Changes in the exchange rate
	Changes in market prices
	Changes in interest rate

According to Kerubo et al. (2012), the most frequently occurring risks in SMEs were from the pure risk category. In addition to the grouped factors, the authors also highlight family interference which is related to cultural and social ties (Kerubo et al., 2012). This highlighted risk factor could be closely associated with spirituality and religion which Okoye and Amu-Nnadi (2013) suggest should be included in similar discussions.

On the other hand, Rambo (2012) examined the risk factors affecting strategic alliances between SMEs in Kenya. As given in Table 2.6, the risk types leading to SME alliance failures are classified into relational, performance, and intermediate risks (Rambo, 2012). According to the author, although strategic alliance is crucial for SME survival, these posed risk factors necessitate alleviation measures to prevent failure (Rambo, 2012).

Table 2.6 Risk Factors in strategic SME alliances (Adopted from Rambo, 2012:80)

Risk type	**Risk factor**
Relational risk	Information sharing
	Sharing expenditure
	Extent of staff bonding
	Level of trust
Performance risk	Firm size
	Ownership structure
	Integration of computers
	Proportion of skilled staff
	Demand level
	Taxation level
	Transportation cost
	Energy cost
Intermediate risk	Conflict prevalence
	Conflict resolution mechanism
	Alliance age
	Change in revenue
	Type of business activities
	Location of premises

Whilst the relational and intermediate risk factors may be exclusive to SME alliances, the performance risk factors also apply to SMEs in the normal context. For instance, the proportion of skilled staff is cited by Karmaker et al. (2023) as a lack of skilled and properly trained manpower. Rambo's findings are also closely related to those of Adisa et al. (2014). Although the study is not exclusive to identifying risk factors, the factors affecting SMEs were explored (Adisa et al., 2014). The geographical limitations of the study meant data collection in Nigerian SMEs alone, however, the findings could also apply to the greater African area. According to the authors, the most significant factors affecting SMEs in Nigeria are the following (Adisa et al., 2014):

- Limited funding
- Poor record-keeping and management of information
- Inability to separate business capital from personal funds

- Lack of key infrastructure and facilities
- Lack of proper business and management skills/knowledge

In a different study which is also not exclusive to risk identification, Akinyemi and Adejumo (2017) identify the factors affecting startup SMEs. In the context of this research, risk factors negatively impact organizational objectives, and similarly, the challenges outlined by the authors also harm startup businesses or SMEs. These outlined factors similarly impact organizational objectives just like risk factors and lead to SME failures (Akinyemi and Adejumo, 2017). The authors identified the key risk factors that affect entrepreneurs in the developing economies of Nigeria and South Africa (ESCAP et al., 2017), and lack of finances was proven to be the most significant in both countries as illustrated in Table 2.7.

Table 2.7 Challenges affecting startups (Adopted from Akinyemi and Adejumo (2017:630)

Challenge	**Frequency in Nigeria (%)**	**Frequency in South Africa (%)**
Finance	36.8	31.4
Low Patronage	20.8	18.6
Competition	7.6	15.4
Electricity	12.4	0.2
Theft	2.7	4.9
Registration	0	3.5
Bad roads	2.3	0.2
Business permit	0.2	2.6

Although the mentioned study is not exclusive to risk, the authors agree through their findings with other authors regarding the factors affecting SME survival and sustainability (Adisa et al., 2014; Rambo, 2012; Ussif and Salifu, 2020). In studying the contributions of SMEs to economic development in the Sub Sahara Africa region, Ussif and Salifu (2020) also outline the challenges impeding these entities from their positive contributions. According to the authors, the following factors affect Sub-Saharan Africa SMEs:

- Electricity problems
- Lacking funds
- Poor management
- Low education level
- Inadequate training and building of capacity
- Limited access to reliable information
- Incompetence
- Lacking government support

- Poor record keeping and bad reporting standards
- Corruption

From this section, the most frequently mentioned risk factors amongst SME studies in Africa pertain to limited access to funding (Adisa et al., 2014; Akinyemi and Adejumo, 2017; Ussif and Salifu, 2020). This is followed by poor management skills and a lack of government support. Other mentioned key factors include corruption, and electricity issues. Whilst the most frequent factors are also common at a global scale, the factors of corruption and electricity issues are shown to be mostly applicable to the African context.

2.3.3 SME Risk Factors in South Africa

Although the subject of SME risk and its management has gained prominence, only a few studies have focused on risk identification. In some papers risk factors are identified, however, many studies lean towards risk management approaches in SMEs (Brustbauer, 2016; Crovini et al., 2021; de Araújo Lima et al., 2020). Furthermore, in certain studies, the authors identify the factors affecting SME survival without sole focus on SME risk and its management. These authors also list relevant causes leading to SME failure. Therefore, in response to the limited studies on SME risk identification, such articles are incorporated in this discussion whereby authors highlight the key factors affecting SME survival and sustainability in South Africa. In South Africa, the most cited work of this kind in SME literature is an article by Olawale and Garwe (2010) relating to the obstacles impeding growth in South Africa's startup SMEs and multiple authors in South Africa refer to their work (Leboea, 2017; Akinyemi and Adejumo, 2017; Cant and Wiid, 2013).

Olawale and Garwe (2010) classify the factors affecting SME growth into internal and external factors. These obstacles similarly harm SME business growth and impact organizational objectives just like risk factors. Therefore, the findings of these authors could also apply in this context. The authors identified 30 variables and these were reduced to the following five clusters (Olawale and Garwe, 2010):

- Financial
- Economic
- Market
- Management
- Infrastructure

Olawale and Garwe (2010) agree with other researchers who cite these same clusters among the risk factors affecting SME survival and sustainability. According to the authors' findings, the financial cluster was the most important, and the highest-ranked variable included lack of access to funding (Olawale and Garwe, 2010).

Similar to the aforementioned study by Olawale and Garwe (2010), the research article by Smit and Watkins (2012) was also important in triggering and shaping the research surrounding SME risk management in South Africa. Smit and Watkins (2012) addressed the issue of risk management in SMEs, and in this context, their article remains the most cited in SME literature. The study was not focused on risk identification, however some factors hindering SME success were highlighted. These included managerial competence, market access, and fluctuations in interest rates (Smit and Watkins, 2012). Following this study, discussions centred around SME risk and its management gained prominence in South Africa, and this is indicated through the emergence of similar and related studies in literature, and citation by authors such as Urban and Galawe (2020).

Table 2.8 SME risk elements and categorization (Adopted from Smit, 2012:61)

SME risk elements	Category	
	External	**Internal**
Technological aspects	X	
Legislation and insurance	X	
Economy	X	
Industry	X	
Information	X	X
Reputation	X	X
Security		X
Learning and growth		X
Managerial aspects		X
Strategy		X
Finance		X
Business continuity	X	X
Business processes	X	X

On studying SMEs in the retail sector of Western Cape, South Africa, Smit (2012) proposes risk focus points or categories which are, namely; internal risk areas, external risk areas, and a combination of both internal and external risk areas. This risk categorization is also quite common in the extant literature. It is customary for authors to classify risk into internal and external factors (Everett and Watson, 1998; Hanggraeni et al., 2019; Young, 2018). Internal risk factors may be easier to address since they are within the organization's control. On the other hand, the external risk factors are in most cases out of the organization's reach, hence

they could be more difficult to manage (Young, 2018). The respective risk elements and their subcategories as given by Smit (2012) are indicated Table 2.8.

In another study on the challenges affecting South African SMEs, SMEs in the Tshwane area were examined (Cant and Wiid, 2013). This study is another example where relevant factors are highlighted in a different context to risk management. As discussed in the case of Akinyemi and Adejumo (2017), in subsection 2.3.2, challenges similarly harm organizations just like risk factors. Hence the outlined variables are included in this discussion. Cant and Wiid (2013) classified the factors into macro-environmental and marketing variables that affect SMEs as illustrated in Table 2.9.

Table 2.9 Challenges affecting SMEs (Adopted from Cant and Wiid, 2013:714)

Classification	**Variables**
Macro environmental	Crime
	Government legislation
	Unemployment
	Inflation
	Interest rates
Marketing	Wrong pricing strategies
	Low demand for products
	Location of the business
	Knowledge of the target audience

In another study, not exclusive to risk, Fatoki (2014) also highlights the factors affecting SME survival in South Africa. Whilst the authors do not explicitly use the term of 'risk factors', Table 2.10 shows that the internal and external factors they identify are similarly related to the risk factors identified by many other authors. The author uses internal and external categorizations, and also acknowledges that external factors are largely uncontrollable by the organization since they are out of the organization's reach, and on the other hand, the internal factors are to a large extent within the organization's control (Fatoki, 2014).

Table 2.10 Internal and external factors affecting SMEs (Adopted from Fatoki (2014:926)

Category	Factor
Internal	Lack of management experience
	Lack of functional skills (management, organization, leadership)
	Poor attitudes towards customers
	Poor staff training and development
External	Non-availability of a logistics chain
	High cost of distribution
	Competition
	Rising costs of doing business
	Lack of finance
	Crime

With the aid of Grounded Theory (see Bryant and Charmaz, 2010) and documentary search, Leboea (2017) also investigated the factors influencing SME failure in South Africa. Table 2.11 illustrates the 8 factors outlined by the author as the core elements and their respective variables contributing to SME failure in South Africa (Leboea, 2017).

Table 2.11 Factors influencing SME failure (Adopted from Leboea, 2017:80)

Core factor	Variables
Macro environmental	Level of external factor risk
Lack of skilled labour	Amount of skilled labour
Characteristics of entrepreneur	Character suitability of the entrepreneur
Access to external financing	Accessibility of finances
Globalization	Rate of globalisation
Government laws regulations and policies	Appropriateness of implemented policies
Technological capabilities	Level of technological advancement
Lack of infrastructure	Quality of infrastructure

In addition to the identified factors and variables, the author developed a digraph to show the interrelationship between the variables as illustrated in Figure 2.2 (Leboea, 2017). By adding a digraph, the author goes a step further to show how the risk factors are interrelated.

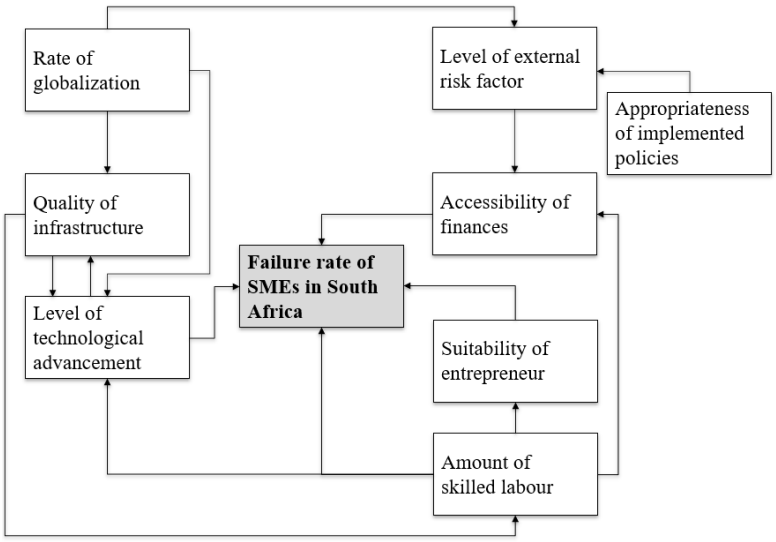

Figure 2.2 Interrelationship digraph of variables (Adopted from Leboea, 2017:81)

Ayandibu and Houghton (2017) also examine the external forces affecting SMEs in Pietermaritzburg, South Africa. Although the authors justify their focus on external factors alone, leaving out internal factors could lead to a limited and incomplete perspective since the two categories may be interrelated. Ayandibu and Houghton (2017) mention government imposition as the most influential external factor affecting the survival and performance of SMEs. Table 2.12 shows the most influential external factors identified by the authors. Through these findings, the authors agree with Kraja and Osmani (2015) who advocate for the significance of external influence on SME performance and survival. In addition, some of the most mentioned external risk factors by the authors include increased competition, legislation, tax rates, globalization, market expansion, and innovation (Wang, 2016; Leboea, 2017).

Table 2.12 External factors in SMEs (Adopted from Ayandibu and Houghton, 2017:58)

External factor	**Frequency (%)**
Government imposition	63.2
Lack of product demand	5.3
Lack of access to loan	10.5
Bad roads and crime	5.3
Lack of finance	5.3
Electricity complaints from clients, prices	5.3
Government and lack of finance	5.3

Krüger (2018) also conducted a study in the Vaal region of South Africa, where the following risk factors were identified and classified into themes:

- Employee risk

- Business risk
- Managerial risk
- Reputational risk
- Operational risk
- Moral and legal risk
- Marketing risk
- Personal risk

Furthermore, Urban and Galawe (2020) use the exogenous and endogenous categories to classify identified risk factors. Amongst the endogenous risk category, they focus on the firm and entrepreneur risk factors, whilst the exogenous category includes the environmental risk factor (Urban and Galawe, 2020). Based on the authors' findings, the endogenous risk category and its respective variables are more significant to SME performance and success in comparison to the exogenous risk category (Urban and Galawe, 2020). Through this finding, the authors are in a stark contrast with other authors who advocate that external risk factors are more influential towards SME survival success. For instance, Kraja and Osmani (2015) indicate that external factors have a higher significance on the performance and success of SMEs.

In the study by Chakabva et al. (2020), risks in fast moving consumer goods SMEs are assessed, and they are classified into two main clusters of sustainability and traditional risk factors. The relevant risk categories adopted by the authors are shown in Table 2.13.

Table 2.13 Risk types (Adopted from Chakabva et al., 2020:3334)

Category	Risks
Sustainability Risk	Environmental risks
	Economic risks
	Social risks
Traditional Risk	Strategic risks
	Operational risks
	Financial risks
	Compliance risks

In addition, Shipanga et al. (2022) investigated the risk factors experienced by manufacturing SMEs in the Cape Metropole region of South Africa. The following operational risk factors were identified by Shipanga et al. (2022):

- Staff errors

- System processing errors
- Inadequate auditing procedure
- Inadequate segregation of duties
- Failed systems and transactions
- Poor systems design
- Poor human resources policies
- Inadequate security measures
- Internal frauds
- Lack of management supervision
- Lack of internal control
- Inadequate staff training
- Insufficient training
- External frauds
- Non-compliance issues
- Customer attrition

Among the risk factors identified by Shipanga et al. (2022), some key external factors cited in most publications are missing, for instance, the 5 significant external risk factors in developing countries indicated by Wang (2016) (see Section 2.3.1).

2.4 Summary of SME Risk Factors in South Africa

As discussed in the previous section, the study around SME risk management and resilience has gained prominence in South Africa, although only a few authors focus on risk identification. Table 2.14 summarizes the discussed relevant and most cited SME risk factors in South Africa. From Table 2.14, the frequency of the various risk factors/variables was indicated (see Table 2.15). According to Table 2.15, the most frequent and thereby significant risk factor in South Africa's SMEs belongs to the compliance risk category. The respective variables include government imposition, and legislation. This observation would be in line with the findings of Ayandibu and Houghton (2017) who highlight this factor as the most significant. While large organizations may also be affected, SMEs are more sensitive to laws and regulations affecting businesses. Government policies have the potential to stifle business and growth in SMEs.

Table 2.14 SME Risk Factors in South Africa

Risk factors/variables	Sources										
	Olawale and Garwe (2010)	Smit and Watkins (2012)	Smit (2012)	Cant and Wiid (2013)	Fatoki (2014)	Leboea (2017)	Ayandibu and Houghton (2017)	Akinyemi and Adejumo (2017)	Krüger (2018)	Chakabva et al. (2020)	Shipanga et al. (2022)
Finance risk	X		X		X	X	X	X	X		
Managerial competence		X	X		X	X			X		X
Market risk	X	X	X	X		X			X	X	
Interest rates	X	X	X	X	X						
Government policies and legislation		X	X	X		X	X	X	X	X	X
Economic risk (Inflation)	X			X	X		X			X	
Crime and unemployment				X	X		X	X			X
Business strategies			X	X	X				X	X	
Competition					X			X			
Personnel skills and competence					X	X					X
Infrastructure risk	X					X	X	X			
Technology			X			X					

Table 2.15 SME Risk Factor Frequency

Frequency	Risk factor	Core variable
9	Compliance risk	Government legislation, imposition
7	Finance risk	Access to funding
7	Market risk	Access to market
6	Entrepreneurial risk	Managerial competence
5	Economic risk	Interest rates
5	Economic risk	Inflation
5	Crime and unemployment	Null
5	Business strategies	Null
4	Infrastructure risk	Null
3	Personnel skills and competence	Null
2	Technology	Null
2	Competition	Null

Following compliance risks are financial and market risks and the respective core variables of these risk factors are lack of funding and market access. As shown in the case of African SMEs, lack of funding and access to the market have been proven as significant factors affecting SME survival in Africa (Adisa et al., 2014; Ussif and Salifu, 2020; Akinyemi and Adejumo, 2017). These risk factors are critical because without financial power, growth and business

sustainability are compromised, and without access to the right markets, the businesses may become obsolete.

Another key risk factor on the list is entrepreneurial risk where particular attention should be given to the variable of managerial competence (Shipanga et al., 2022). This is one of the key risk factors affecting SMEs in South Africa, because incompetence in business would usually result in poor decision making which inevitably affects the internal organization of the business as well as the external strategic positioning of the business.

According to Table 2.15, economic risk is equally important with crime and unemployment, and business strategies. It is important to note that among these factors, business strategies could be categorized as an internal risk factor and despite its position on the frequency table, it is arguably one of the most critical risk factors which affects business sustainability. As for interest rates, inflation, crime and unemployment, their significance may be derived from the fact that they are ultimately out of the SME's control, and they could have diverse effects on these small entities.

Infrastructure risk is weighed among the least important risk factor based on Table 2.15. Whilst this risk factor is not observed among the developed countries. It is important to note that it is a common occurrence that hinders business in developing nations as revealed through the literature review findings.

Surprisingly, personnel skills and competence are among the least cited risk factors which highlights that they are not viewed among the most important risk factors. This may not be the case because without properly trained personnel and without the right skillsets, business functionality is hindered which in turn affects the SME's business delivery to customers and business sustainability.

Furthermore, competition and technology appear with the least frequency in Table 2.15, implying less importance in the context of South African SMEs. This is despite the cited significance of these factors to SMEs at a global scale as discussed in Section 2.3.1 (Fauzi et al., 2023; Garcia et al., 2022; Karmaker et al., 2023).

Although Table 2.15 is an important highlight of the risk factor importance through weighting, no consideration is made on the existing relationships between the risk factors. Since this dependence is unknown, SMEs may find it difficult to locate the core and key risk factors that may be hindering their business success.

Regarding the identified gap on the need for research in developing countries, different researchers are addressing it through studies centred around SMEs in developing countries. (Falkner and Hiebl, 2015; Saad et al., 2021). However, most of the empirical research done on SMEs would be bound by geographic limitations and as a result, generalization of findings to all SMEs in developing countries may be inappropriate. Only Wang (2016) transcends this limitation by using primary data sourced from 135 developing nations.

2.5 Summary

In this chapter, a literature review was conducted on the state of risk in SMEs, with a focus on South Africa, a developing country. The chapter starts with an overview of the SME risk management framework and later focuses on risk identification in SMEs. Furthermore, an outline of the risk factors affecting SMEs is given starting with a global perspective and moving onto a local perspective whereby risk identification in South Africa is discussed. The following chapter will discuss the suitable approach and techniques for exploring SME risk factors in South Africa.

3 Chapter Three: Research Methodology

3.1 Introduction

In this chapter, the methodological approach adopted for the study is discussed. This research used a qualitative research design based on the Interactive Management (IM) methodology, a systems thinking approach which applies to complex and pluralistic contexts. The Interactive Management methodology is examined, and an assessment is done to determine suitability in the context of risk factor identification in South African SMEs. The discussion is initiated through an overview of methods used in previous and similar studies, before moving onto the most suitable approach given the complexity and pluralism surrounding SMEs. An outline of the Interactive Management workshop is also included with a detailed explanation of the four workshop stages and their function in the study.

3.2 Methodological Approach of the Study

Given the background to the study discussed in Chapter one, the following research questions were formulated to guide the research:

a) What are the key risk factors affecting the survival of SMEs in South Africa?
b) What is the relationship between the identified key risk factors?
c) What is the root cause of the identified key risk factors?

The following sub-section is an overview of methods used in previous studies. Furthermore, a justification is made for the suitable approach given the context of this study.

3.2.1 An Overview of Methods used in Previous Studies

A review of previous and similar studies allows an assessment to be done on their respective strengths and limitations. Most importantly, an informed selection of the most suitable approach for the current study can be made. This section discusses the methods used by previous researchers who investigated the risk factors affecting SMEs.

When it comes to risk identification tools and techniques, it is common for most authors to use systematic literature reviews, surveys, or interviews (de Araújo Lima et al., 2020; Garcia et al., 2022; Karmaker et al., 2023). Systematic reviews may be good for obtaining a general understanding of the risk factors in SMEs, however, the identified risk factors may not be applicable in some SMEs because of the different contexts. While systematic reviews should give a balanced and unbiased summary of the literature, there may still be subject to bias depending on the inclusion and selection criteria used by the researcher (Nightingale, 2009).

In the case of interviews, there is also some room for subconscious bias and inconsistencies from the participants (Phellas et al., 2011; Alshenqeeti, 2014). Likewise, questionnaires are also mostly subjective because they depend on the judgment and experience of participants and it may be difficult to know their characteristics (Alshenqeeti, 2014). Having said so, a need exists for a suitable risk identification approach that accounts for the mentioned biases and subjective opinions of the various participants.

In a study on Bangladesh SMEs, Karmaker et al. (2023) examined the supply chain risk (SCR) factors affecting businesses and the relationships of these factors was determined using Total Interpretive Structural Modelling (TISM). TISM is a method that uses expert feedback to examine the contextual relationships of variables in a defined scenario (Karmaker et al., 2023). The study was conducted through four stages. The first stage involved identifying risk factors through a literature review, and in the second stage, 30 experts were interviewed to determine the relevance of the identified risk factors. In the third stage, a Pareto analysis was done using the experts' opinion to validate the associated risk factors. A Pareto analysis allowed separation of the significant risk factors from the trivial ones (Karmaker et al., 2023). During the fourth stage, feedback was obtained from the experts to construct a structural self-interactive matrix (SSIM) under a fuzzy environment. The fuzzy environment accounted for uncertainty and bias in the subjective judgement of participants (Karmaker et al., 2023). Whilst the approach allows validation by experts, it should be noted that the experts are not involved in the idea generation stage and as a result, their valuable inputs may be left out.

On studying Polish SMEs, Kokot-Stępień (2023) used the method of a literature review to identify the risk factors that pose the greatest threat to these entities. The relative importance of these factors was then determined through a survey where 162 responses were collected from SMEs. However, with these mentioned methods, there is no way to account for bias on risk identification and although the relative importance of risk factors was determined, their existing relationships could not be determined. Furthermore, the use of a survey does not result in a shared understanding of the knowledge among participants since no discussions are done.

In another recent study by Fauzi et al. (2023), the authors use qualitative methods to identify the significant risk factors in Malaysian SMEs. Nine experts in the field were interviewed through a questionnaire to obtain their different perspectives, and the weighting of each risk factor was done using Thematic analysis software. Unlike Karmaker et al. (2023), Fauzi et al.

(2023) do not go beyond weighting of the identified risk factors. As a result, the existing relationships were not determined.

In a study focused on SMEs in South Africa, Leboea (2017) used Grounded Theory and documentary research to investigate the factors influencing business failure. Grounded Theory is a systematic methodology which involves discovering theory through data analysis (Bryant and Charmaz, 2010). This approach involves data collection, coding, and categorization whereby theory is created using the categories (Corbin and Strauss, 1990). On the other hand, documentary research allows the analysis of documents that contain information about the phenomenon under study (Ahmed, 2010). In the study, Leboea (2017) collected a sample of 226 data propositions in the process for analysis. In addition to the identified factors, the author develops a digraph to show their interrelationship (Leboea, 2017), however, the digraph does not reveal the core factor which has the potential to aggravate all the other factors.

Kanjanda and Tuan (2020) used Interactive Management (IM), a systems thinking approach to explore the risk factors affecting Information Technology projects in Zimbabwe. Nine participants were identified to participate in the four stages of this IM methodology which include idea generation, idea clarification, idea structuring, and interpretation (Kanjanda and Tuan, 2020). This method accounts for the diversity and complexity of different problem situations. In addition, the idea structuring stage enables the interrelationships between risk factors to be determined. Similarly, Ntshangase and Tuan (2019) also used the same approach whereby 10 participants were selected in studying the factors causing delay on electrical distribution projects in South Africa.

Given the complex and pluralistic nature of SMEs, a need exists to explore the issue of risk in these entities using an approach suitable for such a context (Harney and Dundon, 2006). In such a context, the basic interests of participants may be similar or compatible, however, the values and beliefs may not be shared (Jackson, 2016). Hence, the applied systems thinking approach used by Kanjanda and Tuan (2020) could be most appropriate for exploring the risk factors in South African SMEs. According to Jackson (2016), applied systems thinking approaches are applicable in the context of complexity and pluralism. The most suitable systems-thinking approach would depend on the problem context, which is determined by the complexity and the different values, interests, and beliefs of participants in the respective environment (Jackson, 2016). A description of the different systems-thinking methods is given in the following section.

3.2.2 Systems Thinking Approaches

In this section, the different systems thinking approaches are outlined, with a focus on reviewing the most appropriate approach for exploring SME risks in a complex and pluralistic context. For the classification of the different types of systems thinking approaches, Reynolds (2011) categorizes and defines the systems based on their ontology, epistemology, and intention. Ontology refers to the assumptions about the nature of 'things', epistemology refers to the assumptions of knowledge generation, and intention refers to the primary pledge or human purpose embodied in the systems approach (Reynolds, 2011). Table 3.1 highlights the three different types of systems approaches.

Table 3.1 Types of Systems Approaches (Adopted from Reynolds, 2011:38-39)

System type	Philosophical definition	Examples of approaches
Hard systems	*Ontology:* realism ('real world' is made up of systems) *Epistemology:* positivism (validity based on 'objective' scientific method) *Intention:* control (enables technical mastery)	• General systems theory • Classical 'mechanistic' cybernetics • Systems engineering • Socio-technical systems • System dynamics
Soft systems	*Ontology*: nominalism (systems are means of re-presenting phenomena) *Epistemology:* constructivist & interpretivism (knowledge is socially constructed and subjective) *Intention:* appreciation (enables further communication and understanding between different groups)	• Inquiring systems design • Soft systems methodology • Interactive management • Cognitive mapping and strategic options development
Critical systems	*Ontology:* nominalism (systems are means of re-presenting phenomena) *Epistemology:* constructivist & critical idealism (knowledge is socially constructed & phenomena are imbued with human purpose and must lay open their perspective and purpose for critical reflection) *Intention:* emancipation (enables freedom from coercive material and ideological forces)	• Critical systems heuristics • System of systems methodologies • Community operational research • Interpretive systemology • Total systems intervention

3.2.2.1 Appropriate Systems Approach for Exploring Risk Factors in SMEs

Jackson (2016) outlines different applied systems thinking approaches that are suitable for different problem contexts. Figure 3.1 shows a grid proposed by Jackson where problem contexts can be defined based on the levels of complexity, and participants' philosophic differences (values, beliefs, and interests).

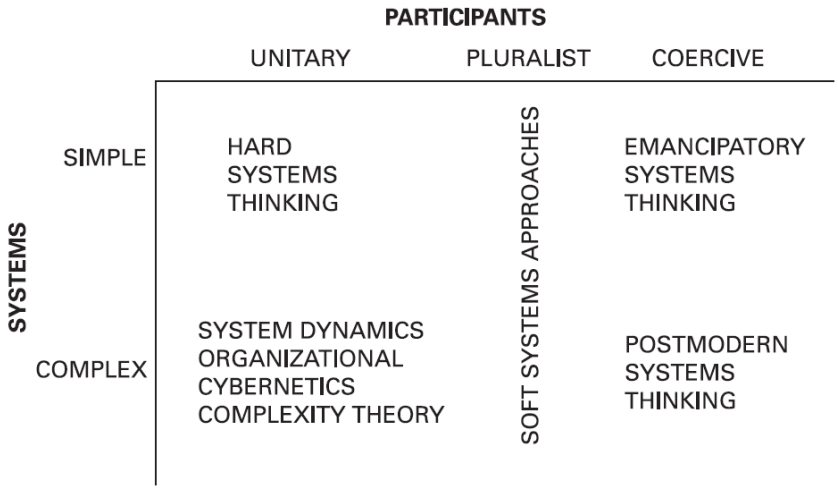

Figure 3.1 Systems thinking approaches (Adopted from Jackson, 2016:24)

As discussed in Section 3.1, the SME business environment is characterized by complexity, uncertainty, and pluralism. In contrast, a hard systems approach relies on a single observer's point of view, hence it would be ineffective in addressing the plurality and complexity in this study's context (Jackson, 2016). Furthermore, the critical systems approach tends to neglect the power and structure existing in social systems (Jackson, 2016). As for the soft systems approach, the different backgrounds of participants are considered because of its pluralistic philosophy. The soft systems approach is also applicable in exploring purposes and since it appreciates the varying views of participants, it would be the most suitable for accommodating the diverse backgrounds of SME participants (Jackson, 2016). Therefore, a soft systems approach is the most suitable for modelling SME risk factors in a complex and pluralistic problem context. Examples of the soft systems approach are given in the following sub section.

3.2.3 Examples of Soft Systems Approaches

3.2.3.1 Soft System Methodology (SSM)

As indicated by Platt and Warwick (1995), the soft systems methodology is applicable in situations where people are the active subjects and where the objectives are unclear and it is also applicable in all problem contexts (Checkland and Poulter, 2010). Problem formulation is done at the strategic level to structure previously unstructured situations and a rich picture of the situation can be drawn to model the real-life problem situations (Checkland and Poulter, 2010). As a result, a better understanding of the different components that make up the soft system will be obtained, and this allows an informal capture of the main issues, structures and viewpoints in the situation. Furthermore, understanding is gained on the ongoing processes, on the current recognized issues and on any potential issues. The problematic situation is

structured through an organized process involving the seven stages outlined below (Jackson, 2016; Platt and Warwick, 1995; Reynolds, 2011):

i. Identification of the perceived problematic situation
ii. Depiction of the problematic situation as a rich picture
iii. Creation of root definitions for the applicable human activity systems
iv. Development of conceptual models from the root definitions
v. A comparative analysis of the developed conceptual models against reality to determine possible changes
vi. A debate of the changes derived from the comparative analysis
vii. Action taking to improve the complex situation

However, whilst the soft systems methodology is suitable for all sorts of problematic situations (Checkland and Poulter, 2010), it has been criticized in the literature for being ineffective when dealing with conflicts within a coercive environment origin, since there is no attempt to relate the different worldviews to social areas of power (Jackson, 2016; Reynolds, 2011).

3.2.3.2 Interactive Management (IM)

Another approach that can be used for identifying potential risks is Interactive Management (IM) as shown by Kanjanda and Tuan (2020). This systemic methodology can facilitate team productivity, especially in the context of complex issues (Janes, 1988; Warfield and Cárdenas, 2002). The Interactive Management methodology includes four main stages which are idea generation, idea clarification, idea structuring and interpretation. This methodology enhances understanding of the problem situation amongst stakeholders through collaborative learning. (Kanjanda and Tuan, 2020). In the identification of stakeholders, it is important to determine whether the participants are truly knowledgeable in the subject area, instead of focusing on the 'sample size' (Ntshangase and Tuan, 2019; Kanjanda and Tuan, 2020). These participants will provide feedback through a guided process in a workshop where the facilitator takes them through the four phases of IM, and depending on the number of elements to be debated amongst participants, the workshop sessions can span from several hours to a few days (Kanjanda and Tuan, 2020).

An interactive management approach would be the most suitable for modelling SME risk factors in this study for the following reasons:

i. Through IM, the structural benefits of hard systems are obtained, at the same time, the approach is not limited to the normal scope of the organizational problems and structures (Alexander, 2002; Warfield and Cárdenas, 2002).
ii. IM incorporates the perspectives of different participants (Warfield and Cárdenas, 2002), which allows a subjective view of the problem. Furthermore, IM also considers social areas of power and politics, for which SSM has been criticized for lacking (Alexander, 2002; Jackson, 2016).
iii. IM allows for cooperative team participation in the decision-making process, and it frees the participants from coercion (Alexander, 2002).
iv. IM provides the appropriate guidance and action in addressing complex and problematic situations and the knowledge generated throughout the process is primarily refined through 'multiplicative corroboration' (Tuan, 2002).

3.3 Interactive Management Methodology

This study adopts the Interactive Management (IM) methodology, a systemic approach, to explore the risk factors affecting SMEs in South Africa. As outlined by Warfield and Cárdenas (2002), IM involves a three-phase sequence comprising planning, workshop, and follow-up. The planning phase prepares for the proceeding of the other two phases. In the workshop phase, selected participants with knowledge of the situation work together in an interactive environment. Lastly, the follow-up phase involves the implementation of results or iteration of the workshop phase.

The aim of this study includes identifying the most significant risk factors affecting SMEs in South Africa and determining their interrelationships. Results implementation is beyond the scope of this study; hence emphasis will be on the first two phases of IM. In the planning phase, the research problem is defined, the study questionnaire is designed, and research participants are selected from the respondents. In the workshop and follow-up phases, the IM process is implemented according to the designed IM workshop plan (see Annexure C). The constituents and activities of the planning and workshop phases for this study are given in the following sub-sections.

3.3.1 Planning

3.3.1.1 IM Problem Statement

The SME failure rate in South Africa remains high despite numerous studies on SME risk and its management. Although studies have been done on the risk factors affecting SMEs, there has been little attention given to the risk factors affecting the survival of SMEs in South Africa, and their interrelations. To address this shortfall, the IM workshop aims to identify these risk factors and to determine their interrelations using Interpretive Structural Modelling (ISM) software.

3.3.1.2 Ethics

Ethics approval was obtained from the University Research Ethics Committee, and permission was granted on the 22nd of May 2024 to conduct the study. The ethics clearance reference number is EBE/00808/2024 (see Annexure A). The following ethical issues were considered for the research:

i. The anonymity of participants was maintained throughout the research and during data presentation and analysis. However, due to the interactive nature of the workshop, it was not possible for participants to remain completely anonymous, as they needed to identify each other to facilitate productive discussions and interactions.
ii. The IM workshop was recorded for documentation and academic purposes. Participants were informed about the recording prior to the workshop, and their consent was obtained for recording the sessions.
iii. Participants in the IM workshop were also informed that their participation was voluntary, and they had the option to withdraw at any time.

3.3.1.3 Study Questionnaire Design

The study questionnaire is designed to identify suitable participants for the Interactive Management (IM) workshop. In identifying participants for the IM workshop, the process suggested by Kanjanda and Tuan (2020) was adopted for this research. According to Kanjanda and Tuan (2020), instead of emphasizing sample size, researchers should pay attention to whether participants are 'truly knowledgeable', and whether they are authentic representatives to give feedback on the problem under examination.

Achterkamp and Vos (2007) suggested the application of the boundary critique for identifying appropriate stakeholders. The boundaries define the exact issues coherently, and the subjects

involved. In the study by Achterkamp and Vos (2007), the parties involved are separated between actively involved and passively involved. An actively involved party is a group or individual with influence on the achievement of objectives, whereas a passively involved party is affected by the achievement of these objectives. SME owners and managers would fall under the actively involved and decision maker stakeholders according to the system roles defined by Achterkamp and Vos (2007). This is because they can affect the achievement of their businesses' objectives, and they are primarily responsible for setting and evaluating the various processes in their organizations. As a result, the criteria set by Achterkamp and Vos (2007) will guide the identification and selection of participants in this study. Through the questionnaire, the idea generation stage is initiated and participants for the IM workshop are identified. As suggested by Warfield and Cárdenas (2002), the number of representatives selected for workshop participation should be between 6 and 12. These participants are selected from the Questionnaire respondents. The research questionnaire is designed using Microsoft Forms, and the template is given in Annexure B of this report.

3.3.2 Workshop

The IM workshop is governed by three main concepts. These are context, content and process as explained below (Warfield and Cárdenas, 2002).

Context – SMEs in South Africa have a high failure rate, with most of them failing within 5 years of commencement. Hence this study is an exploration of risk factors leading to SME failure in South Africa.

Content – The participants are responsible for content and knowledge production in the workshop, and they are selected and invited as experts on the subject under discussion.

Process – The IM workshop follows the Nominal Group Technique (NGT) and Interpretive Structural Modelling (ISM) processes.

During the workshop phase, the selected participants work together in an interactive environment under the guidance of the IM workshop facilitator. Whilst the participants are responsible for content production, the IM facilitator is responsible for coordinating the workshop and leading participants through the processes (Warfield and Cárdenas, 2002). The purpose of this IM study is to identify the risk factors affecting the survival of SMEs in South Africa and to determine their interrelations. Therefore, the desired product of the IM workshop is a Problematique that depicts the risk factors and their interrelations (Warfield and Cárdenas,

2002). A problematique shows the interaction of a set of problems within a specified problematic context (Warfield and Cárdenas, 2002).

The NGT and ISM processes are sequentially used to produce a problematique (Warfield and Cárdenas, 2002). Whilst the NGT process allows idea generation and clarification for the problematique, the ISM process allows structuring of the problematique (Warfield and Cárdenas, 2002). The IM workshop is conducted through four main stages derived from the NGT and ISM processes (Warfield and Cárdenas, 2002). These are idea generation, idea clarification, idea structuring, and model interpretation (Kanjanda and Tuan, 2020) as previously highlighted. In the following sub-sections, an elaboration is given on the four main stages of the IM workshop.

3.3.2.1 Idea Generation

The idea generation stage is initiated through the research Questionnaire, whereby the participants are selected, and asked to identify the risk factors affecting SMEs in South Africa. As required for the NGT process (Warfield and Cárdenas, 2002), the participants are asked a triggering question to generate ideas for the IM workshop. According to Warfield and Cárdenas (2002), participants in different IM workshops generate an average of 64 ideas, and the typical number of participants is between 6 and 12 (Warfield and Cárdenas, 2002). Therefore, assuming a maximum attendance of 12 participants, it can be deduced that each participant generates an average of 5.3 ideas. For application purposes, this value is rounded up to 6 ideas, and as a result, in this study, the participants are asked to produce 6 ideas through the following triggering question.

What do you perceive to be the six most significant risk factors affecting SMEs in South Africa?

In this stage, a long list of potential key risk factors are produced from the Questionnaire respondents, and these will be edited, and clarified during the idea clarification activity.

3.3.2.2 Idea Clarification

The idea clarification process aims to obtain a common understanding of the most significant risk factors among the selected participants (Warfield and Cárdenas, 2002). Selected participants from the idea generation stage are invited to the idea clarification stage of the workshop. The idea clarification and all the remaining activities of the IM process will be conducted through Microsoft (MS) Teams an online virtual conference call platform. The identified list of potential risk factors from the idea generation stage is presented to the

participants for expression, editing, and clarification as outlined by Warfield and Cárdenas (2002). The IM facilitator will be responsible for stimulating participants to produce high-quality statements, and the output of this activity is a list of high-quality statements containing one primary thought. The risk factors are edited to meet the standards of good grammar, and to derive a single primary thought. The ideas that have two or more primary thoughts will also be split into several risk factors for more clarity (Warfield and Cárdenas, 2002). The Editing and amendment of ideas enhance clarity in idea expression. In this process, similar risk factors which appear to overlap could also be merged provided they do not lose their intended meaning (Warfield and Cárdenas, 2002).

3.3.2.3 Idea Structuring

The idea structuring stage of the workshop overlaps the NGT and ISM processes. The activities carried out include voting to produce a set of risk factors (structuring set) that will be taken further for the pair-wise comparison activity. The voting activity is governed by the NGT process, whilst the pair-wise comparison is part of the ISM process (Warfield and Cárdenas, 2002). Voting allows screening of the ideas according to their significance, and the participants are required to vote for the five most significant risk factors in the order of their relevance and importance (Warfield and Cárdenas, 2002). As highlighted by Warfield and Cárdenas (2002), this activity allows participants to decipher the important risk factors from the list, without spending time discussing the merits and demerits of individual risk factors. The facilitator will guide the participants in a pairwise comparison of the resultant structuring set to determine the interrelations of the ideas, and the following generic question will be presented to participants during the activity (Warfield and Cárdenas, 2002);

In the context of SME risk factors in South Africa, does risk A lead to risk B?

The participants will be required to respond with a 'Yes' or 'No' answer to indicate their agreement or disagreement. If no consensus exists on a specific pair, the IM facilitator will guide the group in a discussion where the objecting participants are asked to elaborate on their viewpoints. Following the discussion, the participants will be required to vote if no consensus is reached, and the majority vote will decide the outcome. In this process, structural patterns are formed on the ideas (Warfield and Cárdenas, 2002), and through transitive inference, a digraph will be produced. This process is done through computer assistance whereby the Interpretive Structural Modelling (ISM) software uses machine inference to determine the risk

factor interrelations (Warfield and Cárdenas, 2002). The output of this phase is a digraph depicting the most significant risk factors in South African SMEs and their interrelations.

3.3.2.4 Interpretation

Through the model interpretation stage, the generated digraph is presented to participants for interpretation (Warfield and Cárdenas, 2002). If participants are not happy with the resultant model of risk factors, a structure amendment activity will be scheduled for the next session. Following the interpretation, the necessary structure amendment will be carried out at the request of the participants, until they consent to the final product. This is a collaborative and iterative process done until a shared understanding of the generated ISM model is developed by participants. The output in this final phase is a Problematique which reflects a shared understanding of the key driving forces of SME failure and the interrelations between the identified risk factors. Furthermore, if the participants feel that the unstructured ideas from the voting activity should be included, then a follow-up phase can be organized. The risk factors that were not voted for by any of the participants would be included along with the structuring set for the iterative process until the participants are happy with the final problematique (Warfield and Cárdenas, 2002).

3.4 Summary

In this chapter, the research methodology adopted for this study was discussed and justified. An overview of the methods used in previous and similar studies was also given and the suitable approaches for this study were also assessed including their advantages and disadvantages. The IM methodological approach was selected given its applicability in the context of complexity and pluralism in SMEs. In the next chapter, the research findings are discussed including the implemented stages of the IM process carried out in this study. Furthermore, a reflection is made on the primary research findings against the secondary findings of this study.

4 Chapter Four: Research Findings and Discussion

This chapter presents the research findings from the IM workshop activities in the context of the extant literature. The structure of this chapter follows the IM workshop plan which was implemented for this study (see Annexure C). The stakeholder identification process will be discussed before moving on to the four main stages of the IM workshop and the respective findings from each activity.

4.1 Stakeholder Identification

This sub-section elaborates on the stakeholder identification process implemented for the study. A research questionnaire was shared on the LinkedIn platform, and a total of 15 responses were collected. Table 4.1 illustrates the information and details of respondents collected from the questionnaires. The different core business functions of the respondents closely resemble the diverse nature of the participants in this IM workshop.

Table 4.1 Questionnaire Respondents

Respondent ID	SME owner or manager	Years of experience	Core business function	Risk management qualification
Respondent 1	No	3	Selling second-hand goods	Yes
Respondent 2	Yes	3	Piggery business	No
Respondent 3	Yes	4	Farming, transport and logistics	Yes
Respondent 4	Yes	5	Information and communication technology	Yes
Respondent 5	Yes	3	Clear view fence installation, landscaping	No
Respondent 6	Yes	9	Engineering consultancy	No
Respondent 7	Yes	15	Poultry	No
Respondent 8	Yes	5	Pool maintenance and pool services	No
Respondent 9	Yes	4	Sales or retailing	No
Respondent 10	Yes	17	Road freight focusing on cross-border goods movement	No
Respondent 11	Yes	17	Mechanical engineering services	No
Respondent 12	Yes	3	Gift packages, beauty, and cosmetics	No
Respondent 13	Yes	10	Skills development	Yes
Respondent 14	Yes	2	Microfinance	Yes
Respondent 15	Yes	10	Snack production and consultancy	Yes

4.1.1 Participant Selection

The stakeholders attending an IM workshop could have either of the two roles which are, namely, participant or observer (Warfield and Cárdenas, 2002). Whilst participants are primarily responsible for content generation and discussion, the observers are witness to the process. As a result, observers may substitute a participant in the event of non-attendance. To be eligible for workshop invitation as a participant, the following conditions were considered for this study:

i. Participants should satisfy the systems role of being an actively involved decision maker as defined by Achterkamp and Vos (2007)
ii. Participants should have five years or more SME business experience
iii. Participants should have a business or risk management qualification

Eligible participants had to satisfy the first condition and either one of the last two conditions. To satisfy the first condition, a stakeholder needed to be either an SME owner or manager. This is because SME owners and managers are usually actively involved through decision making in their respective organizations. As given in Table 4.1, fourteen respondents satisfied the first condition.

For the second condition, it was assumed that SME owners and managers with five or more years of business experience are knowledgeable regarding the risk factors that affect SME businesses. This assumption was based on the background to this study where it was highlighted that SMEs will usually fail within five years of business startup. Based on this fact, it is justifiable to assume that SME owners or managers with five or more years of business experience would have gained some resilience and understanding regarding risk factors affecting their businesses. Table 4.1 shows that seven respondents satisfied the second criteria.

The third condition enquired on the qualification level of respondents. A business management or risk management qualification would ensure that the selected stakeholder was well-versed regarding the risk factors affecting their SME business. As shown in Table 4.1, six respondents satisfied the third condition.

Ten of the fourteen questionnaire respondents satisfied the first selection condition including one of the last two conditions. Therefore, based on this selection criteria, these ten stakeholders were eligible for invitation to the IM workshop in the role of a participant. However, one of the

stakeholders (Respondent 15) consented to participate after the first workshop session had been held. As a result, nine stakeholders were invited to the workshop under the role of participants.

Respondent 15 was admitted to the IM workshop as an observer, including the three stakeholders (Respondents 2, 5, and 12) who were also invited to the study under the same role. Therefore, a total of thirteen stakeholders were invited for the IM workshop in this study. Table 4.2 illustrates the corresponding workshop roles for each invited stakeholder.

Table 4.2 Selected Participants

Respondent ID	**Workshop role**
Respondent 2	Observer 1
Respondent 3	Participant 1
Respondent 4	Participant 2
Respondent 5	Observer 2
Respondent 6	Participant 3
Respondent 7	Participant 4
Respondent 8	Participant 5
Respondent 9	Participant 6
Respondent 10	Participant 7
Respondent 11	Participant 8
Respondent 12	Observer 3
Respondent 13	Participant 9
Respondent 15	Observer 4

4.1.2 Workshop Attendance

As discussed in the previous sub-section, nine participants and four observers were invited for the IM workshop (see Table 4.2). However, 2 participants (Respondents 3 and 8) and one observer (Respondent 12) could not attend any of the workshop sessions. Furthermore, another participant (Respondent 13) was using Artificial Intelligence (AI) for attendance and could not participate in the discussions. Given this unexpected scenario, the workshop observers in attendance were asked to substitute for the absent workshop participants.

In addition, another stakeholder expressed considerable interest in the subject under discussion, hence he was also admitted to the workshop as an observer. The quality of the ongoing discussions was not compromised because this specific observer satisfied the first and second conditions for workshop participant selection.

The workshop activities were carried out over six sessions, and the average attendance was eight participants per session, excluding the IM facilitator. The average attendance of this IM workshop was also aligned with the suggested optimum number of eight participants (Janes,

1988). Therefore, conducive discussions among the group took place throughout the workshop sessions. The following section outlines the risk factors identified during the idea-generation stage of the IM workshop.

4.2 Idea Generation

The objective of the idea generation stage was to generate ideas or risk factors as part of the NGT process (Warfield and Cárdenas, 2002). These were to be discussed in the idea clarification stage and later subjected to the ISM process. The idea generation stage was initiated through the study questionnaire where participants were asked to list six risk factors affecting SMEs in South Africa through the following triggering question:

Risk in this study, is an uncertainty that negatively affects a business objective and potentially threatens the firm's survival if it occurs. In your view, what do you perceive as the six most significant risk factors affecting SMEs in South Africa?

The risk factors generated from the nine workshop participants were compiled to form the output of the idea-generation stage. A total of 51 risk factors were compiled from this first stage (see Table 4.3).

After the first stage of idea generation, the remaining stages of the IM workshop were carried out through scheduled virtual conference sessions using Microsoft Teams (MS Teams). The following section elaborates the idea clarification process on the generated risk factors.

4.3 Idea Clarification

During the virtual workshop sessions, the role of the stakeholders in attendance was explained to them including the three key concepts of the IM workshop phase (see section 3.3.2). The idea clarification session was carried out over 3 workshop sessions, and the overall duration of this activity was approximately 3 hours 25 minutes. In this activity, each generated idea was reviewed accordingly to ensure the presence of a single primary thought. Furthermore, the participants were also stimulated to produce high-quality statements free of grammar and spelling errors (Warfield and Cárdenas, 2002). The IM facilitator also emphasized the importance of an open dialogue during the idea clarification and expression activity. Participants were encouraged to learn and understand each other's ideas during the discussions. Table 4.4 illustrates the decisions made by participants during the activity and the descriptions they agreed on.

Table 4.3 Identified Risk Factors

Participant	Risk factor
1	1. Economic instability 2. Access to finance 3. Regulatory compliance 4. Crime 5. Infrastructure challenges 6. Skills shortages
2	1. Natural disasters 2. Disease outbreaks 3. Lack of financial power 4. Theft 5. Unskilled human resources 6. Corruption
. 3	1. Financial problems to sponsor projects 2. Having skilled personnel for different projects 3. BBBEE is a get-keeper on some projects to small entities 4. Lack of adequate insurance coverage for work being done 5. Heavy taxation hinders progress of small companies 6. High staff turn over
4	1. Unstable economy 2. Lawlessness 3. Corruption 4. Inequality 5. Lack of access to affordable finance 6. Lack of access to markets
5	1. Delayed payment 2. Compliance issues 3. Labour practices 4. Political uncertainty 5. Financial markets uncertainty 6. Crime
6	1. Change in trade policies 2. Unfair practice by established companies
7	1. Changes in exchange rates 2. Changes in interest rates 3. Employees can make mistakes that then leads to loss 4. Change in government policy 5. Debtors pay later than the agreed date 6. Business can be interrupted with things that are not in my control
8	Transport and logistics 1. Unforeseen breakdowns 2. Accidents 3. Theft 4. Failure to meet tender Farming 1. Theft 2. High employee turnover rate 3. Poor weather conditions and climate changes 4. Veld fire 5. Limited water supply
9	1. Shortage of capital 2. Transport 3. Means of getting customers 4. Not easy to get trusted employees

Table 4.4 Idea Clarification Decisions

Risk ID	Risk factor	Description	Clarification	Decision by participants
R1	Economic instability	This is characterized by volatile exchange rates, high inflation, interest rate fluctuations, and recession.		Leave as it is
R2	Access to finance	This is characterized by limited funding options, high interest rates, strict lending criteria, and lack of financial management expertise.	Restrictions to access to finance	Split risk factor R2 into R2 and R3
R3	Lack of financial management expertise	This is characterized by a lack of financial management expertise which may lead to delayed payments. Delayed payments may be caused by SMEs themselves and their internal processes. Sometimes SMEs internally fail to follow proper protocols for their payments to be processed.		
R4	Regulatory compliance	This is characterized by complex tax laws, labour laws and regulations, health and safety standards, BBBEE (Broad-Based Black Economic Empowerment) requirements, and change in trade policies. Through mandatory regulations, SMEs may be prohibited or discouraged from business operations, for instance on failure to meet tender requirements.	Mandatory regulatory requirements	Rephrase
R5	Crime	For example, theft & burglary, cybercrime, fraud and corruption.		Split risk factor R5 into R5 and R6
R6	Lack of security	Lack of security may result in kidnapping and extortion which could hinder SMEs' business operations.		
R7	Infrastructure challenges	For example, inadequate transportation networks, unreliable electricity supply, water scarcity, and poor telecommunications infrastructure.		Leave as it is
R8	Skills shortages	This is characterized by limited access to skilled labour, brain drain, lack of training and development opportunities, and competition for talent. Furthermore, high costs for continuous professional development prohibit upskilling. SMEs have limited access to projects due to limited skills, hence upskilling through experience is further inhibited.		Leave as it is
R9	Natural disasters	For example, poor weather conditions, climate change, veld fire in farming, and the destruction of infrastructure by floods. These hinder SMEs' ability to do business.		Split risk factor R9 to R9 and R10
R10	Unnatural disasters	Disasters that are caused by human beings or Force majeure which is out of the SME's control.		

Table 4.4 cont'd. Idea Clarification Decisions

R11	Disease outbreaks	For example, the Covid-19 pandemic which led to the closure of many SMEs.		Leave as it is
R12	Lack of financial power	Lack of access to affordable finance affects SMEs' capacity to do business. For example, they may not afford professional indemnity insurance, and they are screened off because of their limited capacity.		Leave as it is
R13	Theft	For example, fraudulent SMEs' misuse of advance payments. Furthermore, failure to meet initial agreements by the fraudulent main contractors hinders SMEs' capacity to complete work and this affects business reputation. SMEs need well-structured legal agreements to deal with fraudulent main contractors.	Fraud	Rephrased
R14	Unskilled human resources			Merge R14 with R8
R15	Corruption			Merge R15 with R5
R16	Financial problems to sponsor projects			Merge R16 with R12
R17	Having skilled personnel for different projects.			Merge R17 with R8
R18	BBBEE is a get-keeper on some projects to small entities.			Merge R18 with R4
R19	Lack of adequate insurance coverage for work being done			Leave as it is
R20	Heavy taxation hinders progress of small companies			Leave as it is
R21	High staff turn over	High staff turnover because we cannot keep the same staff always because of lack of projects and we have to get new personnel on each project thereby compromising quality and on the job experiences. Workforce will be looking for better opportunities.		Leave as it is
R22	Unstable economy			Merge R22 with R1
R23	Lawlessness			Merge R23 with R5
R24	Corruption			Merge R24 with R5
R25	Inequality		Gender inequality	Split risk factor to R25, R26 and R27

Table 4.4 cont'd. Idea Clarification Decisions

R26	Racial inequality	SMEs belonging to a certain race will suffer because they are not trusted. You are most unlikely to get a contract because of racial classification.		
R27	Different social classifications	For example, two skilled personnel coming from Sandton and Diep Sloot will be treated differently. The different social backgrounds will leave some at a disadvantage. Access to resources is determined by different social classifications hence some SMEs will have limited access to resources.		
R28	Lack of access to affordable finance			Merge R28 with R12
R29	Lack of access to markets	SMEs producing high-quality products have trouble entering markets with well-established players. Penetration is difficult because of the well-established big companies.		Leave as it is
R30	Delayed payment	When customers purchase products on credit it affects cash flow, hence business performance is affected.	External delayed payments	Rephrase risk factor.
R31	Compliance issues			Merge R31 with R4
R32	Labor practices			Merge R32 with R4
R33	Political uncertainty	For example, in Ukraine, there is a lot of uncertainty in doing business because of the Russia-Ukraine war.	Political instability	Rephrased
R34	Financial markets uncertainty			Merge R34 with R29
R35	Crime			Merge R35 with R5
R36	Change in trade policies			Merge R36 with R4
R37	Unfair practice by established companies	For example, large companies may have access to huge discounts, unlike individual small businesses.		Leave as it is.
R38	Changes in exchange rates			Merge R38 with R1
R39	Changes in interest rates			Merge R39 with R1
R40	Employees can make mistakes that lead to loss	Some employees are not well-trained, for example, when cooking employees may fail to satisfy customers.		Merge R40 with R8
R41	Change in government policy			Merge R41 with R4
R42	Debtors pay late than the agreed date	When customers purchase products on credit it affects cash flow, hence business performance is affected.		Merge R42 with R30

Table 4.4 cont'd. Idea Clarification Decisions

R43	Business can be interrupted with things that are not in my control	For example, poor weather conditions, climate change, and veld fire in farming.		Merge R43 with R9
R44	Unforeseen breakdowns			Merge R44 with R10
R45	Accidents			Merge R45 with R10
R46	Theft			Merge R46 with R5
R47	Failure to meet tender	If businesses do not meet tender requirements, they are automatically excluded from tender submission.	Failure to meet tender requirements	Merge R47 with R4
R48	Theft			Merge R48 with R5
R49	High employee turnover rate			Merge R49 with R21
R50	Poor Weather conditions and climate changes			Merge R50 with R9
R51	Veld fire			Merge R51 with R9
R52	Limited water supply			Merge R52 with R7
R53	Shortage of capital			Merge R53 with R12
R54	Transport breakdown			Merge R54 with R10
R55	Means of getting customers			Merge R55 with R29
R56	Not easy to get trusted employees			Merge R56 with R8

Following the idea clarification activity, a comprehensive list of the clarified risk factors and their descriptions was produced as the output of the idea clarification stage. Table 4.5 outlines the 24 resultant risk factors after applying the decisions made by participants.

Table 4.5 Clarified Risk Factors

ID	Risk Factor	Description
R1	Economic instability	This is characterized by volatile exchange rates, high inflation, interest rate fluctuations, recession and financial markets uncertainty
R2	Restrictions to access to finance	This is characterized by limited funding options, high interest rates, and strict lending criteria.
R3	Lack of financial management expertise	For example, a lack of financial management expertise may lead to delayed payments. Delayed payments may be caused by SMEs themselves on failure to follow proper protocols for payments to be processed.
R4	Mandatory regulatory requirements	Through mandatory regulations, SMEs may be prohibited or discouraged from business operations. This is characterized by complex tax laws, labour laws & regulations, health & safety standards, BBBEE (Broad-Based Black Economic Empowerment) requirements, and changes in trade policies. Furthermore, if businesses do not meet tender requirements, they are automatically excluded from tender submission.
R5	Crime	For example, theft and burglary, cybercrime, fraud and corruption
R6	Lack of security	Lack of security may result in kidnapping and extortion which could hinder SMEs' business operations.
R7	Infrastructure challenges	For example, inadequate transportation networks, unreliable electricity supply, water scarcity, and poor telecommunications infrastructure.
R8	Skills shortages	This is characterized by limited access to skilled labour, brain drain, lack of training and development opportunities, competition for talent, and high costs for continuous professional development and upskilling. SMEs have limited access to projects due to limited skills, hence there is no upskilling through experience. Employees can also make mistakes that lead to loss because of poor training, for example, when cooking, employees may fail to satisfy customers.
R9	Natural disasters	For example, the destruction of infrastructure by floods, poor weather conditions, climate change, and veld fire in farming. These are all disruptions beyond the management's control.
R10	Unnatural disasters	Disasters caused by human beings or force majeure which is out of the SME's control.
R11	Disease outbreaks	For example, the Covid-19 pandemic led to the closure of many SMEs.
R12	Lack of financial power	Lack of access to affordable finance affects SMEs' capacity to do business. For example, they may not afford professional indemnity insurance, and they are screened off because of their limited capacity.
R13	Fraud	For example, fraudulent SMEs' misuse of advance payments. Furthermore, failure to meet initial agreements by the fraudulent main contractors hinders SMEs' capacity to complete work and this affects business reputation. SMEs need well-structured legal agreements to deal with fraudulent main contractors.
R14	Lack of adequate insurance	Lack of adequate insurance coverage for work being done

Table 4.5 cont'd. Clarified Risk factors

R15	Heavy taxation	Heavy taxation hinders the progress of small companies.
R16	High staff turnover	High staff turnover because we cannot keep the same staff always because of lack of projects and we must get new personnel on each project thereby compromising quality and on the job experiences. The workforce will be looking for better opportunities.
R17	Gender inequality	
R18	Racial inequality	SMEs belonging to a certain race will suffer because they are not trusted. You are most unlikely to get a contract because of racial classification.
R19	Different social classifications	For example, two skilled personnel coming from Sandton and Diep Sloot will be treated differently. The different social backgrounds will leave some at a disadvantage. Access to resources is determined by different social classifications hence some SMEs will have limited access to resources.
R20	Lack of access to markets	SMEs producing high-quality products have trouble entering markets with well-established players. Penetration is difficult because of the well-established big companies.
R21	External delayed payment	In addition, when customers purchase products on credit it affects cash flow, hence business performance is affected.
R22	Unfair practice by established companies	For example, large companies may have access to huge discounts, unlike individual small businesses.
R23	Political instability	For example, in Ukraine, there is a lot of uncertainty in doing business because of the Russia-Ukraine war.
R24	Risk that business owners die	

During the idea clarification activity, the initial list of 51 ideas from the 1st stage was reduced to 24 clarified ideas. This was because similar risk factors were merged and some of the risk factors were split into two or more ideas. The clarified risk factors in Table 4.5 were loaded to the ISM software which was used to facilitate the remaining workshop activities. By using MS Teams, the display of content through a computer screen was possible and all participants could view the displayed content throughout the different workshop stages.

The 24 risk factors were grouped according to different categories as shown in Table 4.6. A total of 10 categories emerged, with the finances category having the highest number of six risk factors. The clarified risk factors were taken to the next stage of idea structuring which is described in the following section.

Table 4.6 Risk Factor Categories

ID	Risk factor	Categories
R9	Natural disasters	Disasters
R10	Unnatural disasters	Disasters
R11	Disease outbreaks	Disasters
R24	Risk that business owners die	Disasters
R17	Gender inequality	Discriminations
R18	Racial inequality	Discriminations
R19	Different social classifications	Discriminations
R1	Economic instability	Economic
R2	Restrictions to access to finance	Finances
R3	Lack of financial management expertise	Finances
R12	Lack of financial power	Finances
R14	Lack of adequate insurance coverage for work being done	Finances
R21	External delayed payment	Finances
R8	Skills Shortages	Human resources
R16	High staff turnover	Human resources
R7	Infrastructure Challenges	Infrastructure
R20	Lack of access to markets	Market
R22	Unfair practice by established companies	Market
R23	Political instability	Political
R4	Mandatory regulatory requirements	Regulatory
R15	Heavy taxation hinders the progress of small companies	Regulatory
R5	Crime	Security
R6	Lack of security	Security
R13	Fraud	Security

4.4 Idea Structuring

In the idea structuring stage, a pairwise comparison of the clarified ideas was done to produce a model (problematique) depicting the ideas and their interrelations (Warfield and Cárdenas, 2002). Before the pair wise comparison, a voting activity was initiated. Participants had to vote for the most significant risk factors in order of importance to determine the ideas for structuring. Whilst this voting activity is part of the NGT process, it could also be viewed as an overlap between the NGT and ISM process. This is because it allows deciphering the most important ideas for the upcoming pair-wise comparison of ideas. This activity allows participants to decipher the important risk factors from the list, without spending time discussing the merits and demerits of individual risk factors (Warfield and Cárdenas, 2002). The participants were asked to vote for their top 5 ideas, ranking them in order of importance based on the dialogue from the previous stage. The facilitator collected the voting cards from participants through the

MS Teams private chat, and Table 4.7 highlights the different votes of participants regarding the most important SME risk factors by Risk IDs.

Table 4.7 Participants' votes

Participant	Votes (Risk ID)	Vote count
1	R1, R3, R4, R14, R15	5/5
2	R12, R8, R20, R1, R4	5/5
3	R1, R5, R9, R12, R23	5/5
4	Null	0/5
5	Null	0/5
6	R2, R1, R8, R15, R22	5/5
7	R1, R23, R21, R20, R13	5/5
8	Null	0/5
9	R2, R5, R21, R1, R20	5/5

Table 4.8 Structuring Set

ID	Risk factor	Vote count	Weighted votes
R1	Economic instability	6	23
R2	Restrictions to access to finance	2	10
R5	Crime	2	8
R8	Skills Shortages	2	7
R12	Lack of financial power	2	7
R21	External delayed payment	2	6
R20	Lack of access to markets	3	6
R23	Political instability	2	5
R4	Mandatory regulatory requirements	2	4
R3	Lack of financial management expertise	1	4
R9	Natural disasters	1	3
R15	Heavy taxation hinders the progress of small companies	2	3
R14	Lack of adequate insurance coverage for work being done	1	2
R13	Fraud	1	1
R22	Unfair practice by established companies	1	1

Six participants were present for the voting activity, hence only their votes were registered as shown in Table 4.7. The voting results indicate the absence of 3 participants from the voting activity. The voting results were then organized into two subsets as suggested by Warfield and Cárdenas (2002) which are the structuring and non-structuring subsets of clarified risk factors. The first set comprised of ideas with at least a single vote into the top five, and the second subset had ideas that were not voted into the top five by any participants. Tables 4.8 and 4.9 illustrate the structuring and non-structuring sets, respectively, with an arrangement of risk factors according to their weighted vote count.

Table 4.9 Non-structuring Set

ID	Risk factor
R6	Lack of security
R7	Infrastructure Challenges
R10	Unnatural disasters
R11	Disease outbreaks
R16	High staff turnover
R17	Gender inequality
R18	Racial inequality
R19	Different social classifications
R24	Risk that business owners die

During the pair-wise comparison, the risk factors in the structuring set were compared to determine their relationships. The following generic question was used for this activity.

In the context of SME risk factors in South Africa, does Risk A lead to Risk B?

Risk A and Risk B were the variables changing on each pair-wise comparison. An example of the pair-wise comparison questions is illustrated in Figure 4.1 below.

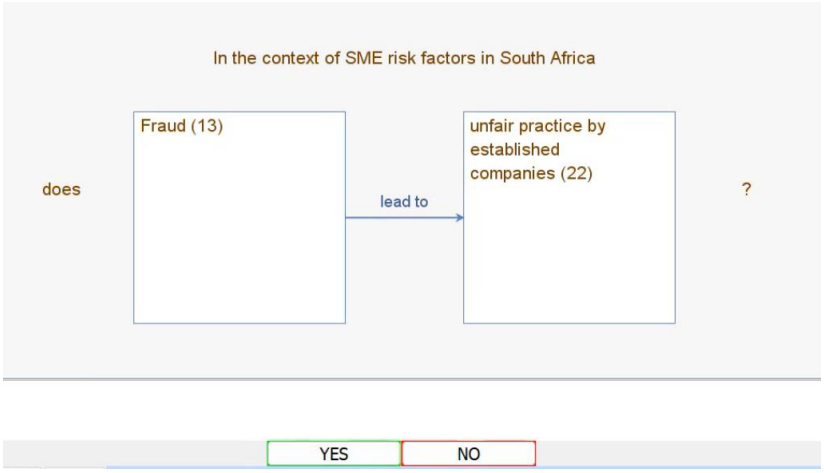

Figure 4.1 Pair-wise comparison

The participants were required to respond with a 'Yes' or 'No' answer to indicate their agreement or disagreement to the question presented by the machine. When there was no consensus on a certain pair, the IM facilitator would guide the group in a discussion where the objecting participants were asked to elaborate on their views. Following the discussion, the participants were required to vote, and the majority decided the outcome. In this process, structural patterns were formed on the ideas (Warfield and Cárdenas, 2002), and through transitive inference, a digraph was produced. This process was done through computer assistance whereby the ISM software used machine inference to determine the risk factor interrelations (Warfield and Cárdenas, 2002).

4.4.1 Binary Matrix

The ISM binary matrix is a resemblance of the decisions made by participants during the pair-wise comparison activity (Warfield and Cárdenas, 2002). On the binary matrix, a 'Yes' response is signified by '1', and a 'No' response is signified by '0'. Table 4.10 depicts the final binary matrix generated for the pair-wise comparison of all risk factors.

The output of this stage was a digraph (1st model) depicting the most significant SME risk factors in South Africa and their interrelations as discussed in section 4.5.

Table 4.10 Pair-wise comparison binary matrix

ID	1	2	8	12	3	9	14	13	22	15	5	20	21	23	4
1	1	0	1	1	0	1	0	0	0	0	0	0	1	0	1
2	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1
8	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
12	1	0	1	1	0	1	0	0	0	0	0	0	1	0	1
3	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
14	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1
13	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1
22	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1
15	1	0	1	1	1	1	0	0	0	1	0	0	1	0	1
5	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1
20	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1
21	0	0	1	0	0	1	0	0	0	0	0	0	1	0	1
23	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1
4	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1

4.5 Model Interpretation

As stated in Section 4.4, the model interpretation activity was done the following day in the next session. This was in line with the recommendation of Warfield and Cárdenas (2002) to avoid model interpretation to fatigued participants after a long and hard session as they often lack experience in reading and interpreting structures. Following 3 iterations between idea structuring and model interpretation activities, 3 models were produced as discussed in the following sub-sections. During the model interpretation stage, it was ensured that participants were familiar with the patterns conveyed by the model. This allowed quality assurance since participants could verify the accuracy of the display and amend it accordingly. Furthermore, the model interpretation enabled participants to convey the interpretation to other interested parties outside the workshop.

4.5.1 Model 1

The 1st model was displayed to participants on the MS Teams platform, and they were given a chance to review the structure. As shown in Figure 4.2, the 1st model had 5 risk levels which are represented by the 5 columns. All arrows in the model depict a 'lead to' relationship, and the left-most (antecedent) risk factors are the primary aggravators leading to the right-most (subsequent) risk factors. Antecedent risk factors aggravate the subsequent risk factors (Warfield and Cárdenas, 2002). The left-most risk factors were skills shortages and natural disasters. These would be the most critical risk factors since they lead to the succedent risk

factors. Amongst all risk levels, the 3rd level had the highest number of 7 risk factors, and the last level had 1 risk factor which is lack of adequate insurance coverage for work being done.

Following the model interpretation, participants critically reviewed the structure. The participants raised their issues with the IM facilitator concerning the positioning of R15 (heavy taxation) on the model. This risk factor was then restructured. The structure amendment included removing the risk factor from the model and loading it again for the pair-wise comparison.

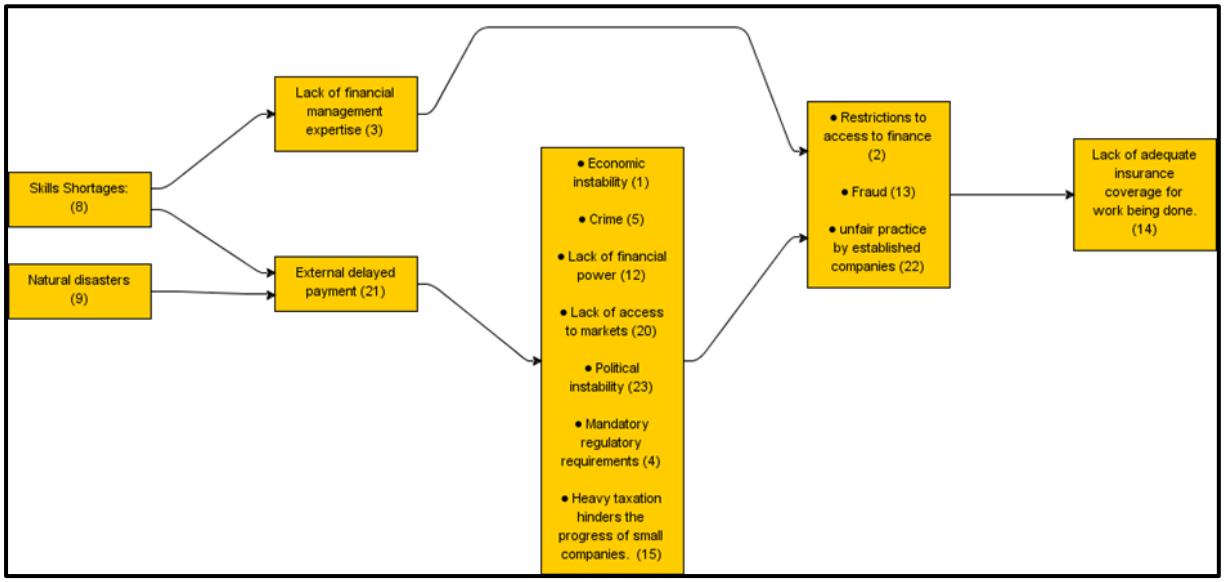

Figure 4.2 Model 1

4.5.2 Model 2

Following the above structure amendment activity, the resultant model 2 was produced as shown in Figure 4.3. The 2nd model also had 5 risk levels just like the 1st model. The elements of the first and last risk levels, remained the same, with the main change being the position of R15 which is "heavy taxation hinders the progress of small companies". The risk factor was repositioned from the 3rd risk level to the 4th risk level. The 3rd level still contained the most risk factors with the number reduced to 6 risk factors.

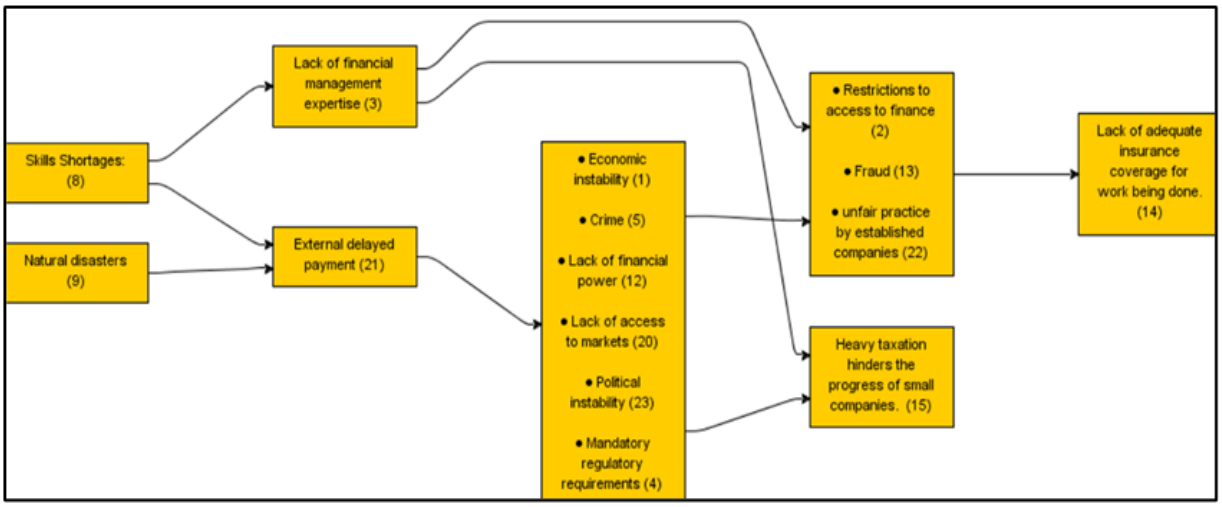

Figure 4.3 Model 2

After a critical review of model 2, the participants raised their concerns regarding the positioning of R4 (mandatory regulatory requirements), R5 (crime), R20 (lack of access to markets), R21(external delayed payment) and R23 (political instability). As a result, these five risk factors were restructured to form the 3rd iteration of the model. The restructuring activity commenced in Session 5 of the workshop and carried over onto Session 6 the next day.

4.5.3 Model 3 (Final Model)

As discussed in the previous subsection, five risk factors were restructured to form the 3rd model. The resultant 3rd (final) model is depicted in Figure 4.4. This 3rd model was interpreted to participants, and they expressed their satisfaction and agreement with the digraph. The participants felt it was the best model amongst the three, to depict the interrelations between the structured SME risk factors. The final model had six risk levels and the positioning of risk factors in the 1st level never changed. Skills shortages and natural disasters remained primary aggravators, hence the most critical among all the structured risk factors. The last risk level still contained one element, R14 (lack of adequate insurance) which remained the same in all three models. Furthermore, the 5th risk level now had 7 risk factors which was the highest number amongst all risk levels.

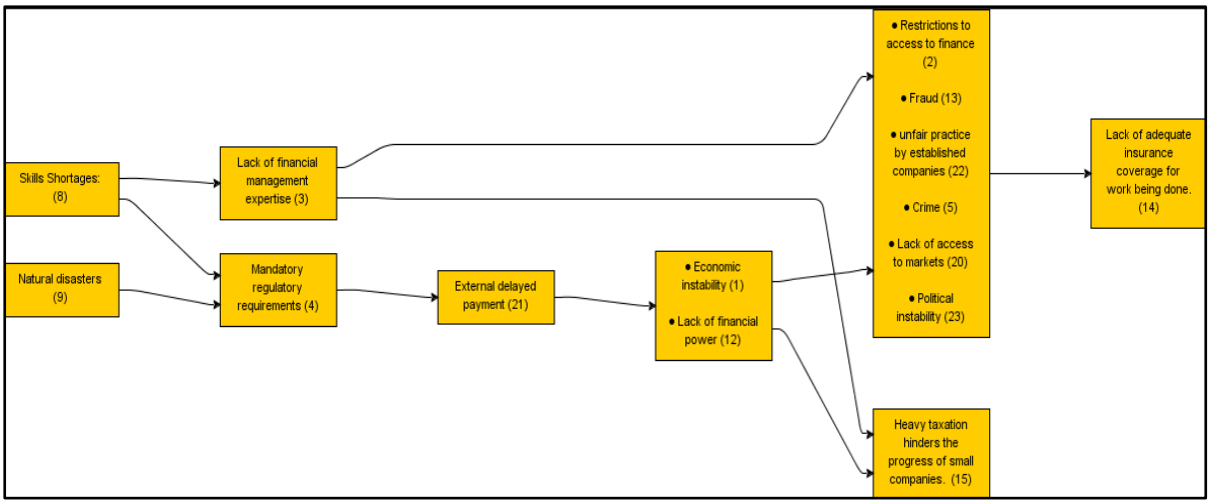

Figure 4.4 Model 3 (Final model)

4.5.3.1 Structural Scoring Analysis

A structural scoring analysis was done on the final model, and the results are given in Table 4.11. Below is a description of the relative scores highlighted in the structural scoring analysis of the model:

Position score

Each of the ideas on the problematique or model is assigned a "position score". The risk factors in the leftmost level are assigned the highest score, whilst those in the rightmost level are assigned the lowest score. Intermediate risk factors will receive an appropriate position score depending on their positions. (Warfield and Cárdenas, 2002) In the case of this study, the score ranges from 1 to 6 since there are 6 risk levels in the final model.

Antecedent and Succedent scores

For each risk factor, an antecedent score is the number of risk factors lying to the left on the Problematique, and the succedent score is the number of risk factors lying to the right. (Warfield and Cárdenas, 2002)

Activity score

The activity score is the sum of the antecedent score and the succedent score (Warfield and Cárdenas, 2002). This indicates the number of elements in relation to the respective risk factors on the problematique.

Net Antecedent/Succedent (A/S) score

The Net Antecedent/Succedent Score is calculated by subtracting the antecedent score from the succedent score on each risk factor. A positive net A/S score means that the risk factor is a net source of aggravation and a negative means that the risk factor is a net receiver of aggravation. (Warfield and Cárdenas, 2002)

Net score

The net score is calculated by summing the position score and the net A/S score. As a result, the net score accounts for the relative position of the model elements (Warfield and Cárdenas, 2002).

Risk factors with a positive net score (see Table 4.11) are primarily aggravators of other succedent factors, whilst those with a negative net score are mostly receivers of aggravation. Henceforth, addressing the primary aggravating risk factors would indirectly address the succedent risk factors which are receivers of aggravation.

Table 4.11 Structural Scoring Analysis

ID	Risk factor	Position score/ P	Antecedent score/ A	Succedent score/ S	Activity score	Net a/s score	Net score
R8	Skills Shortages	6	0	13	13	13	19
R9	Natural disasters	6	0	12	12	12	18
R4	Mandatory regulatory requirements	5	2	11	13	9	14
R3	Lack of financial management expertise	5	1	8	9	7	12
R21	External delayed payment	4	3	10	13	7	11
R1	Economic instability	3	4	8	12	4	7
R12	Lack of financial power	3	4	8	12	4	7
R2	Restrictions to access to finance	2	7	1	8	-6	-4
R5	Crime	2	7	1	8	-6	-4
R13	Fraud	2	7	1	8	-6	-4
R20	Lack of access to markets	2	7	1	8	-6	-4
R22	Unfair practice by established companies	2	7	1	8	-6	-4
R23	Political instability	2	7	1	8	-6	-4
R15	Heavy taxation hinders the progress of small companies	2	7	0	7	-7	-5
R14	Lack of adequate insurance coverage for work being done	1	13	0	13	-13	-12

4.5.3.2 1st level

The following risk factors lie in the 1st risk level of the model.

1) Skills shortages (R8)
2) Natural disasters (R9)

As a result, none of the remaining risk factors would lead to these two. In other words, they are not subject to aggravation by any risk factor. As shown in Table 4.11, these factors have a net score of 19 and 18, respectively, as well as activity scores of 13 and 12, respectively. The structural scoring analysis indicates that skills shortage is the most critical risk factor affecting SMEs in South Africa. As a result, it is primarily responsible for aggravating the 13 succedent risk factors as depicted in the final model. On the other hand, natural disaster is responsible for aggravating 12 of the 15 risk factors. According to the final model, the skills shortage risk will

directly lead to a lack of financial management expertise (R3), and mandatory regulatory requirements (R4), while natural disasters (R9) will only directly lead to mandatory regulatory requirements.

4.5.3.3 2nd level

The 2nd risk level has the following risk factors.

1) Mandatory regulatory requirements (R4)
2) Lack of financial management expertise (R3)

R4 has an activity score of 13, and a net score of 14. As a result, it is the third most significant risk factor according to the model. The high net score and activity score imply that it is actively involved in the aggravation of succedent risk factors. Furthermore, R3 has an activity score of 9 and a net score of 12. This places it as the 4th most significant risk factor on the list which is also responsible for causing more aggravation than receiving aggravation from other factors. R4 directly leads to R21 (external delayed payment), whereas R3 has a direct relationship with all the risk factors in the 5th risk level (see sub-section 4.5.3.6).

4.5.3.4 3rd level

The only risk factor in the 3rd risk level is "external delayed payment" (R21). The risk factor has an activity score of 13, and a net score of 11. As a result, this is the 5th most significant risk factor in the model. This risk factor has a higher activity score than R3 (lack of financial management expertise) which lies in the 2nd risk level. This implies that R21 is more actively involved in dispensing or receiving aggravation in the model than R3.

4.5.3.5 4th level

In the 4th risk level, there are 2 risk factors. These are:

1) Economic instability (R1)
2) Lack of financial power (R12)

R1 and R12 both have an identical net score of 7 and activity score of 12. The positive net score which is relatively lower indicates their overall aggravation to succedent risk factors, while a high activity score indicates that they are actively involved as receivers and dispensers of aggravation. Furthermore, they also directly lead to all the 5th level risk factors (see subsection 4.5.3.6).

4.5.3.6 5th level

Most of the risk factors lie in the 5th risk level, and these are:

1) Restrictions to access to finance (R2)
2) Fraud (R13)
3) Unfair practice by established companies (R22)
4) Crime (R5)
5) Lack of access to markets (R20)
6) Political instability (R23)
7) Heavy taxation hinders the progress of small companies (R15)

The first six risk factors (R2, R13, R22, R5, R20, R23) have the same activity and net score of 8 and -4, respectively, and R15 has an activity score of 7 and a net score of -5. This difference is because R15 has no succedent risk factor while the first six all lead to R14 (lack of adequate insurance coverage for work being done). The negative net score highlights that the 5th level risk factors are primarily receivers of aggravation from antecedent risk factors in the model, and it also signifies their lesser importance among the structured risk factors.

4.5.3.7 6th level

As depicted in Figure 4.4, the only risk factor in the 6th risk level is R14 (lack of adequate insurance coverage for work being done). This would be the least important risk factor in the final model because it lies in the last risk level. This risk factor has an activity score of 13 and a net score of -12 which shows how it always receives aggravation from the other risk factors.

4.5.4 Comparison of Voting and Structuring Activities

As shown in Table 4.11, the relative importance of risk factors based on the structural scoring analysis differs from the relative importance based on the voting activity (depicted in Table 4.8). From the voting activity, the top five risk factors in order of importance are:

i. Economic instability (R1)
ii. Restrictions to access to finance (R2)
iii. Crime (R5)
iv. Skills shortages (R8)
v. Lack of financial power (R12)

Whilst the highlighted order resembles the participants' views, the voting activity does not consider the interrelations between risk factors, hence it contrasts the final model produced from the idea structuring activity where the interrelations between risk factors are considered. As a result, the final model is a better depiction of the relative importance of SME risk factors more than the voting activity. Based on the idea structuring activity, the top five risk factors in order of importance are:

i. Skills shortages (R8)
ii. Natural disasters (R9)
iii. Mandatory regulatory requirements (R4)
iv. Lack of financial management expertise (R3)
v. External delayed payment (R21)

4.6 IM Workshop Summary

The IM workshop was done according to the planned process sequence outlined in the IM Workshop Plan (see Annexure C). The NGT and ISM processes were sequentially used to achieve the workshop objectives and to obtain the major outcome of this IM study which was set to a achieving a Definition level outcome (Warfield and Cárdenas, 2002). This "refers to constructing a thorough definition of the situation that is the focus for the work" (Warfield and Cárdenas, 2002:17). The produced sets and structural patterns of the IM workshop are the key risk factors affecting SME survival in South Africa, and their interrelations. Furthermore, the sought product of the IM workshop was limited to the production of a Problematique to show how the risk factors interact. In the workshop, the risk factors affecting SMEs in South Africa were identified, and a problematique was produced to show their interrelations. Therefore, the major outcome and major sought product of the workshop were achieved as planned.

The IM workshop was scheduled for 6 sessions of 1 hour 15 minutes during the week and 1 hour 45 minutes during the weekend. The Total workshop duration for this IM study was 8 hours 25 minutes. The workshop had an average attendance of 8 participants per session, with the highest being 9 attendants in session 2 and the lowest being 6 participants in session 3. Hence the attendance was within the recommended minimum and maximum of six to twelve IM participants (Warfield and Cárdenas, 2002). Moreover, it aligned with the recommended 8 participants by Janes (1988).

4.7 Literature Review Reflection

In this section, a comparison is made between the research findings of this study and the literature review findings in Chapter 2. The comparison includes the most relevant and frequently cited SME risk factors in South Africa as outlined in Section 2.4, and the most significant risk factors depicted on the final model (Figure 4.4). However, the comparison may not be fully comprehensive because, as stated in Section 2.4, only the most relevant and frequently cited risk factors are included in the summary. Furthermore, the secondary research findings do not consider the interrelations between risk factors. Table 4.12 highlights the comparison and some of the corresponding citations are included in the 'Authors' column.

As shown in Table 4.12, 10 out of 12 risk factors drawn from the literature review correspond with the risk factors identified by the workshop participants. In addition, 8 of these risk factors were selected amongst the most important ideas and included in the structuring set. The exception is R7 (infrastructure challenge); no participant viewed it as a top five critical risk factor hence it's exclusion. The correspondence of risk factors identified in this study and those frequently cited in literature may indicate the expertise and authenticity of the selected participants regarding the subject under review. The two risk factors with no other corresponding identified risk factors are business strategies and technology, as shown in Table 4.12. While this could indicate their lesser importance among SME risk factors, it could also indicate a general lack of awareness among SME owners and managers about these two factors. In addition, the following critical risk factors from the final model do not correspond to any of the summarized findings of risk factors in Section 2.4:

i. Natural disasters (R9)
ii. External delayed payment (R21)
iii. Lack of financial power (R12)
iv. Fraud (R13)
v. Political instability (R23)
vi. Heavy taxation (R15)
vii. Lack of adequate insurance coverage for work (R14)

Table 4.12 Literature Review Reflection

Literature review			IM Study
Frequency	**Risk factor**	**Authors**	**Clarified Risk factor**
9	Compliance risk (government legislation, imposition)	Shipanga et al. (2022) Chakabva et al. (2020)	Mandatory regulatory requirements (R4)
7	Finance risk (access to funding)	Krüger (2018) Akinyemi and Adejumo (2017)	Restrictions to access to finance (R2)
7	Market risk (access to market)	Leboea (2017) Chakabva et al. (2020)	Lack of access to markets (R20)
6	Entrepreneurial risk (managerial competence)	Shipanga et al. (2022) Leboea (2017)	Lack of financial management expertise (R3)
5	Economic risk (interest rates)	Smit (2012) Cant and Wiid (2013)	Economic instability (R1)
5	Economic risk (inflation)	Chakabva et al. (2020) Ayandibu and Houghton (2017)	Economic instability (R1)
5	Crime and unemployment	Shipanga et al. (2022) Ayandibu and Houghton (2017)	Crime (R5)
5	Business strategies	Chakabva et al. (2020) Krüger (2018)	Null
4	Infrastructure Risk	Leboea (2017) Ayandibu and Houghton (2017)	Infrastructure Challenges (R7)
3	Personnel skills and competence	Shipanga et al. (2022) Leboea (2017)	Skills Shortages (R8)
2	Technology	Leboea (2017) Smit (2012)	Null
2	Competition	Akinyemi and Adejumo (2017) Fatoki (2014)	Unfair practice by established companies (R22)

These factors are an addition to the most relevant risk factors highlighted in the literature review. Amongst these factors, the risk of natural disasters would be the most significant addition based on the final model and structural scoring analysis. This is because of its potential to aggravate other risk factors in the structured model. However, the overall important risk factor is skills shortage (R8) based on the structural scoring analysis (see Table 4.11). Although it was listed previously, it was ranked at the 10^{th} position out of the 12 critical risk factors as seen in Table 4.12. As a result, compliance risks are not the most important risk factors as initially indicated in Section 2.4. This should be a valid finding because the IM study considers the interrelations of risk factors, unlike the former conclusion based on the highest frequency of citations.

4.8 Conclusion

The purpose of this chapter was to discuss the IM workshop process carried out in this study, and the respective findings. The relevant risk factors affecting SMEs in South Africa were identified using the NGT process and, after idea clarification, these were taken through the ISM process. A total of 51 risk factors were identified from 9 participants in the idea generation stage, and these were reduced to 24 risk factors in the idea clarification activity. During the voting activity, 15 risk factors were selected by the participants for idea structuring, and the resultant final model is depicted in Figure 4.4. The final model from the ISM was analysed and the results highlight skills shortage as the most significant risk factor affecting SMEs in South Africa. As shown in the problematique, the respective interrelations between risk factors were also determined through the pair-wise comparison activity. Lastly, the results from the IM process were compared with the findings of the literature review discussed in Chapter 2. In the following chapter, a reflection is made on the research aim, questions, and objectives and a conclusion will be given along with the research limitations and recommendations for future studies.

5 Chapter Five: Conclusion and Recommendations

5.1 Introduction

The purpose of this study was to explore the key risk factors affecting the survival of SMEs in South Africa and to determine their interrelations using Interpretive Structural Modelling. Given the high failure rate of SMEs in South Africa, it is important to determine the key risk factors leading to business failure and to determine their existing relationships.

The problems addressed by this study were that there has been little attention given to the risk factors affecting the survival of SME businesses in South Africa, and the key risk factors are unknown including their existing relationships.

In this chapter, a review and summary of the research findings is given which validates the research problem through discussing the findings of the study, the answered research questions, and the achieved research objectives. Furthermore, this chapter documents the achievement of the research aim, and the steps taken towards this achievement. Thereafter, the contributions made to existing literature are discussed including the limitations to this study. Conclusions are drawn based on the research findings, and recommendations for future studies on risk factors affecting SMEs are given. This study's Problem Statement has also been validated through the literature review, IM workshop, and the data analysis done.

5.2 Findings of Research Questions

The following research questions were posed for this study.

a) What are the key risk factors affecting the survival of SMEs in South Africa?
b) What is the relationship between the identified key risk factors?
c) What is the root cause of the identified key risk factors?

The key risk factors affecting the survival of SMEs in South Africa were identified and examined using Interactive Management, a soft systems approach. The existing relationships between the risk factors was also examined and the root cause was determined using Interpretive Structural Modelling (ISM). Skills shortages and natural disasters were the core risk factors leading to the aggravation of other risk factors.

5.3 Achievement of Research Objectives

The following research objectives were formulated to achieve the aim of this study and to answer the research questions.

a) To identify the unique risk factors in the SME business environment that typically affect success.
b) To understand the existing relationships between the identified risk factors.
c) To describe the root causes of these risk factors in SMEs.

The above-mentioned objectives were all achieved through the Interactive Management (IM) workshop carried out in this study. The following is a breakdown of the procedures followed to ensure the achievement of the research objectives.

To accomplish the first objective of the study, a questionnaire was developed and distributed to identify eligible research participants. These participants, who were selected based on their relevance to the topic, were tasked with identifying six key risk factors that significantly impact small and medium-sized enterprises (SMEs) in South Africa. In total, nine participants were chosen to attend the IM workshop, where a robust discussion took place regarding the different risks faced by SMEs. From this workshop, a substantial list of 51 risk factors was initially identified, as elaborated in Chapter 4 of the Report. However, after conducting an idea clarification activity, which aimed to refine and clarify the identified factors, the list was streamlined to 24 distinct risk factors. To further understand the most critical issues, a voting activity was then conducted among the participants. Through this process, 15 risk factors emerged as the most significant and unique challenges specifically faced by SMEs in South Africa. The results of this voting activity are illustrated in Table 4.8, where a clear summary of the structuring set is given. Thus, Objective 1 was attained.

In addressing the second objective of the study, comprehensive idea structuring was done, and this involved a pair-wise comparison of the 15 clarified risk factors. This method enabled a systematic evaluation of the relationships and interactions between the risk factors. As a result of this analysis, a digraph that effectively depicts these relationships was produced (see Figure 4.4). The digraph categorizes the risk factors into six distinct levels of risk, reflecting their relative importance and significance in the overall risk assessment framework. Each factor on the left side of the digraph resembles a more foundational risk, leading to subsequent factors on the right that resemble the decreasing significance of risks. This structured visualization aids in understanding how specific risk factors influence one another and highlights the hierarchy of risks that must be managed. Thus, Objective 2 was achieved.

Regarding the third objective, the digraph illustrated in Figure 4.4 plays a crucial role in identifying and analysing the root causes of various risk factors. The risk factors displayed on

the leftmost side of the model serve as primary aggravators, to the factors shown on the right side. This relationship allows for a clearer understanding of the underlying causes of the clarified risk factors which were identified for the analysis. Among the risk factors identified, two primary concerns stand out: Skills shortages and Natural disasters. Skills shortages are particularly noteworthy, as they are deemed the most significant of the two. This is largely because they lead to the emergence of the most risk factors that can cause SME failure. Therefore, addressing these two core risk factors is crucial for mitigating risks and enhancing overall resilience in SMEs. Thus, Objective 3 was attained.

5.4 Contribution to Existing Knowledge

This section discusses the contributions made through this study. Firstly, this study serves as a good example of how Interactive Management can be effectively utilized for the identification of risks. Historically, Interactive Management has been acknowledged as a valuable methodology for tackling complex problems that arise in diverse and multifaceted environments, where multiple stakeholders and viewpoints must be considered. In this context, the research highlights the practical application of this approach in the systematic identification of risk factors in SMEs. By engaging various stakeholders in the decision-making process, the IM process in this study facilitated a collaborative environment that encouraged the sharing of insights and experiences. This allowed a more comprehensive recognition of risks and a richer understanding of the complexities in SMEs. The findings of this study underscore the potential of Interactive Management as an essential tool for practitioners and decision-makers. By applying this approach, organizations and teams can better navigate the intricacies of risk identification, particularly in scenarios where uncertainty and variability are prevalent. Ultimately, the effective use of Interactive Management in such situations can lead to improved strategies for risk mitigation and management in complex and pluralistic settings.

In addition, there is a noticeable deficiency in the existing literature on SME risks in developing countries. This gap highlights the need for focused research in these regions, making this study an important contribution toward enhancing the understanding of SME risk in developing countries. By addressing this issue, the research provided valuable insights and practical knowledge tailored to the unique challenges faced by SMEs in developing economies.

Furthermore, the research findings represent a significant advancement in the existing literature concerning SMEs in South Africa. Previous studies have identified various risk factors that affect SMEs, such as economic uncertainty, regulatory changes, market access and

competition; however, they have largely failed to explore the intricate relationships and interactions among these factors. This study addresses that critical gap by systematically documenting the interconnections between the identified risk factors impacting South African SMEs. By employing a comprehensive analytical framework, this research reveals how these risk factors are interrelated and how they collectively influence the overall performance of SMEs. This contribution is especially important for SME owners and managers, as it equips them with the necessary insights to better understand the complex dynamics of risk within their businesses. By pinpointing the primary drivers of risk, they can develop more effective risk management strategies, ultimately reducing the likelihood of poor business performance and enhancing their sustainability and business growth potential.

Lastly, the risk factors that impact the survival of SMEs in South Africa have been prioritized based on their significance. At the top of this list are Skills shortages and Natural disasters, which pose the greatest threats to these businesses. As clarified by the workshop participants, skills shortages refer to the lack of qualified workers with the necessary expertise and this hinders business productivity, performance, and growth. Meanwhile, natural disasters, such as floods, droughts, and Covid-19 cause significant disruptions, damage to infrastructure and they also affect supply chains. Therefore, addressing these issues is critical for ensuring the long-term viability of SMEs in the country.

5.5 Limitations of the study

Although significant efforts were made to address the challenges encountered in this research, several limitations must be acknowledged.

First, virtual conferencing was used for data collection. While this approach allows participants to contribute and engage from the comfort of their chosen locations, an in-person workshop might have provided a more conducive environment for learning and discussion.

Additionally, the risk factors addressed in this study are generalized across all small and medium-sized enterprises (SMEs), as the research did not target SMEs from specific industries or categories. A more focused study could yield deeper insights. For instance, investigating risk factors exclusive to the Construction, Software, Hospitality, or Mining industries would arguably enhance the quality of the findings.

Furthermore, the main goal of the IM study was to achieve a level one outcome, which primarily focused on problem definition. This approach meant that the study was only

dedicated to thorough identification and understanding of the various risk factors that affect SMEs in South Africa. Therefore, the study did not delve into potential solutions for these issues, as that level of analysis would be typical for a level two outcome in an IM study.

Lastly, given the constraints of time, the ideas that were selected through a voting process were advanced to the next stage of idea structuring. Although this decision is justifiable since it allowed participants to highlight the risk factors, they consider most critical, it also meant that several important risk factors generated during the initial brainstorming stage were omitted from the analysis. As a result, the study could not explore the interrelations among these excluded ideas, limiting the overall understanding of the risk landscape facing SMEs.

5.6 Conclusions

In this chapter, a comprehensive review of the research findings was given, carefully aligning them with the research aims, questions, and objectives established at the outset of the study. The discussion also encompassed the significant contributions this research makes to the existing body of knowledge on SME risks while acknowledging the limitations encountered during the study.

The study adopted Interactive management as a systems approach, which helps in navigating the complexity of SME risk exposure and which may not be found in existing SME literature. The findings underscore the reality that SMEs in South Africa grapple with a multitude of risk factors, which play a pivotal role in the alarmingly high rate of business failures observed in this sector. The research identified a total of 51 distinct risk factors through discussions with the participants. After engaging in an idea clarification activity, the risk factors were consolidated to 24 risk factors, and 15 critical risk factors were further selected for structuring, providing a clearer focus for analysis. Among these, skills shortages and natural disasters emerged as the most pressing risk factors that threaten the survival and longevity of SMEs in South Africa. These insights illuminate the urgent need for effective strategies to mitigate such risks and support the resilience of SMEs in the face of adversity. In the following section, thoughtful recommendations for future research endeavours are offered.

5.7 Recommendations

For future studies, an IM workshop similar to the current one could be organized, assuming adequate resources and time are available. This new Interactive Management workshop would take place in a physical venue, which would potentially facilitate more productive and

meaningful discussions among participants. Such face-to-face interaction is expected to enhance collaboration and allow for a richer exchange of ideas.

In addition, future research could focus on specific industries to gain a deeper understanding of the particular risk factors each sector faces. For instance, conducting targeted studies within the Construction, Finance, and Information Technology (IT) industries would uncover unique challenges and risks, as well as how these issues interconnect. This industry-specific focus will provide invaluable insights that can be tailored to the distinct needs and circumstances of each sector.

Furthermore, instead of examining the entire country as a single entity, upcoming studies could narrow their scope to specific provinces or metropolitan areas within South Africa. This localized approach would help to avoid broad generalizations that may not accurately reflect the diverse circumstances across the nation. The risk factors affecting SMEs can vary significantly based on geographic location. For example, SMEs based in coastal regions may encounter different environmental, economic, or regulatory risks compared to those situated in inland or rural areas.

Moreover, future research endeavours could strive to expand beyond the initial IM level one outcomes. By aiming for level two or even level three outcomes, researchers could foster in-depth discussions among participants regarding the solutions to the identified risk factors including their implementation. This would not only involve analysing these risks but also exploring practical solutions and strategies for their implementation. Engaging participants in this manner would promote a collaborative environment where stakeholders can share their insights and expertise, ultimately leading to more effective risk management strategies tailored to specific contexts.

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Annexures

Annexure A: Ethics Approval Letter

UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA · UNIVERSITEIT VAN KAAPSTAD

2024/05/22

EBE/00808/2024

RE: Research Ethics Committee Project Approval Letter

Dear Tinashe Chimenya, (Principle Investigator)

Your application for ethics review of your project titled

A SYSTEMIC EXPLORATION OF THE RISK FACTORS IMPACTING SME SURVIVAL IN SOUTH AFRICA

has been reviewed and evaluated by the

Faculty of Engineering&Built Environment Research Ethics Committee (REC).

Based on the information supplied your application has been successful and is approved.

You may proceed with your research project.

Please note that should:

(i) any serious or adverse effects to participants occur and/or,

(ii) aspect(s) of your current project change and/or

(iii) any unforeseen events that might affect continued ethical acceptability of the project occur then you should immediately report this to the approving REC. You may be required to submit an amendment to this application, in order to determine whether the changed aspects increase the ethical risks of your project.

Please note the following additional conditions associated with this approval:

(i) A data management plan was not submitted with the ethics application. Approval is granted subject to the student acknowledging the sensitivity of the data to be collected (in writing to the supervisor) and exercise necessary safety measures when handling and storing data.
The student to include a section in the final research report that fully explains the ethical issues anticipated/experienced and how these were handled.

Regards,
Harro Von Blottnitz
Chairperson
Engineering & Built Environment Committee

Annexure B: Research Questionnaire

A systemic exploration of the risk factors affecting the survival of SMEs in South Africa

* Required

Information sheet and Consent form

Dear participant

I am a student at the University of Cape Town in the Department of Economics and Construction Management, and I invite you to participate in an Interactive management study. The results obtained will be used for a research project on a master's degree in project management.

Information about the study

The purpose is to explore the risk factors affecting the survival of SMEs (Small and Medium Enterprises) in South Africa. The research will contribute to SME business sustainability and resilience, and the findings could potentially lead to higher success rates for SMEs in South Africa. The study will be done through Interactive management (IM, a systemic approach suitable for managing complexity) In this approach, the complex problem is defined and resolved through collaborative teamwork with other participants

Study participation

Participation in the study will be done in two parts. Firstly, through the completion of the questionnaire, whereby you are asked to identify the risk factors affecting the survival of SMEs in South Africa, and secondly, through the Interactive management workshop sessions, whereby you may be invited along with other participants to the workshop and led through the four phases of IM. The workshop aims to create a shared understanding of the identified risks among the participants in an Interactive session. Furthermore, an Interpretive structural model of the most significant risk factors will be developed to identify their interrelationships. Invitations to the workshop will be sent out following the questionnaire collation, and the workshop will be done through the Microsoft (MS) Teams Virtual video conferencing platform. Details for the workshop will be given out on the invitation.

Anonymity, confidentiality, and Risk of harm

The anonymity and confidentiality of participants will be maintained throughout the study. The questionnaire responses will be attached to the research dissertation, and the respondents will not be identified by name on the questionnaires or workshop interview transcriptions. The participant identities will only be known to the researcher, and there is no foreseen risk of harm to participants.

Sharing and use of data

The data generated from the study will be synthesized for analysis to address the research questions and may be presented at conferences or published in journals.

Withdrawal from participation

Participation remains voluntary throughout the study and you may withdraw from the questionnaire or workshop at any point.

Ethical approval

The research has been reviewed and approved by the University Research Ethics Committee and permission has been obtained to circulate this survey. All queries may be directed to the researcher at chmtin007@myuct.ac.za, or the student's supervisor, Dr Nien-Tsu Tuan at nien-tsu.tuan@uct.ac.za.

1. I agree and give my consent to participate on the study *

- ◯ Yes
- ◯ No

2. email address *

3. How many years of experience do you have in an SME entity in South Africa? *

4. What is the core business function of your SME entity? *

5. Which of the following roles best describes your position within an SME entity in South Africa? *

In this study, an SME is an organization employing less than 250 people

- ◯ Owner/ Managerial role
- ◯ Other

6. If you selected other previously, please specify.

7. Was risk management part of your responsibilities in the mentioned role? *

- ◯ Yes
- ◯ No
- ◯ Not sure

8. Have you ever completed a business or risk management-related qualification or certification program? *

- ◯ Yes
- ◯ No

Please answer the following question to identify risk factors in South Africa-based SMEs.

9. Risk in this study, is an uncertainty that negatively affects a business objective and potentially threatens the firm's survival if it occurs. In your view, what do you perceive as the six most significant risk factors affecting SMEs in South Africa? *

Risk factor and description

Annexure C: Interactive Management Workshop Plan

INTERACTIVE MANAGEMENT WORKSHOP PLAN

A SYSTEMIC EXPLORATION OF THE RISK FACTORS IMPACTING SME SURVIVAL IN SOUTH AFRICA

Tinashe Patrick Chimenya

CHMTIN007

Table of Contents

1 Plan Introduction

This Interactive Management (IM) workshop plan was adopted from Warfield and Cárdenas (2002), and its purpose is to enhance the productive use of time for all the participants in the Interactive Management Workshop (Warfield and Cárdenas, 2002). Furthermore, the IM plan also guides the conduct of the workshop sessions.

2 Context Statement

2.1 Situational Context

The SME failure rate in South Africa remains high despite the numerous studies on SME business resilience. Although studies have been done on the risk factors affecting SMEs, there has been little attention given to the risk factors affecting the survival of SMEs in South Africa, and their interrelations. In attempting to address this shortfall, the IM workshop aims to identify these risk factors and to determine their interrelations using Interpretive Structural Modelling (ISM) software.

2.2 Working Environment

The IM workshop will be carried out using the Microsoft (MS) Teams virtual conference software, and as a result, most of the working environment considerations mentioned by Warfield and Cárdenas (2002) will not apply to the study.

3 Major Sought Outcome

The major outcome of the IM work in this study is categorized as Definition outcome (Warfield and Cárdenas, 2002). This "refers to constructing a thorough definition of the situation that is the focus for the work" (Warfield and Cárdenas, 2002: 17). As a result, in this study, the IM work will support the description of context, identification of components, construction of patterns, interpretation of patterns, and mapping of patterns (Warfield and Cárdenas, 2002). Furthermore, the produced sets and structural patterns of the IM workshop will be the key risk factors affecting SME survival in South Africa, and their interrelations.

4 Products Sought

The purpose of the IM study is to identify the risk factors affecting the survival of SMEs in South Africa and to determine their interrelations. Therefore, the sought product of the IM workshop will be limited to the production of a Problematique (Warfield and Cárdenas, 2002). "A problematique is a structural model that shows how a collection of problems interact in a

certain way to create a problem situation that is much larger in scope than that produced by any single member of the set acting alone'' (Warfield and Cárdenas, 2002: 60).

5 Planned Process Sequence

The Nominal Group Technique (NGT) and the Interpretive Structural Modelling process will be sequentially used to produce a 'problematique'. The NGT allows idea generation and clarification for the 'problematique', whilst the ISM process enables structuring of the 'problematique'. (Warfield and Cárdenas, 2002)

6 Triggering Questions

As required for the NGT process (Warfield and Cárdenas, 2002), the participants are asked a triggering question to generate ideas for the IM workshop. The following triggering question will be asked of participants through the study questionnaire.

What do you perceive to be the six most significant risk factors affecting SMEs in South Africa?

7 Generic Questions

Following the idea generation and clarification of the NGT process, generic questions will be asked to participants during the ISM process (Warfield and Cárdenas, 2002), and these will guide the production of structural patterns on the generated ideas (Warfield and Cárdenas, 2002). The generic questions presented to participants will take the following form (Warfield and Cárdenas, 2002).

In the context of SMEs in South Africa, does risk A lead to risk B?

8 Workshop Site Information

The workshop will be conducted virtually to cut the anticipated costs of participant lodging, transportation, and other services (Warfield and Cárdenas, 2002). Furthermore, as required for the workshop site selection (Warfield and Cárdenas, 2002), the virtual venue will allow the display of information to participants, and they can choose for themselves the most suitable and comfortable place for the workshop.

9 Workshop Participants

The chosen participants will be representative of SME owners and managers in South Africa, and they should be knowledgeable in the subject of risk in the SME business environments.

Henceforth, the study questionnaire is designed to fetch information from participants, so that selection can be done based on their knowledge and expertise on the subject under discussion.

10 IM Roles

IM Broker/ Workshop Planner/ Facilitator

- The researcher will assume the roles and responsibilities of IM facilitator, planner, and broker.

IM client

- The study explores the risk factors affecting SMEs, thereby serving SME entities in the process, hence for this study, SME entities in South Africa will assume the role of IM client.

IM sponsor

- The researcher will assume the role of IM sponsor.

11 Budget and Schedule

The workshop is anticipated to span over an average duration of 6.2 hours. This figure comes from the mean duration of NGT and ISM processes given by Warfield and Cárdenas (2002). Furthermore, the researcher will be responsible for the IM workshop costs associated with the study.

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