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Impact of Resilience on the Performance Optimisation of SMEs: Evidence from the Manzini Region, Eswatini

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Abstract: Resilience is essential for small and medium enterprises (SMEs) in Eswatini to adapt and thrive amid disruptions. This study investigated the relationship between resilience and performance optimisation in SMEs. While previous research recognises the importance of resilience in overcoming organisational performance challenges, the specific mechanisms through which resilience influences performance remain underexplored. Using census sampling, data were collected from 206 owner-managers of SMEs in Manzini through a self-administered questionnaire. Cronbach's alpha was used to test for reliability. At the same time, Pearson's correlation coefficients were employed to examine the bivariate associations between the resilience dimensions and performance optimisation. The findings reveal significant positive correlations between the resilience dimensions: detectability ($r = 0.372$, $p < 0.01$), coping ($r = 0.200$, $p < 0.01$), and adaptation ($r = 0.245$, $p < 0.01$) and performance optimisation. These results recognise resilience as a multi-dimensional and dynamic process requiring strategic actions before, during, and after adverse events. This study contributes valuable insights for SME owners and policymakers by demonstrating how integrating detectability, coping, and adaptation strategies can build resilience and optimise performance in disruptive environments.

Keywords: Adaptation; Coping; Detectability; Disruptions; SMEs

JEL Classification: M10; L26

1. Introduction

The complex and ever-changing business environment requires small and medium enterprises to establish mechanisms to respond effectively to internal and external disruptions. As the landscape for SMEs continuously evolves, building organisational resilience has become a key strategic priority, enabling businesses to address emerging threats and seize new opportunities (Duchek, 2018). This is possible if organisations can detect, recognise and identify potential disruptions or threats (Duchek, 2020). Burnard et al. (2018), Kotsios (2023), and Burnard and Bhamra (2019) emphasise the

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dimension of detectability and activation of appropriate organisational responses to external factors. SMEs increasingly recognise the pivotal role of resilience in navigating uncertainties and disruptions and optimising performance (Saad et al., 2021). There is a compelling need for research to gain a deeper understanding of resilience-driven performance optimisation and the dynamic interplay between the ability of SMEs to detect, cope and adapt in a volatile, uncertain, complex and ambiguous (VUCA) context. The imperative to conduct this study stems from the urgent need to deepen understanding of SME resilience and its impact on optimising SME performance, particularly in light of the Eswatini government's recognition of SMEs' critical role in combating youth unemployment (Anthanasius & Opperman, 2023). This article presents the background, problem statement, literature review, research methodology, results and findings, conclusions, limitations, and areas for future research.

1.1. Background

Small and Medium Enterprises(SMEs) play a significant role in economic growth and development through job creation and providing goods and services (Dlamini & Schutte, 2020). Despite their importance, SMEs face high failure rates: 20% fail within two years, 50% within five years, and only 10% survive beyond five years in developed countries (Murat et al., 2019). In a volatile, uncertain, complex, and ambiguous (VUCA) context, SMEs must enhance resilience to survive and thrive (Zutshi et al., 2021). Research on resilience has predominantly focused on large organisations and their responses to disruptions driven by the global economy's perceived Impact (Burnard et al., 2018; Hepfer & Lawrence, 2022). Organisational resilience is linked to responses to environmental changes and events that threaten stability and security (Iborra et al., 2020). Thorgren and Williams (2020) argue that while SMEs require external support, examining what SMEs do during crises is essential. Simms et al. (2022) agree that disruptions provide opportunities to study organisational reactions through resilience lenses. Simms et al. (2022) emphasise resilience as a dynamic process, where ongoing disruptions affect various organisational elements. Linnenluecke (2017) identifies five resilience research streams: responses to external threats, organisational reliability, employee strengths, adaptability of business models, and supply chain design principles.

Beyond SMEs, Kanyangale and Njoloma (2020) studied the resilience of Mzuzu University Library in Malawi after a disastrous fire, identifying three resilience perspectives: Impact, resistance and recovery, adaptation, and anticipation. Connor and Davidson (2003) identified five resilience factors: persistence and tenacity, emotional and cognitive control, adaptability, control, and spiritual influences. Ayala and Manzano (2014) proposed constructs for SME resilience: hardiness (goal-setting and decision-making), resourcefulness (skills to handle adversity), and optimism (positive attitudes during challenges). Resilience, defined as an organisation's ability to anticipate, prepare for, and respond to uncertainties (Serfontein & Govender, 2021), remains underexplored in the context of SMEs in sub-Saharan Africa, particularly in Eswatini. Saad et al. (2021) emphasise that existing empirical research on resilience and its impact on SME performance is neither sufficiently varied nor conclusive. This lack of conceptual and empirical consensus represents a significant gap in the literature, requiring focused investigations into the complex dynamics that influence SME resilience and performance. There is a pressing need to identify the specific factors contributing to resilience and understand how these factors affect the optimisation of SME performance, particularly in Manzini, Eswatini. In Eswatini, SMEs are critical for economic transformation. The Government of Eswatini Centre for Financial Inclusion (2018) identified 25,947 registered SMEs, employing 41% of the

working-age population, with the potential to employ 65% (International Trade Centre, 2022). Despite government support in financing and training, minimal growth and high failure rates persist. The challenges SMEs face in Eswatini, exacerbated by the COVID-19 pandemic, lack of funding, and limited market access, underscore the urgent need to understand and enhance resilience.

This study addresses this gap by responding to calls from researchers such as Saad et al. (2021), who highlight the need for targeted research on SMEs to advance the understanding of resilience and its implications for business performance. The study aims to provide actionable insights to inform tailored interventions and support mechanisms by exploring how resilience influences SMEs in this specific geographic context. These findings will contribute to the body of knowledge and offer practical solutions to help SMEs in Eswatini and similar regions adapt, survive, and thrive in a VUCA environment.

2. Literature Review

2.1. Unpacking the Meaning of Resilience

The term "resilience" originates from the Latin word resilire, meaning "to jump back" (Xiao & Cao, 2017). Rutter (2006) defines resilience as "an interactive concept concerned with the combination of serious risk experiences and relatively psychological outcomes despite those experiences." It measures a system's ability to absorb changes in the state of variables and bounce back after a disruption (Hepfer & Lawrence, 2022; Kule & Kanyangale, 2025). For Limnios et al. (2014), resilience focuses on an organisation's magnitude of a distraction that it can withstand. Giving a different perspective, Sawalha (2015) highlights that resilience has been defined and measured across personal, organisational, sectoral, and societal contexts, using factors such as people, core business components, and networks. However, Chen et al. (2021) argue that many studies lack systematic theoretical exploration and clear definitions of organisational resilience. This perspective is corroborated by Conz et al. (2017), who observe no universally accepted definition of resilience. This view is an extension of Burnard and Bhamra (2011), who state that a great deal of ambiguity surrounds the concept of resilience. Despite these differences in conceptualisation, organisational and psychological studies agree that resilience focuses on responses to disruption but differ in how entities respond to crises (Allen et al., 2014; Kanyangale & Pearse, 2012; Olsson et al., 2015; Van Breda, 2018). In physics, resilience emerged in the late 1960s and 1970s, defined as a system's ability to cope with change (Chen et al., 2021). Holling (1973) introduced resilience in ecological studies, describing it as an ecosystem's ability to recover after damage. Organisational resilience involves resisting, responding to, and recovering from disruptions (Iborra et al., 2020). Thorgren and Williams (2020) emphasise the importance of examining how SMEs independently navigate crises. Simms et al. (2022) view resilience as a dynamic process, offering insights into how SMEs withstand disruptions and build recovery capacity. To survive in uncertain environments, SMEs require anticipation, precise event assessment, and absorptive capacity to promote learning and Adaptation (Goaill & Al-Hakimi, 2021a).

2.2. Theories of Resilience

The resilience of organisations, particularly SMEs, has garnered scholarly attention, primarily through resilience theories. Among these, two notable theories are the Panarchy and capabilities theories. Introduced by Gunderson and Holling in 2002, Panarchy theory posits that tensions between

organisational efficiency and the desire for novelty drive adaptive cycles in complex systems. It illustrates the dynamic relationship between humans and nature across various time and space scales (Allen et al., 2014). In contrast, capabilities theory, rooted in organisational capabilities, traces back to Alfred Marshall's 1919 work, emphasising how skilled managers can foster lasting organisational cultures (Richard et al., 2023). Despite its insights, subsequent discourse has often leaned towards mathematical models, overshadowing Marshall's contributions. The term "capability," introduced by George Richardson in the 1970s, refers to the knowledge and skills within an organisation that traditional production functions do not capture. Yet, it remains underexplored in existing frameworks (Richard et al., 2023). In theorising resilience, this study acknowledges that there are two approaches to studying resilience: Processual approaches, which delve into understanding organisational resilience by understanding the different stages of resilience and its versatile nature and the capabilities-based approach, with interest in the internal functioning and development of resilience (Duchek, 2020). This study adopted an integrated approach, combining both processual and capability-based approaches because of the multi-faceted nature of resilience. Besides, adopting this approach improves one's understanding of the resilience concept from both an input and outcome perspective (Burnard & Bhamra, 2011; Duchek, 2020; Zhang et al., 2023).

2.3. Levels of Analysis of Resilience

Lengnick-Hall et al. (2011, p.254) explored resilience at individual, collective, and organisational levels, defining it as "an organisation's ability to effectively absorb, develop situation-specific responses to, and ultimately engage in transformative activities to capitalise on disruptive surprises." Miguel et al. (2013) unpacked resilience across three levels: individual, group, and organisational. Luthans et al. (as cited in Xiao & Cao, 2017) highlight confidence, optimism, and belongingness as key individual resilience traits. Bennett et al. (2018) note that team-level resilience has been studied more extensively. At the team level, resilience involves anticipating challenges, planning contingencies, and fostering psychological safety (Bui et al., 2019; Helen et al., 2021). Xiao and Cao (2017) emphasise interactional influence across levels, promoting organisational learning and resilience. Resilience is not merely a measurable trait but a dynamic construct shaped by challenges (Bowes et al., 2013). Lengnick-Hall et al. (as cited in Santos & Spers, 2023) argue that resilience enables organisations to develop new capabilities to recover and "bounce forward." This study focuses on organisational resilience in SMEs.

2.4. Dimensions of Resilience

Kanyangale and Njoloma (2020) examined the resilience of Mzuzu University Library in Malawi following a devastating fire, identifying three key resilience perspectives: Impact, resistance and recovery, adaptation, and anticipation. In contrast, Duchek (2020) proposed a capability-based view of organisational resilience due to the lack of consensus on its definition. He categorised organisational resilience into three successive stages: anticipation, coping, and adaptation, highlighting the capabilities that constitute resilience. Duchek (2020) emphasised the dynamic nature of resilience as an interplay of proactive, concurrent, and reactive actions within organisations. He noted that resilient organisations respond not only to past events (reactive) or current challenges (concurrent) but also to future uncertainties (anticipatory). Duchek (2020) provides a comprehensive definition of resilience by integrating these stages. Figure 1 outlines the organisational capabilities, actions, and resources

necessary for effective resilience before, during, and after adverse events. Ducheck (2020) classifies the phases of resilience into three: anticipation, coping and adaptation. However, Supardi and Hadi (2020) adopted different phases: proactive, responsive, adaptive, and reactive.

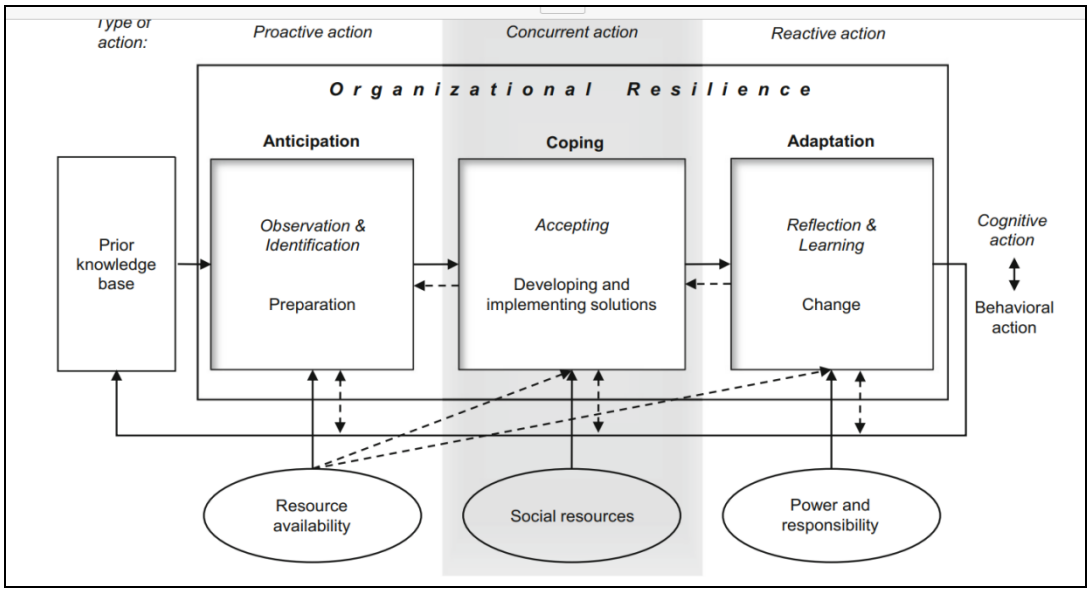

Figure 1. A Capability-based Conceptualisation of Organisational Resilience

Sources: Duchek (2020, p. 224), Supardi and Hadi (2020, p. 1272)

Chen et al. (2021) argue that scholars adopting the capability perspective consider organisational resilience as a dynamic and flexible organisational capability synthesised from anticipation capability and resources, coping capability and social resources, and adaptation and learning capability that organisations exhibit in response to crises. The current study focuses on three resilience dimensions: detectability, coping, and adaptability.

2.4.1. Detectability in the Anticipation Stage

From Figure 1, anticipation refers to detecting critical developments that can occur internally or in the environment (Duchek, 2018; Duchek et al., 2020). Supardi and Hadi (2020) refer to Duchek's (2020) anticipation stage as the proactive phase. Anticipation capabilities required in the initial stage of organisational resilience are preventive steps and actions linked to signal detection in internal and external environments. Duchek (2020) argues that three capabilities make up the anticipation capability. These are observing the ability to detect inner/outer changes, pinpointing prospective developments of vital effect, and preparing for unforeseen events. The second, preparation, enables an organisation to develop capabilities aimed at ensuring that it has the necessary abilities to tackle disruptions. Duchek (2020) outlined six aspects of awareness: (1) the extent of proactive understanding regarding expectations, responsibilities, and limitations related to both internal and external stakeholders; (2) the ability to identify potential opportunities and upcoming crises; (3) awareness of available resources both inside and outside the organisation; (4) the skill to recognise crises and their impacts accurately; (5) a deep understanding of the causes behind crises; and (6) a clear grasp of the minimum operational requirements needed for recovery. The process of signal detection influences these awareness components. According to Rousseau et al. (2021), Igor Ansoff first introduced the concept of weak signals in the 1970s to detect early strategic indicators. He observed that companies fail to respond quickly enough to the initial hidden signs of potential threats

within their strategic planning processes. Ansoff(1980) argues that strategic planning involves transforming environmental information about significant disruptions into specific organisational activities and programmes. Signals were categorised as weak and strong (Ansoff, 1980). Weak signals are not usually strong but are presented as an alert warning, while strong signals are overt and relatively easy to detect (Rousseau et al., 2021). It has been established, however, that since weak signals are less visible, they might be ignored since they are pretty far from causing a noticeable impact. Strong signals tend to become trends, resulting in negative impacts (Rousseau et al., 2021). For effective planning and execution, organisations should monitor the context where they operate and gather information about events and their effects/relationships.

Jorge et al. (2020) aptly argue that detectability involves identifying disruptions before they occur, linking it to anticipation through observation and preparation (Duchek, 2020). Kotsios (2023) argues that detection enables an organisation to identify external events and develop appropriate responses to survive in a changing environment. Lengnick-Hall (as cited in Katsiosi, 2023) suggests that two differing perspectives support an organisation's resilience strategy: a focus on surviving in a complex environment propelled by adversaries and a perspective that focuses on developing new capabilities to survive in this complex environment. Signal detection allows an organisation to understand the complexities of the environment and develop the appropriate capabilities necessary to survive. Sánchez-García et al. (2023) agree with this view and suggest that the capacity for detection influences preparing and responding to a distraction. Hillmann and Guenther (2021) emphasise the role of detectability in recognising resilience, noting its absence is only evident post-failure. Detectability enhances an organisation's capacity to act swiftly against risks, improving SME performance (Haefner et al., 2021; Razakova et al., 2023).

Hong et al. (2012) argue that at the detection phase, the primary responsibilities of firms are to identify signals and to prepare or prevent potential issues. In SMEs, practicessuch as environmental scanning, which involves collecting, analysing, and distributing information about the business environment to help firms recognise early signs of an emerging crisis; active management involvement, which supports the allocation of resources and facilitates effective communication of information; and strong leadership, which is crucial for quickly and efficiently acquiring, transmitting, and interpreting environmental information form a significant component of detection. By creating a risk-aware culture and integrating risk management, SMEs can navigate uncertainty and adapt to market changes (Alles et al., 2021). Mendonça et al. (2012) aptly argue that although studies that have examined weak signals and their effect on business operations reveal that weak signals may not yield a strong signal to the functioning of an organisation, if combined, weak signals may lead to an event. In SMEs, Hong et al. (2012) state that, whereas studies have focused on investigating crisis management in large organisations, signal detection in SMEs has rarely been investigated for proper theory building and application. Given the identified gaps in the literature regarding SME detectability and performance optimisation in Eswatini, the hypothesis below was stated:

$H_{O1:}$ *Detectability has no significant influence on the performance optimisation of SMEs.*

2.4.2. Coping in the Concurrent Stage

Lengnick-Hall and Beck (2005) state that once critical events have manifested, an organisation must be able to develop coping mechanisms. This process addresses what an organisation does after detecting signals (disruptions). According to Supardi and Hadi (2020), coping is the responsive-adaptive phase. Businesses face the challenge of developing strategies to cope with evolving

situations. Duchek (2020) views coping as an action occurring during adverse events, involving acceptance followed by solution implementation. Thompson et al. (2006) define coping as cognitive and behavioural efforts to manage demands exceeding available resources. However, Duchek (2020) argues that coping does not always translate into effective resilience in SMEs, particularly those with institutional, capacity, and cultural constraints.

Lazarus and Folkman (1984) highlight that individuals assess risks, accept adversity, and create solutions, but threat perception can trigger negative emotions, potentially impeding action. Scholars outline coping as requiring acceptance of adverse events, solution development and implementation, and sufficient resources (social and otherwise). The coping dimension involves two key abilities: first, an organisation's capacity to acknowledge difficulties, and second, its capability to identify and implement solutions to address a crisis. In crisis management, resilience is demonstrated by how quickly an organisation takes the initiative and communicates with its relevant stakeholders. Information sharing helps the organisation and its members accept the situation and swiftly develop appropriate responses. As noted earlier, organisations vary in how they perceive and react to disruptions. When dealing with crises, available strategies include taking practical actions, effective communication, informing employees to minimise harm, managing the company's public reputation, and transforming the organisational culture (Tasic et al., 2020). Interpreting diverse events and providing a foundation to resolve the problems is a cornerstone for resilient organisations (Duchek et al., 2020). Despite existing studies, a holistic understanding of SME coping mechanisms remains lacking (Erdiaw-Kwasie et al., 2023). Based on the preceding literature, the following hypothesis below was formulated:

H_{02}: *Coping has no significant influence on the performance optimisation of SMEs*.

2.4.3. Adaptability in the Reaction Stage

According to Gorjian and Gooyabadi (2021), adaptation is key in enhancing an organisation's resilience because it involves developing capabilities to deal with internal and external resources effectively. Drawing from Figure 1, Supardi and Hadi (2020) state that reaction is a post-disruption phase with a critical focus on capability development to deal with the aftermath of a disruption. This phase aims to develop new capabilities to prevent future disruptions. Staber and Sydow (2002) define organisational adaptability as responding to external changes through introspection, learning, and adjustment to future events. Supardi and Hadi (2020) link SME resilience to adaptation, reducing turbulence. Legenzova et al. (2025) believe that the adaptation stage involves responding to customer and stakeholder needs and developing greater opportunities for renewal. Resilient organisations adapt to market changes, mitigating risks (Hamel & Liisa, 2003; Wedawatta & Ingirige, 2012). Coetzee et al. (2016) agree with this view and argue that stability is not the primary focus for resilient organisations. Resilient organisations build capabilities to adapt during and after a crisis.

Burnard et al. (2018) stress adaptive capacity to prevent crises. The adaptation highlights an organisation's capacity to respond to changing circumstances and harness change for its benefit. Limnios et al. (2014) contend that, in this context, capability refers to the adjustments an organisation makes following crises, to further its development. Adaptation comprises two key elements: reflection and learning, and the organisation's ability to manage change. Reflection entails stepping back from experiences to thoughtfully and persistently consider their significance, thereby drawing meaningful conclusions. Learning involves deriving meaning from past or present events, guiding future behaviour (Limnios et al., 2014). Acknowledging that learning does not automatically lead to

adaptation in small businesses is also essential. Evidence of adaptation is evident if an organisation can promote individual and organisational behaviour that results in understanding the organisation's environment and changing internal processes to improve decision making (Gorjian & Gooyabadi, 2021).

The second component of Duchek's (2020) adaptation dimension, organisational change, is achieved through advanced learning (deutero-learning), creating new forms, values, and practices. For genuine change to take place, an organisation must shift its fundamental perspective, enabling the development of new beliefs and precautionary norms.

Manyena et al. (2011) qualify the importance of adaptation in building the resilience capabilities of organisations. They argue that understanding resilience requires viewing it as an organisation's ability to bounce back. In so doing, they advise that bouncing back can be made possible if adaptability to changes brought about by the disruption occurs. Perhaps, disagreements are a realisation that bouncing back after a disaster is not enough for a system to be resilient, but its ability to adapt. This view appears to gain traction as a holistic approach to understanding resilience (Hufschmidt, as cited in Coetzee et al., 2016). During crises, organisations undertake complex adaptation because of the complexities and interconnectedness of each variable in the business environment and its impact on their operations (Morales et al., 2019). Indeed, Gorjian Khanzad and Gooyabadi (2021) agree with this view and suggest that adaptability is an essential organisational performance enabler. They argue that Zahra's (1996) predictor model explains how organisational outcomes may be achieved through a series of steps that extend in time (adaptation). What is interesting is the fact that the study by Gorjian Khanzad and Gooyabadi (2021) reveals that resilient leadership fails to have a key role in enhancing the development of organisational adaptability, but recognises the role of leadership abilities in developing an organisation's overall resilience. Although much has been analysed on the nature of resilience and its contemporary outlook, there has not been much agreement between academics and practitioners regarding appropriate methods for developing adaptation capabilities (Coetzee et al., 2016). From the preceding literature, the hypothesis below was stated:

H_{03}: Adaptation has no significant influence on the performance optimisation of SMEs.

2.5. Performance Optimisation

Performance in small and medium enterprises (SMEs) is crucial due to their significant contribution to economic growth and innovation. It is typically defined from an output perspective, with specific indicators used to measure it, as outlined by Ramirez and Sang Lim (2021).

Performance encompasses financial performance, operational efficiency, market competitiveness, and customer satisfaction. SMEs require a blend of strategic factors to achieve desired performance outcomes. Resource constraints affect their ability to optimise their performance, affecting their growth ability (Abrokwah-Larbi, 2024). In the absence of the required resources, SMEs are not able to provide customer value. To understand the performance of SMEs, scholars have delved into understanding performance models such as models that focus on the prediction or survival of SMEs (Abrokwah-Larbi, 2024). The financial performance models concentrate on profitability and revenue growth, while operational efficiency emphasises process improvement and resource management. Market competitiveness and customer satisfaction influence SME success by driving loyalty and repeat business (Lengnick-Hall & Beck, 2005; Koşan et al., 2014).

Performance models help to explain the critical factors responsible for SME failure. Critical to appreciate is that some studies attribute business failure to a volatile environment and intense competition (Abrokwah-Larbi, 2024). Resilient SMEs are better positioned to navigate challenges like economic downturns and market fluctuations by fostering adaptability and innovation, enhancing operational efficiency and strategic responses (Kotsios, 2023). However, the relationship between resilience and performance remains complex. Lukason and Valgenberg (2021) criticise traditional measures of SME performance, which focus primarily on conventional financial metrics. These performance measures are limited because of their short-term focus on revenue and budget, with no apparent attempt to understand how SMEs can generate long-term performance, such as customer service, business processes, developing employee competencies, and superior products and services. Perhaps, this explains why scholars such as Alves and Lourenço (2022) emphasise the need to focus on non-financial measures such as customer satisfaction, business processes, the quality of products and services as long-term measures of an SME's performance.

While Nan and Park (2022) recognise that meeting customer needs and sales are critical performance metrics for SME performance, they note that customer preferences and market demand shifts result from unpredictable disturbances. To survive, SMEs should be able to leverage resilience to withstand disruptive events. While Puumalainen et al. (2023) suggest a positive correlation, further research is needed to clarify resilience's impact on performance outcomes. Papulová et al. (2021) argue that SME performance management systems are often underestimated due to their size and unique needs. Despite challenges in understanding the critical factors for SME performance, satisfying stakeholder expectations remains a key concern for SME management (Aisjah et al., 2023). This underscores the importance of tailored performance measurement approaches and the associated causal factors. Literature has also noted that studies focus on SME failure or the negative side of performance rather than critically analysing factors that could spur their performance (Abrokwah-Larbi, 2024).

From the above literature review, the study conceptualised the relationship between the variables as represented in Figure 2.

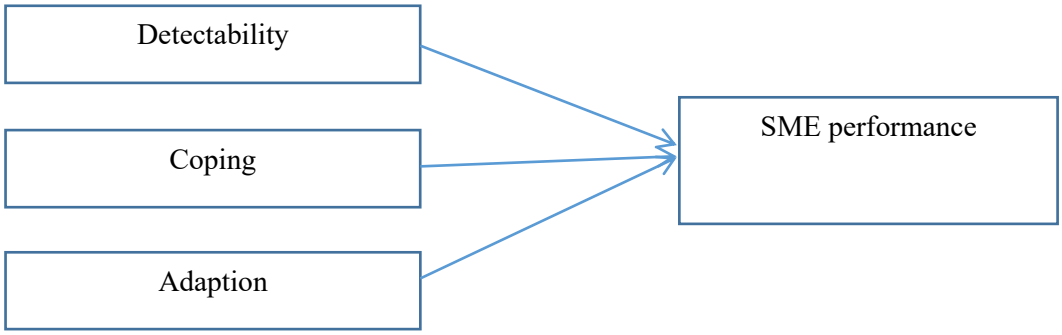

Figure 2. Conceptual Framework

Source: Researchers' creation

3. Research Methodology

The study adopted a positivist research philosophy, emphasising an objective reality and maintaining an arms-length relationship between the researcher and participants to minimise subjectivity (Saunders, 2011). Using a quantitative, deductive approach, the research employed a survey-based,

cross-sectional design. Data were collected using a self-administered questionnaire targeting SME owners/managers in Manzini. The questionnaire operationalised resilience through detectability, coping, and adaptation, while performance was measured via customers, innovation, efficiency, and productivity. Respondents rated seven statements for each dimension on a 5-point Likert scale. Reliability was assessed using Cronbach's Alpha, with all dimensions scoring above 0.6, deemed acceptable (De Souza & Dick, 2009). Descriptive statistics (mean, frequency counts, standard deviation) summarised the data, while regression analysis examined the relationship between resilience dimensions and performance optimisation. This model assessed how resilience dimensions influenced key performance metrics, providing insights into SME adaptability and operational success.

4. Results and Findings

This section presents the results and discussion of the findings of this study.

4.1. Construct Reliability

Lütf and Ahmet (2020) argue that **validity and reliability** of the scales employed in research are critical elements that contribute to producing valuable outcomes. Validity and reliability help guarantee that conclusions drawn from research are accurate and dependable, enhancing the overall credibility and usefulness of the study. Table 1 presents the results of the Cronbach's alpha analysis.

Table 1. Construct Reliability

Internal consistency	Cronbach's alpha (α)
Organisational Resilience	0.684
Performance optimisation	0.858

Table 1 shows that the performance optimisation scale has strong internal consistency, with a Cronbach's alpha of 0.858, indicating the items reliably measure this construct. The organisational resilience scale has a slightly lower alpha of 0.684, which still suggests an acceptable level of reliability. Taber (2018) provides a classification of alpha values within acceptable means. Taber (2018) argues that there is no consensus on the most appropriate labels to describe the acceptable alpha value. Plummer and Tanis (2015) disagree with the assertion that alpha has a threshold of acceptability. In their cross-national study, Van Griethuijsen et al. (2015, p. 1278) used a low Cronbach's alpha below the acceptable value of 0.7 or 0.6. In Van Griethuijsen et al. (2015, p. 9), "Cronbach's alpha was calculated based on the items that contributed over 0.4 to the factors. Several values calculated for Cronbach's alpha were below the acceptable values of 0.7 or 0.6." Therefore, Cronbach's alphas for the two variables, 0.684 and .858, are within the justification provided by Taber (2018), who argues that although many researchers commonly accept a rule of thumb that a Cronbach's alpha of 0.70, there is limited justification for strictly adhering to this guideline. A very high alpha value should not automatically be considered positive.

4.2. Age of the SME

Table 2 presents results on the age of SMEs participating in the study.

Table 2. Age of the Business Unit

Business Age	Frequency	Per cent	Cumulative Percent
Less than 5 years	123	59.709	59.709
6-10 years	51	24.757	84.466
11-5 years	21	10.194	94.660
Above 16 years	11	5.340	100.000
Total	206	100.000	

The analysis of the results in Table 2 reveals essential insights about the age distribution of small and medium-sized enterprises (SMEs) in the sample. It shows that most SMEs (approximately 59.7%) have existed for less than 5 years, indicating a large proportion of relatively young firms. The next largest group (about 24.8%) comprises SMEs operating between 6 and 10 years. Meanwhile, only a small fraction (5.3%) of SMEs have operated for more than 16 years, representing a mature segment of the SME population.

4.3. Dimensions of Organisational Resilience

The organisational resilience variable was represented by three observed variables: detectability/preparation, coping, and adaptation. The inclusion of the three constructs was informed by the fact that the study would be able to take a holistic view that considers not only individual-level factors but also organisational factors that contribute to the three-stage view of an organisation's resilience. Table 3 presents the mean and standard deviation for the respondents' perceptions of the dimensions of organisational resilience.

Table 3. Respondents' Perception of Dimensions of Organisational Resilience

		N	Mean	Std. Deviation
	Detectability/Preparation			
RD1	Our SME regularly monitors changes in economic conditions	206	3.84	0.962
RD2	Our SME has a recovery plan	206	3.23	1.289
RD3	Our SME makes sense of every change that we notice	205	3.71	0.841
RD4	Our SME redeploys resources to support organisational strategies	206	3.59	0.802
RD5	In our SME, we have established mutual relationships to deal with crises	205	3.5	0.973
RD6	Our SME can identify the existence of new ideas that can be translated into business opportunities	206	4.04	0.777
RD7	We can identify and tap opportunities from supplier networks	206	3.9	0.829
	Coping		**3.69**	
RC1	Our SME reacts to the introduction of new products/services by competitors	206	3.9	0.902
RC2	Our SME responds to changes in consumer demands	206	4.13	0.755
RC3	Our strategic decisions and actions are driven by the fear of change	206	3.53	1.01

RC4	Our SME is flexible in the allocation of resources to respond to external changes	206	3.73	0.884
RC5	We always renew our operations to ensure relevance	206	3.89	0.822
RC6	We always consult our networks to understand and manage crises	206	3.81	0.825
RC7	As an SME, we have developed positive behaviour to deal with crises	206	3.78	0.899
	Adaptation		**3.82**	
RA1	Our SME frequently introduces new products to fit emerging customer needs	205	3.81	1.031
RA2	Our SME is always quick to adjust its operations to match current trends	205	3.7	1.002
RA3	Our SME is fast at adopting new marketing techniques	206	3.75	0.974
RA4	As an organisation, we usually use lessons learned from a disruption to make improvements to our operations/functions	206	3.91	0.857
RA5	Our SME is fast at adopting new specifications and standards for products and services	206	3.78	0.826
RA6	As an organisation, we constantly develop our organisational values, norms and practices to sustain our operations	205	4	0.668
RA7	We always act on all the knowledge we generate	206	4.09	0.696
			3.86	

In Table 3, the standard deviation for the recovery plan under detectability is 1.289, indicating response variability. Conversely, the ability to identify new ideas for business opportunities has a lower standard deviation of 0.777, suggesting closer agreement among respondents. A standard deviation below one typically indicates data clustering around the mean (Mann et al., 2010). Under coping, strategic decisions driven by fear of change show a standard deviation of 1.01, reflecting diverse opinions. In contrast, the statement regarding responsiveness to consumer demands has the lowest standard deviation of 0.755, indicating consensus on this capability. For adaptation, the statements about introducing new products and adjusting operations report higher dispersion (1.031 and 1.002), suggesting disagreement among respondents. Other adaptation measures, such as adopting new marketing techniques (0.974) and developing organisational values (0.668), show lower variability, indicating more consistent views on these practices. Overall, the findings highlight varying perceptions of SMEs' resilience and adaptability. Analysing the three resilience-related variables, detectability/preparation, coping, and adaptation, reveals distinct strengths and areas for improvement among SMEs. Detectability/Preparation scored the highest with a mean of 3.86, indicating that SMEs feel confident in their ability to identify and prepare for changes, supported by strong individual item scores that reflect their proficiency in recognising opportunities and leveraging supplier networks. Following closely, adaptation had a mean of 3.82, suggesting that SMEs generally believe they can adjust effectively to disruptions. However, specific aspects, such as swiftly adapting operations, could be enhanced. In contrast, coping received the lowest mean of 3.69, highlighting that while SMEs can respond to changes, they may face challenges in fully embracing change and maintaining flexibility in their resource management. Overall, the results suggest that while SMEs are proactive in preparation and adaptation, they need a greater focus on improving their coping strategies in the face of crises.

4.4. Dimensions of Performance Optimisation

Performance optimisation variable was represented by five observed variables: number of customers, innovation, efficiency, productivity and finance. Table 4 presents descriptive results on performance optimisation.

Table 4. Descriptive Statistics on Performance Optimisation

		N	Mean	Std. Deviation
	Customers			
PERC1	We pride ourselves on delivering customer value	204	4.37	0.773
PERC2	We have been able to attract new customers to our business	205	4.35	0.749
PERC3	Our sales to existing customers have increased	205	4.2	0.813
PERC4	Our customers are satisfied with our products and services	204	4.4	0.698
PERC5	Our company delivers what customers want on time	204	4.22	0.814
PERC6	Customers have appreciated our company's flexibility in product/service offerings	204	4.21	0.743
PERC7	Our sales have improved because of referrals from customers	204	4.07	0.803
	Average mean		**4.26**	
	Innovation			
PERIN1	We engage in research and development to identify new ways of doing things	204	3.92	0.912
PERIN2	Our company is quick at introducing new products/services	204	3.75	1.046
PERIN3	For the products we make or display, our ways of doing it are creative	205	3.74	0.922
PERIN4	Our company has devised innovative ways of acquiring capital	205	3.38	1.085
PERIN5	Our products/services are innovative and offer new experiences	204	3.56	0.993
PERIN6	We embed technology to drive innovation	205	3.54	1.041
PERIN7	Internal and external networks are a key producer of innovative products/services	205	3.47	0.988
	Average mean		**3.62**	
	Efficiency			
PERE1	The cost of running our operations, such as sourcing raw materials/stock, production, has reduced over time	205	2.89	1.238
PERE2	We have been able to drive down the cost of production and operations in the recent past	205	3.03	1.202
PERE3	Our economies of scale have improved over the last few years	205	3.27	1.094
PERE4	We have built a system of monitoring efficiency in the organisation	204	3.2	1.066
PERE5	Our customer acquisition costs have gone down	205	2.86	1.193
PERE6	Workforce costs have decreased	205	2.98	1.192

PERE7	Organisational values and norms are configured around building efficiency in all operations	204	3.58	0.941
	Average mean		**3.11**	
	Productivity			
PERP1	The quantity of output has increased over the years	203	3.61	1.072
PERP2	Our production processes have been improved to deliver value	204	3.72	1.02
PERP3	The time to produce a product/service has reduced	204	3.25	1.106
PERP4	Time management has been built into our system	205	3.47	1.087
PERP5	The unit of production per unit of labour has increased	205	3.29	1.134
PERP6	The productivity of capital has increased	204	3.29	1.305
PERP7	Our values and norms drive productivity	204	3.74	0.94
	Average mean		**3.48**	
	Finance			
PERF1	Our profit position has improved over the last few years	205	3.27	1.265
PERF2	Our company has been able to reach its financial targets	205	2.93	1.215
PERF3	Our return on investment is higher than expected	205	2.88	1.209
PERF4	As a company, we have reduced our debt burden and use our finances to run our operations	205	3.26	1.239
PERF5	In recent years, the return on borrowed funds has improved	205	3.21	1.246
PERF6	Our liquidity position is good	204	3.2	1.256
PERF7	We have good financial management systems in place	204	3.63	1.113
	Average mean		**3.19**	

Results in Table 4 show the average mean for the five observed variables of performance optimisation: customers (4.26), innovation (3.62), efficiency (3.11), productivity (3.48) and finance (3.19). In terms of importance, focusing on customers and building efficiency had the highest and lowest average, respectively. These results imply that respondents agree that building resilience to optimise customer numbers is a key observed variable of performance in SMEs. Innovation and productivity equally posted a fair mean average of 3.62 and 3.48, respectively. To survive, SMEs should optimise these dimensions. Generally, respondents recognise all five dimensions as key indicators of SME performance optimisation, with an average of 3.19 in the Manzini region, Eswatini.

4.5. Hypothesis Testing

Resilience was assessed using three dimensions, which served as the basis for formulating the following hypotheses: H_{01}: Detectability does not significantly affect the performance optimisation of SMEs; H_{02}: Coping does not considerably affect the performance optimisation of SMEs; and H_{03}: Adaptation does not significantly affect the performance optimisation of SMEs. Pearson's correlation was used to determine the strategic impact of each of the three sub-hypotheses and establish the

significance level for each. This method assesses the strength and direction of the linear relationship between two variables. Table 5 presents the results of the relationship between detectability and performance.

4.5.1. Impact of Detectability on the Performance Optimisation of SMEs

Table 5. Correlation between Detectability and Performance Optimisation

		Performance Optimisation
Detectability	Pearson Correlation	.372**
	Sig. (2-tailed)	0.000
	N	206

Table 5 shows a Pearson correlation coefficient of 0.200, which suggests a weak positive correlation, and a significance level (p-value) of 0.004, indicating that the correlation is statistically significant at the conventional alpha level of 0.05. Results of Ho1a reveal a significant relationship between detectability and performance optimisation ($p = 0.000$), rejecting the null hypothesis. This indicates that SME managers/owners detect signals of potential disruptions before or during crises. Duchek (2020) emphasises that environmental scanning requires time, financial, and human resources to prepare recovery plans. Similarly, Dejardin et al. (2023) found that detectability positively impacts performance pre-crisis ($\beta = 0.251$; $p < 0.043$) but loses significance during crises ($\beta = 0.205$; $p < 0.058$). Detectability fosters client-focused innovation but may shift to consolidating existing opportunities during crises (González-Pernía et al., 2018).

4.5.2. The Impact of Coping on the Performance Optimisation of SMEs

The second sub-hypothesis was that coping had no significant effect on the performance optimisation of SMEs. The results of the analysis are presented below:

Table 6. Correlation between Coping and Performance Optimisation

		Performance Optimisation
Detectability	Pearson Correlation	.200**
	Sig. (2-tailed)	0.004
	N	206

A Pearson correlation coefficient with a p-value of 0.004 indicates a statistically significant relationship at the 0.05 level, rejecting the null hypothesis (H_{02}). This suggests SMEs recognise the importance of coping strategies to adapt to challenges during crises, enhancing their ability to recover and maintain operations. Xiao and Cao (2017) highlight resilience as a complex construct integrating coping and contingency theories, arising from individual, group, and organisational interactions. Puumalainen et al. (2023) found Finnish SMEs used coping strategies to address significant challenges, though less so for minor issues. Similarly, Michael et al. (2023) revealed that coping strategies, such as sensing and responding to disruptions, improve SMEs' adaptive resilience. Effective coping includes employee training, technological adaptation, and business agility (Folkman

& Moskowitz, 2004). While coping reduces vulnerability, proactive strategies are essential for long-term performance optimisation, as reactive approaches may limit resilience during disruptions.

4.5.3. Impact of Adaptation on the Performance Optimisation of SMEs

The third sub-hypothesis of hypothesis one was adaptation, which had no significant impact on the performance optimisation of SMEs. The results of the analysis are presented below:

Table 7. Correlation between Adaptation and Performance Optimisation

		Performance Optimisation
Adaptation	Pearson Correlation	.245**
	Sig. (2-tailed)	.000
	N	206

The study revealed that adaptation significantly impacts SMEs' performance optimisation ($p = 0.000$), rejecting H_{03}. Adaptation enables organisations to adjust and respond effectively during crises, aligning with Lengnick-Hall et al. (2011), who emphasise transformation and learning post-crisis. Nyuur et al. (2015) found a strong relationship between planning and SME product/service adaptation ($\beta = 0.417$, $p < 0.001$), contrasting Ibrahim (2019), who found no link between planning and performance. Supard and Hadi (2020) highlight adaptation as a key attribute of SME resilience, while Herbane (2019) describes adaptive capacity as overcoming challenges through reinvention. Adaptive abilities allow SMEs to maintain stakeholder relationships and adjust structures effectively (Ali et al., 2017). Thillai et al. (2023) found that proactive resilience strategies significantly influence SME performance, while Mohammed and Mohammed (2022) demonstrated that supply chain agility positively impacts performance. Resilience emerges as SMEs respond to disruptions, enabling them to adapt and grow stronger.

4.6. Regression Coefficients for the Effect of Resilience on Performance Optimisation

The study's main hypothesis was: There is no significant relationship between resilience and performance optimisation of SMEs in the Manzini region of Eswatini. The dimensions of organisational resilience (OR) were detectability, coping, and adaptation. Table 8 presents the results of the correlation coefficients to identify indices that depict the acceptance or lack of it for the null hypothesis stated. Table 8 shows the predictor-outcome outlook for the variables in question.

Table 8. Regression Coefficients for the Effect of Resilience on Performance Optimisation

						95% Confidence Interval	
Predictor	**Outcome**	**Estimate**	**Std. Error**	**z-value**	**P**	**Lower**	**Upper**
OR	PO	-0.787	0.213	-3.697	< .001	-1.204	-0.370

Results in Table 8 demonstrate a significant relationship ($p < .001$) between organisational resilience and performance, with a negative regression coefficient (-0.787). This suggests that increased

resilience reduces performance optimisation by 0.787 standard deviations, potentially due to rigidity in resilience strategies. However, resilience dimensions, detectability, coping, and adaptation show a positive, significant relationship with performance optimisation, aligning with Michael et al. (2023), who found that coping strategies reduce vulnerability when well-implemented. Erdiaw-Kwasie (2023) highlights SMEs' limited adaptability during crises, emphasising adaptive resilience as a dynamic process involving continuous learning. Ducheck (2024) identifies three resilience stages: anticipation, coping, and adaptation, with anticipation supporting the latter stages (Kanyangale & Njoloma, 2020). While resilience is a significant factor in enhancing a firm's performance, there seems to be no clear road map for achieving resilience (Burnard & Bhamra, 2011). Koporcic et al. (2025) also argue that little has been done to theorise crisis adaptation in small businesses effectively. Perhaps, a clear understanding of the challenge of studying the concept of resilience and its effect on performance is highlighted by Sadeghi (2022), who suggests that there is a need for a more nuanced understanding of the different types of crises and how SMEs can adapt to each one. Koporcic et al. (2025) further argue that leadership and the motivation of workers are at the centre of an organisation's ability to respond to a crisis. Therefore, searching for information is meaningless without an effective leadership strategy. These findings suggest that while resilience enhances performance through adaptability and coping, excessive formalisation, rigidity, or lack of strategic direction may hinder SMEs' ability to respond effectively to adversity. A dynamic, flexible approach to resilience is essential for optimising performance in uncertain environments.

5. Conclusions, Limitations and Future Research

The study concludes that resilience dimensions, detectability, coping, and adaptation are crucial for optimising SMEs' performance. By recognising and responding to challenges, SMEs can navigate uncertainties and leverage opportunities, ultimately leading to sustained performance. However, the study's generalisability is limited due to its focus on SMEs in Manzini, Eswatini, and reliance on self-reported data, which may introduce biases. Additionally, the complex nature of resilience poses challenges in capturing its dynamic aspects within a cross-sectional design. Future research should employ longitudinal studies across diverse contexts to better understand how resilience influences performance optimisation in SMEs, providing deeper insights into practical strategies for adaptation and growth.

6. Managerial Implications

This study highlights two key managerial implications. First, SMEs must prioritise resilience as a dynamic capability by integrating detectability, coping, and adaptation strategies into their strategic operations. These strategies foster a resilient culture, enabling SMEs to anticipate disruptions, cope effectively during crises, and adapt proactively post-crisis, ensuring long-term growth and success. Resilient SMEs can bounce back from adversity and move forward stronger. Second, business development practitioners should train SME managers in multi-dimensional resilience skills to understand resilience processes and develop resilience skills such as anticipation, coping, and adaptation, across proactive, concurrent, and reactive stages. This multi-faceted approach is essential for sustaining performance in dynamic, disruptive environments.

Lastly, managers should recognise and devote effort to understanding their SMEs' vulnerabilities. This will enable them to develop flexible and possibly context-specific resilient strategies to withstand crises instead of adopting generalised models for dealing with disruptions.

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