AN EVALUATION OF RISK MANAGEMENT STRATEGIES AND THEIR OPERATIONAL EFFECTIVENESS AMONG SMALL AND MEDIUM ENTERPRISES IN MUKONO MUNICIPALITY

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DECLARATION

I, Kyomugisha Evalyne, hereby declare that this research report entitled, "an evaluation of risk management strategies and their operational effectiveness among small and medium enterprises in Mukono Municipality." is my original work and that it has never been submitted in any institution for any award. I have read the regulations of the university with regard to plagiarism and here declare that I abided by all of them.

Signature: ..... Date: 15/09/2025

KYOMUGISHA EVALYNE

J22B05/063

APPROVAL

This is to acknowledge that this research report entitled, "an evaluation of risk management strategies and their operational effectiveness among small and medium enterprises in Mukono Municipality," has been done under my supervision and is now ready for submission to the School of Business at Uganda Christian University.

Signature: ..... Date: 15/09/25

DR. OLOBO MAURICE (PhD)

(Supervisor)

DEDICATION

With special regard, I wish to dedicate this piece of work to my Husband And Children who have always been there to support me in my education. May the Almighty God richly bless you.

ACKNOWLEDGEMENT

I would like to thank the Almighty God for the gift of life and guiding me throughout my education; it has not being easy but it was possible. My heartfelt gratitude goes to my supervisor, Dr. Olobo Mauice (PhD) for the tireless efforts and expertise he rendered to me during his supervision.

Additionally, I acknowledge the owners and managers of the selected SMEs in Mukono Municipality for providing me with the necessary information to complete my research.

Finally, special thanks go to my dear parents, siblings and friends for their love, moral and financial support during the entire period of my education career.

God bless you all.

Table of Contents

LIST OF TABLES

ABSTRACT

The study aimed at evaluating risk management strategies and their operational effectiveness among small and medium enterprises in Mukono Municipality. In particular, it focused on; examining the relationship between risk identification and operational effectiveness of SMEs, establishing the relationship between risk assessment and operational effectiveness of SMEs, and exploring the relationship between risk mitigation and operational effectiveness of SMEs in Mukono Municipality.

Furthermore, the study was conducted using a cross-sectional survey research design, where quantitative research approach was also employed. A sample size of 133 SMEs operating in Kauga, Mukono Municipality was selected using simple random sampling method although 120 of them responded to the study. Data was collected using questionnaires and later analysed using SPSS. The ethical considerations while collecting data were fully considered by the researcher.

The study findings established that risk identification (r = .866**, p< .05), risk assessment (r = .892**, p< .05), and risk mitigation (r = .885**, p< .05) each have a strong positive and significant influence on the operational effectiveness of SMEs in Mukono Municipality, with effective risk identification enhancing proactive management and employee involvement, thorough risk assessment improving decision-making, resource allocation, and adaptability, and comprehensive risk mitigation strengthening resilience, reducing disruptions, and ensuring operational and financial stability.

Finally, the study recommended that SMEs in Mukono Municipality strengthen formal risk documentation, consistently adopt standardized risk assessment frameworks, integrate assessment findings into strategic planning, expand the use of financial protection tools like insurance and hedging, and leverage advanced technology for early risk detection and prompt mitigation, thereby enhancing operational effectiveness, resilience, and long-term financial stability.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

The study was about an evaluation of risk management strategies and their operational effectiveness among small and medium enterprises (SMEs) in Mukono Municipality. This chapter presents the background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, scope of the study, significant of the study and conceptual framework.

1.1 Background of the study

Small and Medium Enterprises (SMEs) are important drivers of economic growth, innovation, and employment worldwide, yet they are susceptible to a wide range of risks that could undermine their operating sustainability and competitiveness (Hudáková et al., 2023). Effective risk management strategies are crucial for SMEs because such entities normally possess limited capabilities, thus making them more vulnerable to exposure to external disruptions and internal inefficiencies (Syrová & Špička, 2022). The volatility of the contemporary business environment that is marked by rapid technological change, turbulent markets, and complex supply chains has accelerated the demand for SMEs to adopt formal and proactive risk management systems (Dvorsky et al., 2021). Apart from protecting businesses from potential future losses, these systems also enhance decision-making, resource distribution, as well as long-term profitability (AL-Dosari & Fetais, 2023). Also, SMEs that effectively handle risks are better able to seize growth opportunities and manage uncertain economic conditions (Isibor et al., 2022).

Operational efficiency in SMEs relies on integrating risk management into business activities on a daily basis so that risk identification, risk assessment, and mitigation measures become continuous and adaptive (Catanzaro & Teyssier, 2021). The SMEs that integrate risk management into operational planning have higher resilience to disruption in the form of market fluctuations, policy changes, and technological failures (Younus & Abumandil, 2021). During the COVID-19 pandemic, those SMEs that had operational risk frameworks in place were capable of sustaining their operations and recovering faster than those that lacked them (Grondys

et al., 2021). Having far-reaching risk management also allows for compliance with legal and regulatory requirements, enhancing business credibility and stakeholder trust (Crovini et al., 2021). Further, integrating risk management into business processes ensures that risk responses are timely, cost-effective, and align with business objectives (Tan & Lee, 2022).

Globally, countries such as the United States, the United Kingdom, Germany, Japan, and Malaysia have recognized the crucial function of risk management in sustaining SME enterprises and competitiveness (Chakabva & Tengeh, 2023). In the USA, SMEs are encouraged to adopt technology-based risk management tools to safeguard against financial and business risks (Omokhoa et al., 2024). In Europe, nations like Germany and the UK have integrated supply chain risk management competencies into SME policies to foster better operational efficiency and financing performance (Qiao & Zhao, 2023). Asian nations like Japan and Malaysia have unveiled strategic approaches that balance risk mitigation with innovation to facilitate the growth of SMEs in volatile markets (Soremekun et al., 2024). Such approaches emphasize the relationship between robust risk management systems and improved performance, even in times of economic unrest (Foli et al., 2024). In addition, international evidence suggests that SMEs that prioritize strategic risk management achieve increased sustainability and competitiveness in both domestic and international markets (Jiménez et al., 2024).

SMEs on the African continent contribute significantly to employment and GDP, yet most of them have no well-established risk management systems and therefore are exposed to operational and financial losses (Molete et al., 2025). Risk management adoption in South African SMEs has been linked to better decision-making and business sustainability in the long run (Moschella et al., 2023). In Nigeria, SMEs have increasingly embraced formalized risk management processes to the benefit of improved business continuity and profitability (Mumassabba, 2024). In Kenya, strategic risk management has been found to facilitate competitiveness, particularly in sectors with high market volatility (Odukomaiya, 2023). Sub-Saharan African countries continue to face unique challenges such as political instability, currency fluctuations, and infrastructural deficits, which require context-tailored risk management systems (Tayebwa & Nyamboga, 2024). Evidence from Ghana and Tanzania indicates that the integration of governance and operational risk strategies can promote SME resilience in turbulent markets (Turyakira et al., 2023).

Ugandan SMEs account for over 90% of the private sector and create over 70% of total employment; hence they constitute a significant force for economic progress (Ainembabazi, 2022). As much as they perform a significant economic function, the majority of Ugandan SMEs lack formalized risk management procedures, which undermines their operational effectiveness and continuity (Odukomaiya, 2023). In Mukono Municipality, SMEs are involved in activities like retail, manufacturing, and services but are faced with constant threats like restricted access to credit, market competition, supply chain exposure, and regulatory changes (Soremekun et al., 2024). These firms adopt informal risk management approaches, which may be less effective in addressing complex operational risks (Jiménez et al., 2024). Enhancing risk management practices in SMEs would significantly enhance their resilience, profitability, and ability to contribute to economic development (Hudáková et al., 2023). The evaluation of these interventions is critical to ensuring that SMEs in Mukono Municipality can operate effectively in an increasingly uncertain and competitive business environment (Tayebwa & Nyamboga, 2024).

1.2 Problem statement

Ideally, SMEs in Mukono Municipality should operate with high levels of cost management, service quality, process efficiency, and business sustainability to ensure competitiveness and long-term survival (Ainembabazi, 2022). However, many SMEs in the municipality are experiencing declining operational effectiveness, with recent statistics showing that average cost overruns have risen by 18% over the past three years, customer satisfaction ratings have dropped from 82% to 65%, process delays have increased by 22%, and business survival rates beyond five years have fallen to below 40% (Mumassabba, 2024). If left unaddressed, this situation may lead to widespread SME closures, job losses, and reduced local economic growth (Turyakira et al., 2023). Stakeholders such as the Ministry of Trade, Industry and Cooperatives, Mukono Municipal Council, and Uganda Small Scale Industries Association have initiated training programs and advisory services to improve SME management, yet operational performance challenges persist (Tayebwa & Nyamboga, 2024).

Furthermore, existing studies by scholars like Catanzaro & Teyssier (2021) and Younus & Abumandil (2021) have examined SME risk management in relation to financial performance, innovation, and competitiveness in various contexts. However, few have specifically evaluated the link between risk management strategies and the operational effectiveness among SMEs

particularly in least developed areas like Mukono Municipality. This therefore created a gap that necessitates the need to conduct a study evaluating risk management strategies and their operational effectiveness among small and medium enterprises (SMEs) in Mukono Municipality.

1.3 Purpose of the study

The purpose of this study was to evaluate risk management strategies and their operational effectiveness among small and medium enterprises (SMEs) in Mukono Municipality.

1.4 Objectives of the study

i. To examine the relationship between risk identification and operational effectiveness of SMEs in Mukono Municipality.
ii. To establish the relationship between risk assessment and operational effectiveness of SMEs in Mukono Municipality.
iii. To explore the relationship betweenrisk mitigation and operational effectiveness of SMEs in Mukono Municipality.

1.5Research questions

i. What is the relationship between risk identification and operational effectiveness of SMEs in Mukono Municipality?
ii. What is the relationship between risk assessment and operational effectiveness of SMEs in Mukono Municipality?
iii. What is the relationship between risk mitigation and operational effectiveness of SMEs in Mukono Municipality?

1.6 Scope of the study

1.6.1 Content Scope

The study was specifically limited to; examining the relationship between risk identification and operational effectiveness of SMEs, establishing the relationship between risk assessment and operational effectiveness of SMEs, and exploring the relationship between risk mitigation and operational effectiveness of SMEs in Mukono Municipality.

1.6.2 Time scope

The review of reports and documents covered a period of five years, from 2020 to 2024. This timeframe allowed for a comprehensive analysis of recent trends and patterns in risk management strategies and their influence on the operational effectiveness of SMEs in Mukono Municipality.

1.6.3 Geographical scope

This study was carried out in Mukono Municipality, Mukono District, Central Uganda. Mukono Municipality was selected because SMEs in this area have experienced notable challenges in operational effectiveness, particularly in areas such as cost management, service quality, process efficiency, and business sustainability.

1.7 Justification of the study

The justification behind this study arouse from the constant decline in operational effectiveness among SMEs in Mukono Municipality, reflected in rising operating expenses, decreased service quality, increased process inefficiencies, and diminished business sustainability despite various stakeholder interventions. Whereas previous research has analyzed risk management and SME performance as interdependent concepts in terms of financial performance, innovation, and competitiveness (Catanzaro & Teyssier, 2021), little effort has been directed to understanding how specific risk management methods risk identification, risk evaluation, and risk reduction directly influence operational effectiveness in the context of Ugandan SMEs. This study aimed at filling this gap by providing evidence-based results that are capable of informing more targeted and effective risk management interventions for SMEs in Mukono Municipality.

1.8 Significance of the study

The study will benefit the owners and managers of SMEs as it will provide them with real-world understanding of how risk identification, evaluation, and management can drive operation efficiency, which will assist them in cutting costs, enhancing service delivery, streamlining processes, and attaining business sustainability.

The study will advance the interests of policymakers and institutions of government, such as the Ministry of Trade, Industry, and Cooperatives, in presenting evidence-based suggestions for developing supportive programs and policies that maximize SME operational performance through best-practice risk management practices.

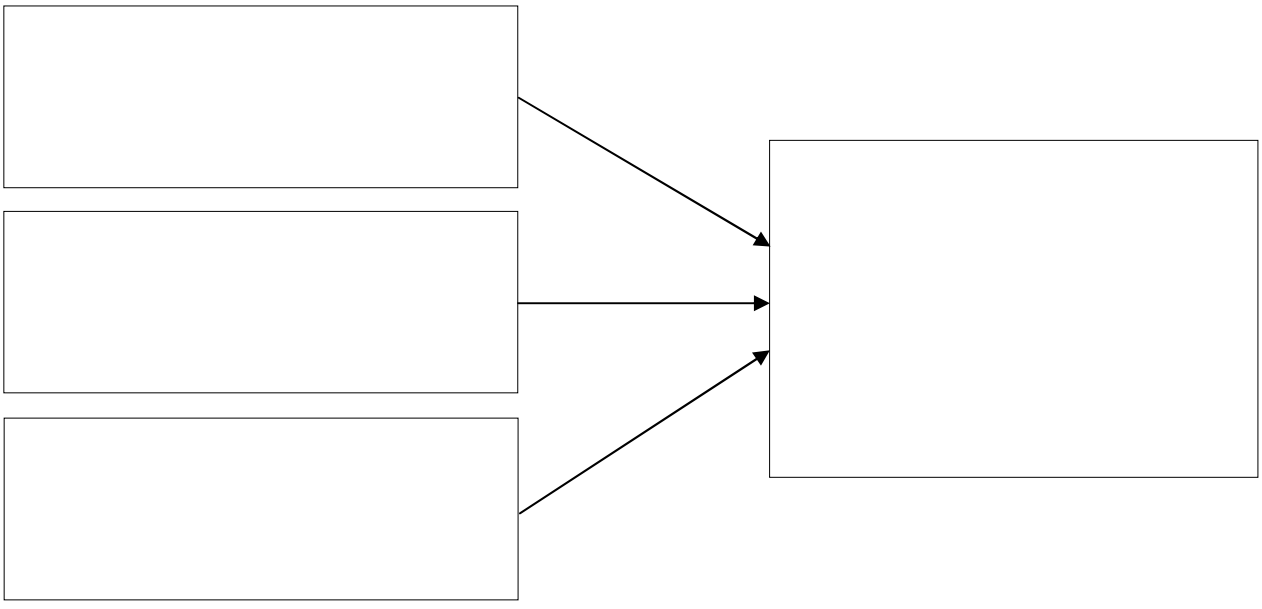
Financial organizations and business support institutions will benefit from the research because it will highlight the operational problems for SMEs and will influence the development of targeted financial products, advisory, and capacity-building programs that reduce these risks.

The study will be highly useful to the future researchers and academics as it will contribute to the limited literature on how operational effectiveness is related to risk management strategies in Ugandan SMEs and serve as a reference point for further research in the same related fields.

1.9 Conceptual framework

Independent variable **Dependent variable**

Risk Management Strategies **Operational Effectiveness of SMEs**



Source:*Adopted from, Dvorsky et al. (2021)and modified by the researcher (2025)*

The research theoretical framework examines the relationship between risk management strategies and the operational performance of SMEs in Mukono Municipality. The independent

variable, risk management strategies, is measured based on three significant dimensions: risk identification, risk assessment, and risk mitigation. These actions are expected to influence the dependent variable, operational effectiveness of SMEs, which is measured through four dimensions, i.e., cost management, service quality, process efficiency, and business sustainability. The model hypothesizes that effective risk identification makes SMEs aware of potential threats beforehand, risk assessment makes them study the likelihood and potential impact of such threats, and risk mitigation makes them ready with actions for loss minimization and business continuity. Collectively, these risk management dimensions achieve enhanced operational efficiency in terms of the removal of wastage costs, improved service delivery, process simplification, and long-term feasibility and agility of SMEs competing in a dynamic business landscape.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter provides an analysis of relevant literature by several scholars as well as what other researchers have to say about an evaluation of risk management strategies and their operational effectiveness among small and medium enterprises (SMEs). Finding out what has been done and what has been omitted in this field of study is the main goal of this literature. Therefore, sources like newspaper articles, journals, encyclopedia and books related to the study were used.

2.1 Conceptual review

2.1.1 Risk management

Risk management has been explained differently in the academic literature, with some authors emphasizing its preventive nature and others its adaptive and strategic nature. In their understanding, Hudáková et al. (2023) see risk management in SMEs as the systematic identification, evaluation, and control of business risks for the protection of financial performance and the assurance of long-term sustainability. Similarly, Syrová and Špička (2022) view risk management as an integrated process in business activity, with risk assessment having a direct or indirect impact on performance outcomes. Dvorsky et al. (2021), on the other hand, believe that SMEs have a limited view of risk management only focusing on immediate risks and failing to incorporate it into strategic decision-making. This division reflects a scholarly one: on one hand, there are those arguing an anticipatory, holistic stance in addressing uncertainty, whereas others comment on a responsive, problem-solving stance shaped by resource constraints.

Several researchers have framed risk management in different dimensions, leading to no shared measurement. AL-Dosari and Fetais (2023) frame it into identification of risk, analysis of risk, and control of risk, with both technical and procedural safeguarding to ensure SME resilience. On the other hand, Isibor et al. (2022) synthesize risk budgeting and risk mitigation into a single framework of financial control and suggest that financial constraint is a fundamental element of good risk management. Catanzaro and Teyssier (2021) emphasize export-oriented SMEs and

frame risk management in terms of market uncertainty, flexibility, and regulation with sectoral dimensions. All these nuances underscore the fact that the choice of the measurement dimensions is typically an expression of contextual and industry-specific priorities and far from a template universally endorsed.

Future studies extend risk management to dynamic and innovation-driven perspectives. Younus and Abumandil (2021) advocate agile-based risk management in which iterative assessment and adaptive countermeasures allow SMEs to be nimble to technology and market fluctuations. Grondys et al. (2021) leverage crisis periods, such as the COVID-19 pandemic, and measure risk management through rapid identification of risk, assessment of impact, and continuity planning. Crovini et al. (2021) go a step further by fully embedding risk management into core decision-making processes, positing that its effectiveness relies on how it is embedded within strategic planning rather than being viewed as a standalone function. Across these studies, there are common dimensions risk identification, risk assessment, and risk mitigation though varying in functional orientation based on the study context, emphasizing the dynamic and diverse nature of risk management within SMEs.

2.1.2 Operational effectiveness

Operational effectiveness may be generally described as the ability of an organization to perform its core activities better, reliably, and consistently than other organizations, but academics cannot agree if it can be a strategic or merely an operational term. Tan and Lee (2022) describe operational effectiveness as the extent to which SMEs optimize resources, eliminate wastage, and stream line processes to achieve improved productivity. On the other hand, Chakabva and Tengeh (2023) argue that effectiveness in operations is not merely about efficiency but that operational capabilities should be combined with managerial expertise so that performance can be sustained. Omokhoa et al. (2024) take this argument further by suggesting that in tech environments, operational effectiveness should encompass the ability to harness AI and fintech platforms for enhanced decision-making, thus uniting efficiency and innovation. These different interpretations are a longstanding scholarly debate about whether operational effectiveness is really all about improving things already done better or innovating and adapting to meet changing operational requirements.

Dimensions used to measure operational effectiveness also vary in the literature, varying in relative emphasis on performance outputs versus process abilities. Qiao and Zhao (2023) propose in supply chain-intensive SMEs that operation efficiency can be measured in terms of the reliability of deliveries, cost-effectiveness, and responsiveness to interruptions. Similarly, Soremekun et al. (2024) are interested in the financial services sector, with credit risk management, service turnaround times, and compliance as the primary indicators. Foli et al. (2024) widen the scope of measurement by linking operational performance with innovation performance, hypothesizing that adaptability, ability to collaborate, and speed to market are equally important dimensions. This variation in measurement practice speaks to how intensely context-based the concept is industries with complex supply chains place other operational measures than services-oriented or innovation industries.

Researchers have also pointed to the strategic integration of operational effectiveness into long-term organizational sustainability. Jiménez et al. (2024) posit that operational efficiency of manufacturing SMEs is best described by quality consistency, resource consumption, and long-term strategic management of risks. Molete et al. (2025) posit that IT strategic planning activities such as aligning technology adoption with business objectives are central to optimizing operational efficiency in modern SMEs. Moschella et al. (2023) highlight the accountant's role in enhancing operational effectiveness through greater reporting accuracy, monitoring of compliance, and process control, underscoring human and informational aspects of the term. These all mean that although operational effectiveness may comprise efficiency and reliability, it encompasses a wider ambit that accommodates innovational capability, strategic alignment, and stability operational effectiveness being therefore a multidimensional concept whose measure must be adjusted to sectoral and organizational issues.

2.2 Empirical review of the study objectives

2.2.1Relationshipbetween risk identification and operational effectiveness of SMEs

Hudáková et al. (2023) in their research showed that SMEs that institutionalize strict risk identification through frequent hazard scanning and logging of incidents suffer fewer operational disruptions and tighter cost management, presenting empirical evidence of a direct causal link between early visibility of threats and improved process stability and cost discipline. Another study by Dvorsky et al. (2021) also revealed that internal and external risk formalized lists enable greater clarity in task responsibility and more prompt corrective action, which is translated into improved service dependability and workflow continuity, facilitating operational effectiveness.

Syrová and Špička (2022) established that upstream risk detection enhances resource allocation and shortens cycle times through the prioritization of mitigation data, thus optimizing the cost and efficiency of processes in SMEs. Another study conducted by Tan and Lee (2022) is that SMEs using systematic identification under ERM structures attain superior delivery consistency and compliance performance and indicate that early detection contributes to service quality and operational discipline.

Qiao and Zhao (2023) demonstrated that definitive identification of financing, supply, and demand risk improves coordination with financiers and suppliers and reduces delays and safeguards operations from cash-flow shock, increasing overall performance. Foli et al. (2024) presented another research where they proved that constant mapping of disruption initiators encourages rapid reconfiguration and innovation during turbulent periods to guarantee throughput and customer satisfaction while keeping costs in check.

Mumassabba (2024) found that SMEs that institutionalize systematic risk identification in the form of routine hazard detection and risk profiling have improved cost management and fewer workflow interruptions, implying a straightforward path to operations effectiveness in the form of less rework and smoother process flows. Another study by Odukomaiya (2023) also showed that Nigerian SMEs that use formalized risk registers and incident logs increased service dependability and on-time delivery, with threat identification at an early stage linked with enhanced service quality and process effectiveness. Together, these studies suggest formalized

identification procedures yield actionable information regarding internal and external threats, enabling timely resource distribution for ensuring operational continuity.

Ainembabazi (2022) quoted that Ugandan SMEs who apply risk spotting to their processes of managing finance achieve more enhanced costs monitoring along with faster process cycles, in evidence that early detection supports preventive budgeting and lean operations. A complementary research by Tayebwa and Nyamboga (2024), although in the case of microfinance institutions, had shown that the explicit identification of operational risks improves service turnaround and compliance discipline, a process that can be transferred to SMEs' quest for better service quality and process efficiency. In general, the study indicates that upstream risk awareness sharpens operating planning, eliminates unnecessary costs, and stabilizes front-line service performance.

2.2.2 Relationship between risk assessment and operational effectiveness of SMEs

Grondys et al. (2021) in their study found that SMEs that conducted systematic risk assessment during COVID-19 disruptions experienced shorter recovery periods and fewer process stoppages, linking systematic likelihood–impact analysis to higher process efficiency and steadier service provision. Yet another study by Crovini et al. (2021) found that formal risk assessment integration into managers' daily decisioning practices increased workflow discipline and reduced rework needed to get things right, thereby tightening cost control and grounding front-line service quality. Yet another study by Younus and Abumandil (2021) also found that regular, sprint-based assessment of technical and marketplace uncertainties enabled quicker response to pending threats, translating into shorter cycle times and improved on-time delivery for SMEs.

Catanzaro and Teyssier (2021) showed that export-oriented SMEs that utilize market and regulatory risk assessment before entry decisions had reduced transaction frictions and higher delivery reliability in foreign operations, reflecting direct savings in service quality and process efficiency. However, another research by Chakabva and Tengeh (2023) confirmed that owner-manager analytical orientation to systematic assessment of operating exposures was a determinant of leaner operations and reduced cost leakages, where disciplined appraisal in cost management was shown to be crucial. A study by Younus and Abumandil (2021) also suggested

that frequent reappraisal of technology risks reduced defect rates and downtimes, underpinning efficiency improvements at the process level.

AL-Dosari and Fetais (2023) demonstrated that SMEs that made frequent use of traditional cyber-operational risk assessments had targeted controls that reduced system downtime and guaranteed transaction integrity, improving service continuity and customer satisfaction. Another study by Moschella et al. (2023) found that accountant-led assessment templates bridging risk maps with control tests and KPIs reduced processing errors and hastened approvals, improving cost management and service turnaround. A study by Molete et al. (2025) also added that IT-strategic risk evaluation aligned digital investments with operational bottlenecks, yielding measurable gains in resource use and process efficiency.

Soremekun et al. (2024) indicated that lender-side measurement of SME business and credit risk supports enhanced cash-flow forecastability in client companies, facilitating more stable procurement cycles and better cost control in normal operations. Jiménez et al. (2024) also found in a separate research that plant-level measurement of strategic and operational risk stabilized the reliability of quality and capacity planning, supporting business sustainability with less disruption and more uniform throughput. Turyakira et al. (2023) also found in their study that governance-based assessment practices enhanced discipline in operations and compliance and improved service reliability and reduced waste.

Omokhoa et al. (2024) showed that AI-driven assessment of credit and operational signals in SMEs accelerated decision-making cycles and reduced processing costs, thereby increasing procedure effectiveness and cost management simultaneously). Another study by Crovini et al. (2021) offered that whenever assessment results are integrated into everyday managerial choices such as scheduling, sourcing, and maintenance, companies achieve less crisis interventions and smoother procedures, improving the quality of services and long-term sustainability. Catanzaro and Teyssier (2021) also corroborated through their research that continuous reevaluation of market volatility and exposure to compliance in internationalizing SMEs ensures timely delivery and cost management amid uncertainty, which highlights operational efficiency.

2.2.3Relationship between risk mitigation and operational effectiveness of SMEs

Isibor et al. (2022) in their study found that SMEs that take systematic preventive measures such as stricter controls on costs and standard working practices have lower operating expenses and reduced emergency outlays, thus improving cost management in general. Another study by Moschella et al. (2023) revealed that accountant-moderated mitigation activities like internal controls and reconciliations reduce processing errors and fraud losses, thus improving process efficiency and service delivery stabilization. A study by Catanzaro and Teyssier (2021) revealed that export-oriented SMEs who institute contractual and hedging mitigation activities reduce cross-border payment risks and logistics disruption, thus improving on-time delivery and service quality. Another study by Younus and Abumandil (2021) demonstrated how iterative testing and rapid fixes agile mitigation techniques help small businesses manage manufacturing defects and speed up the recovery from operational delays, thereby improving both process efficiency and cost control.

AL-Dosari and Fetais (2023) assured that the implementation of information-security mitigations such as firewalls and backup materialally reduces downtime caused by cyber attacks, thus improving service reliability and customer satisfaction. Omokhoa et al. (2024) assured in another study that fintech- and AI-driven mitigations (credit score automation and fraud detection) reduce disruptions in financing for SMEs, enabling steadier procurement and reducing financing costs that improve cost management and business resilience. A study by Soremekun et al. (2024) indicated that lender-partner mitigation measures like mixed finance guarantees and tailored repayment plans help client SMEs avoid liquidity crises, improve business continuation and preserve the quality of services. Another study by Jiménez et al. (2024) demonstrated that SMEs in production, which use preventative maintenance and quality assurance as practices of mitigation, have improved uniformity in their products and fewer production interruptions, hence improving process effectiveness and long-term sustainability.

Turyakira et al. (2023) indicated that mitigation by governance (defined roles, escalation channels, and oversight) reduces decision delay and conflict-induced disruptions and, as a result, raises operating responsiveness and service delivery. Owner-manager characteristics in Chakabva and Tengeh's (2023) research were seen to influence the choice and impact of mitigation actions such that effective leadership is linked with more rapid deployment of

contingency plans and better operating performance. It was contended in research by Molete et al. (2025) that IT strategic mitigation of synchronizing IT backups, redundancies, and disaster recovery plans with business processes improves process efficiency and cost control by optimizing resource utilization and recovery time. It was also established in another research by Soremekun et al. (2024) that mitigation policies that balance risk sharing between SMEs and lenders account for guaranteed cash flows and reduced cost volatility, facilitating continued operations.

Grondys et al. (2021) examined responses to mitigation during the COVID-19 pandemic and found that SMEs with rapid contingency arrangements alternative sourcing and digital channel adaptation preserved customer relationships and service levels that cushioned the decline in revenue and aided business sustainability. Another Foli et al. (2024) research revealed that supply-chain mitigation measures, such as diversification of suppliers and inventory buffers, allowed SMEs to maintain throughput and quality during times of turmoil, thereby ensuring process efficiency and customer satisfaction. A Jiménez et al. (2024) research also showed that strategic mitigation of market and input risks ensures capacity utilization and reduces waste, which positively affects cost management and long-term sustainability. Another study by Moschella et al. (2023) supported that if accountants schedule mitigation measures (contingency reserves, reforecasting the budget), SMEs enjoy better short-run liquidity and fewer service failures.

Isibor et al. (2022) concluded that poorly managed or inefficiently designed mitigation programs result in moral hazard and wasteful spending, undermining cost control and process discipline within SMEs. In yet another study, Omokhoa et al. (2024) cautioned that technology mitigation (AI/fintech) without adequate governance risk inculcates new perils of algorithmic failure or vendor lock-in that hurt service quality and sustainability unless well managed. A study by Chakabva and Tengeh (2023) observed that capacity limitations (finance, competencies) limit SMEs' capacity for effective mitigation, which is experienced in the guise of asymmetric firm-level operational improvement. Another study by Molete et al. (2025) observed that the embedding of mitigation into strategic planning is key to realizing enduring operational benefits, and ad hoc efforts only accrue short-term gains.

2.3 Research/ Literature Gap

From the above analysis, it can be noticed that while many studies have investigated the interconnection of risk identification, assessment, and mitigation with SME operational effectiveness, knowledge gaps still exist in many areas. First of all, there is no single framework for either assessing risk management or operational effectiveness because dimensions are extremely context-and industry-specific. Second, empirical evidence is predominantly sectorally bounded, limiting cross-sector comparability. Third, integration of risk management into strategic choices is often discussed at a theoretical level but lacks firm longitudinal evidence of continued operating performance. Fourth, technological, governance, and resource constraints are recognized as factors moderating the effectiveness of risk strategies, yet these factors are an under-researched area in empirical models. Finally, since agility, innovation, and digital transformation are increasingly linked to the effectiveness of risk management, little or no research has looked at extensively how these elements intertwined with traditional risk practices to advance long-term operational sustainability.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter describes the research approach that was utilized. It outlined how this research was carried out. The sample size, study population, and study design are all included. Additionally, it covers the description of variables, the sampling process, research tools, data administration and analysis, ethical issues, and study constraints.

3.1 Research design and approach

This study utilized a cross-sectional survey study design, which was adequate for the investigation of the relationship between variables without modifying them. The design was utilized in this context to determine if risk management practices influence the operational performance of small and medium enterprises (SMEs) in Mukono Municipality. By using statistical techniques such as correlation and regression analysis, the study was able to ascertain the direction and intensity of relationship between the adoption of risk management practice and the level of operational effectiveness. This design was suitable as it allows the researcher to explore current business practices in real SME settings, and it provides practical insights into real-world operations of how risk management practices influence efficiency, service reliability, and process outcomes. It is also cost-saving, time-efficient, and provides empirical evidence to lead to generalizable conclusions (Patrik & Ugo, 2019).

The study employed a quantitative research approach as it aimed to measure the relationship between risk management practices and business performance among SMEs in Mukono Municipality using numerical data. The quantitative method involved the collection of systematic data using questionnaires, which was analyzed using statistical methods like correlation analysis and regression analysis. This approach was best suited since it enables precise measurement of both risk management practice and operational effectiveness in a manner where the researcher can estimate the strength and direction of the relationship, test the hypotheses, and identify patterns. Additionally, the quantitative approach offered the potential of generalizing the findings to a larger population of SMEs in Mukono Municipality, such that the findings are valid,

reproducible, and can be applied in managerial decision-making, policy formation, and SME operation enhancement (Leedy & Ormrod, 2013).

3.2 Area of the study

This study was carried out in Mukono Municipality, Mukono District, Central Uganda. Mukono Municipality was selected because SMEs in this area have experienced notable challenges in operational effectiveness, particularly in areas such as cost management, service quality, process efficiency, and business sustainability.

3.3 Study population

The population, according to Trochim (2006), is the group from which a researcher wishes to draw a sample in order to draw generalizations. According to Mukono Municipal Council (MMC) records (2025), there are approximately 200 registered SMEs dealing in different businesses operating in Mukono Municipality and these were included in the study as the target population.

3.4 Sampling procedure and sample size

According to (Creswell, 2012), a sample is a subgroup which is representative of the target population from whom findings can be generalized about the population. Therefore, sample size was determined by the sample calculation formula by Slovin's (1960) formula as follows;

$$n = \frac{N}{1 + N(e)^2}$$

"n" is sample size, "N" is population, "e" is error (0.05) or level of confidence 95%

"N" (population) = 200 registered SMEs operating in Mukono Municipality

$$n = \frac{200}{1 + 200(0.05)^2}$$

$$n = \frac{200}{1 + 200(0.0025)}$$

$$n = \frac{200}{1 + 0.5}$$

$$n = \frac{200}{1.5}$$

n = 133 selected SMEs operating in Mukono Municipality.

Therefore, the sample size was 133 registered SMEs operating in Mukono Municipality.

3.5 Sampling method

The researcher used simple random sampling to select the participants for the study. This method was applied by obtaining a list of the registered SMEs in Mukono Municipality from Mukono Municipal Council records. A random selection process was then used to choose a representative sample of these SMEs, where each business, represented by either the owner or the manager, has an equal chance of being selected. Simple random sampling was appropriate in this case because it ensures unbiased selection, giving all registered SMEs in Mukono Municipality an equal opportunity to participate in the study, which enhances the generalizability of the findings.

3.6 Sources of data

Primary source: Primary date is essential for all fields of study since they offer exact information on the consequences of an experiment or observation. The researcher was able to gather information for their study's unique goals with the use of primary data. The researcher used questionnaires to gather the data on his own.

Secondary source: Information handled,collected, and maybe analyzed by someone other than the researcher is referred to as "secondary data". The most common secondary sources for historical research projects are scholarly publications and articles. The information was collected from previously published sources, including published papers, e-books, publications and journals.Documentary resources are categorized to assist the gathering of data and the interpretation of text (Mubazi 2008).

3.7 Data collection method

A survey was used to gather data for the study. These techniques for gathering data yielded details about risk management strategies and operational effectiveness among SMEs.

3.7.1 Survey

A survey, according to Amin (2005), is a self-report study that is used to collect data regarding variables of interest. This study used a questionnaire survey to get quantitative information about the relationship between risk management strategies and operational effectiveness among SMEsin Mukono Municipality with the selected SME owners. The questionnaire consisted of structured items designed to elicit responses regarding the study objectives. This survey method was used since it allows for the efficient collection of large-scale data, enabling the researchers to quantify trends, correlations, and patterns related to risk management strategies and operational effectiveness among SMEs.

3.8 Data collection instrument

Information was gathered for the study using a structured questionnaire.

3.8.1 Questionnaires

Closed-ended questions and a list of possible answers were included in the questionnaires. Respondents were requested to select the response that best expresses their thoughts on the circumstance and the subject under inquiry (Mugenda &Mugenda, 2005). Responses were limited to the items on the questionnaire, which were uniform and inflexible. This assists to enlist validity and control of the extraneous factors (Sarantakos, 2005). To gather data on the topic, a structured questionnaire with sections based on study factors were produced. The respondents are going to be given it. With response options like (5) strongly agree, (4) agree, (3) not sure, (2) disagree, and (1) strongly disagree, it used a five-point Likert scale. Since it gives responders with a number of options and facilitates tabulation of the collected data for comparison, the Likert format was chosen. With their permission, the questionnaire was utilized to gather information from the 133 owners/ managers of the selected SMEs in Mukono Municipality.

3.9 Data collection procedure

The researcher obtained an introductory letter from the School of Business at Uganda Christian University upon successful defense of the research proposal. This letter was presented to the owners of the selected SMEs in Mukono Municipality, to formally request permission to conduct the study. After receiving approval, the researcher distributed structured questionnaires to these owners of the selected SMEs. Data collection commenced only after obtaining informed consent from all participants, ensuring confidentiality, ethical compliance, and voluntary participation throughout the process.

3.10 Validity and reliability of the research instruments

3.10.1 Validity

Validity was assessed to determine if the questions effectively capture the intended data (Sürücü & Maslakçi, 2020). Research experts will evaluate the questions to assess their ability to capture the intended responses. A Content Validity Index (CVI) was computed to establish the validity of the research instrument. The researcher used the formula below to determine the validity of the research instruments.

$$\text{Content validity Index (CVI)} = \frac{\text{Relevant items by all judges as suitable}}{\text{Total number of items judged.}}$$

The CVI was 0.89 which exceeded the recommended threshold of 0.70 (Duckett, 2021), suggesting that the questionnaire was effective for data collection.

3.10.2 Reliability

Reliability in research pertains to the consistency, stability, and dependability of research outcomes, reflecting how well a study's results can be replicated or reproduced under comparable conditions or by different researchers. The questionnaire's reliability was evaluated using Cronbach's coefficient alpha (Mellinger & Hanson, 2020). A pilot study involving 10 respondents was conducted, and the reliability analysis was performed using the Statistical Package for the Social Sciences (SPSS). The following formula was used to calculate the

Cronbach's coefficient alpha. The coefficient was 0.91 which exceeded the recommended .70 (Duckett, 2021), indicating that the questionnaire was appropriate for data collection.

3.11 Data Analysis

3.11.1 Analysis of quantitative data

This was achieved by classifying respondents into categories known as codes. The data processing phase involved organizing and refining questionnaires, coding responses, and then tabulating and analyzing the data using Statistical Package for Social Sciences (SPSS) version 20 (Jopling, 2019). SPSS was chosen for its comprehensive range of tools, from basic tabulation to advanced multivariate analysis, making it widely used for quantitative data analysis in academic and commercial settings. The software's efficiency in interpreting complex data and saving time in analysis is another reason for its selection by the researcher (Ali, 2020).

Data editing was crucial during this process to detect and correct errors and omissions in the collected raw data. This scrutiny of completed questionnaires ensures accuracy, consistency with other gathered information, uniform data entry, and proper organization to facilitate coding and tabulation (Pentang & Pentang, 2021).

Coding involves assigning numeric values or symbols to responses and categorizing them into distinct classes or categories. The researcher ensured thoroughness and exclusivity, ensuring each response fits into only one category within a set. Coding was essential for efficient analysis, condensing numerous responses into a few classes that contain crucial information for analysis (Skinner, 2020).

3.12 Ethical Considerations

Ethics encompass the guidelines that differentiate between right and wrong conduct. They play a crucial role in delineating acceptable from unacceptable behaviors (Pietilä et al., 2020). Adherence to ethical standards safeguards against data fabrication or falsification, thus promoting the pursuit of knowledge and truth, which is essential in research (Chervenak & McCullough, 2021). The following ethical considerations were upheld;

To uphold privacy, the researcher ensured that all personal data gathered from participants is stored securely and only used for the purposes outlined in the research. No unauthorized individuals had access to the information, and all data was handled with strict adherence to privacy laws and regulations to prevent misuse.

Regarding informed consent, the researcher provided all participants with clear, detailed information about the purpose of the study, what participation entails, and any potential risks involved. Participants were asked to sign a consent form, confirming that they fully understood the study and agreed to participate voluntarily.

For anonymity, the researcher ensured that participants' identities are not revealed in any part of the research report. Any identifying information was removed or coded in such a way that individual participants could not be traced or identified by anyone reading the final report.

To maintain confidentiality, the researcher ensured that any personal information collected was only accessible to the research team and was kept secure. Participants' responses were not disclosed to third parties, and data was used solely for research purposes in aggregated or anonymized form.

In order to avoid plagiarism, the researcher ensured that all sources of information, ideas, or data from other researchers or publications were properly credited through accurate citations and references. Any direct quotes were clearly marked and attributed to their original sources to maintain academic integrity.

Finally, throughout the research process, the researcher maintained an ethical approach by following institutional guidelines and upholding principles of respect and fairness, ensuring the protection of participants' rights and the integrity of the research findings.

3.13 Limitations and delimitations of the study

Because they were unsure of where the information would be used, some respondents were reluctant to divulge information. This was resolved by acquiring an introductory letter from the university and by virtue of its outstanding reputation as a learning institution in the study area.

The researcher was also limited by the funds needed to support the study, which included paying for printing, convincing respondents, transportation to the institution to collect data, was also a constraint on the researcher. However, the researcher organized financial support from well-wishers, including family, through self-initiatives and methods.

Finally, owing to responder conditions such as travel, illness, hospitalization, or refusal/ withdrawal to participate, not all questions were answered or all interviews were done.

CHAPTER FOUR

DATA PRESENTATION AND INTERPRETATION OF FINDINGS

4.0 Introduction

This chapter presents and discusses the results of analysis that has been done to look at the specific objectives of the study and in relation to the reviewed literature. The study was cried out using questionnaires with owners or managers of the selected registered SMEs operating in Mukono Municipality. The findings are presented with the help of tables for purposes of clarity and interpretation.

4.1 Response rate

Table 1: Response rate for questionnaires

Response Rate	**Sample Size**	
	Frequency	**Percentage (%)**
Received	120	90.2%
Non Response	13	9.8%
Expected Response	133	100.0%

Source:*Primary data*

According to table 1 above a total of 133 (100%) selected registered SMEs operating in Mukono Municipality were expected to be involved in the study, however, 120 (90.2%) responded to the questionnaires leaving out 13 (9.8%). According to Ahuja (2009), a response rate of 70% is excellent, 60% is good and 50% is adequate for analysis. Thus the response rate of 90.2% was considered reliable and appropriate for the study. The reason as to why the researcher was unable to collect from the one of the respondents was because there was limited time to collect data since the researcher had to beat the deadline of dissertation submission yet some of these respondents were delaying to give response.

4.2 Descriptive analysis of the demographic characteristics of respondents

The researcher established the demographic characteristics of respondents who are the owners/ managers of the selected registered SMEs operating in Mukono Municipality and these included; gender, age, highest level of formal education, type of business and period spent operating the business.

Table 2: Showing of demographic characteristics of respondents

Item	**Description**	**Frequency**	**Percentage (%)**
Gender	Male	67	55.8
	Female	53	44.2
	Total	**120**	**100.0**
Age	21-30 years	36	30.0
	31-40 years	50	41.7
	41-50 years	22	18.3
	Above 50 years	12	10.0
	Total	**120**	**100.0**
Level of education	Primary	22	18.3
	Secondary	46	38.3
	Tertiary	38	31.7
	Others	14	11.7
	Total	**120**	**100.0**
Type of business	Segmented businesses	51	42.5
	Assorted Merchandize	69	57.5
	Total	**120**	**100.0**
Period spent operating the business	1-5 years	38	31.7
	6-10 years	58	48.3
	Above 10 years	24	20.0
	Total	**120**	**100.0**

Source:*Primary data*

From table 2 above,majority of the respondents were male, accounted for by 55.8% of the sampled SME owners/managers in Mukono Municipality, while 44.2% of the respondents were female. This indicates slightly over half of the SME management and ownership in the study area to consist of men, suggesting men are the majority in business leadership positions, but a very high percentage of women (nearly half) are also actively engaged in SME operations.

The most prevalent age group that replied was 31-40 years old, making up 41.7% of the sample population, while 21-30 years old made up 30.0%. The respondents within the 41-50 years category made up 18.3%, with the lowest 10.0% being over 50 years old. This suggests that SME ownership and management in Mukono Municipality is largely within the hands of youthful to middle-aged people, which means there is a dynamic working force with a high level of potential for business development-oriented and innovative business operations.

The highest proportion of respondents had acquired secondary education, which accounted for 38.3% of the sample, while 31.7% of them had tertiary education. Primary education graduates constituted 18.3%, and 11.7% of the respondents had other forms of education (e.g., vocational or informal training). This indicates that most SME owners/managers possess at least a secondary level of formal education, which could affect whether they can implement formal risk management methods and to achieve operational efficiency.

The majority of them were involved in diversified merchandise businesses, representing 57.5%, while 42.5% had segmented businesses. This indicates that a greater proportion of SMEs in Mukono Municipality diversify their products possibly for minimizing business risks and appealing to broader customer demands, as compared to those focusing on specialized segments.

The largest group of respondents represented by 48.3% was in business for 6-10 years, followed by those in business for 1-5 years at 31.7%. Respondents in business for over 10 years amounted to 20.0%. This suggests that SMEs within the municipality are mature but still relatively young businesses, indicating resilience and potential growth, and thus potential adoption of systematized risk management practices to sustain continuity.

4.3 The relationship between risk identification and operational effectiveness of SMEs

Table 3 summarizes respondents' responses on the relationship between risk identification and operational effectiveness of SMEs in Mukono Municipality by using a Likert scale where SA (Strongly Agree), A (Agree), NS (Not Sure), D (Disagree) and SD (Strongly Disagree).

Table 3: Relationship between risk identification and operational effectiveness of SMEs

Statements	Mean	Std. Dev.
My enterprise regularly identifies potential internal and external risks before they affect operations.	4.04	0.550
We maintain a formal record or register of identified risks affecting our business.	3.87	1.033
Risk identification processes in my SME are systematic and consistent across all business activities.	4.26	0.491
Early identification of risks helps my enterprise reduce unexpected disruptions in operations.	4.15	0.464
Our SME uses checklists or structured tools to identify operational and financial risks.	3.93	0.929
Employees are actively involved in reporting potential risks that could affect our business performance.	4.01	0.611

Source: *Primary data*

Table 3 above shows analysis concerning the relationship between risk identification and operational effectiveness of SMEs in Mukono Municipality using means and standard deviations which was gotten from use of a Likert scale which was represented as: Strongly Disagree (1), Disagree (2), Not sure (3), Agree (4) and Strongly Agree (5). The scores of Strongly Disagree and Disagree have been taken to present a variable which mattered to a Small Extent (equivalent to mean score of 0 to 2.4 on the continuous Likert scale). The score of Not sure has been taken to represent a variable that mattered to a moderate extent (equivalent to a mean score of 2.5 to 3.4 on the continuous Likert scale). The score of Strongly agree and Agree have been taken to represent a variable that mattered to a Large Extent (equivalent to a mean score of 3.5 to 5.0 and on a continuous Likert scale). A standard deviation of >1.5 implies a significant difference

concerningthe relationship between risk identification and operational effectiveness of SMEs in Mukono Municipality.

The research results indicated that on average, most of the respondents concurred that their businesses consistently identify potential internal and external threats prior to impacting operations denoted by (Mean = 4.04; Std. Dev. = 0.550). This greater than mean score shows that SMEs are proactive to note threats beforehand, thereby enhancing their capacity to ensure operational stability and prevent interference.

The research also indicated that on average, most of the respondents confirmed that their companies maintain formal record or register of known risk effects on business depicted by (Mean = 3.87; Std. Dev. = 1.033). This explains that while there are some SMEs with persistent documentation issues, most recognize the importance of keeping records in aid of systematic observation and strategic planning.

Moreover, the outcome from literature revealed that on average, highly significant numbers of respondents agreed that risk identification processes in their SMEs are systematic and consistent in all business activities reflected by (Mean = 4.26; Std. Dev. = 0.491). The strong agreement reflects the existence of well-defined procedures that enhance efficiency and restrict the possibility of missing risks.

Furthermore, the findings from the study showed that on average, the vast majority of the respondents concurred that risk identification at an early stage benefits their companies in reducing unplanned disruption to operations represented by (Mean = 4.15; Std. Dev. = 0.464). This concurrence indicates the preventive role of risk identification in promoting operational effectiveness and resilience.

In addition, the study also found that on a mean basis, most of the respondents validated that their SMEs utilize the use of checklists or structured instruments for identifying operational and financial risks represented by (Mean = 3.93; Std. Dev. = 0.929). In other words, structured approaches such as the utilization of checklists are very common and useful in increasing the accuracy and comprehensiveness of the risk identification process.

Lastly, findings affirmed that at an average, a wide majority of employees agreed that employees are proactively reporting potential risks having an effect on business performance represented by (Mean = 4.01; Std. Dev. = 0.611). This attests to the existence of appreciated employee involvement and it contributes towards a collaborative risk discovery culture of SMEs.

Overall, these findings suggest that SMEs in the risk identification procedures of Mukono Municipality are generally proactive, systemic, and including participation by most enterprises, who engage employees, use formal tools, and adhere to standard process in anticipating threats before they occur, though there are some gaps in formal documentation.The findings of the study concerning the relationship between risk identification and operational effectiveness of SMEs in Mukono Municipality were further determined using Pearson's correlation that was conducted as shown below;

Table 4: Pearson's correlation onrisk identification and operational effectiveness of SMEs

Correlations

		Risk identification	Operational effectiveness of SMEs
Risk identification	Pearson Correlation	1	.866**
	Sig. (2-tailed)		.000
	N	120	120
Operational effectiveness of SMEs	Pearson Correlation	.866**	1
	Sig. (2-tailed)	.000	
	N	120	120

**. Correlation is significant at the 0.05 level (2-tailed).

Source: *Primary data*

The findings indicated in table above shows that there is a significant positive relationship between risk identification and operational effectiveness of SMEs in Mukono Municipality. This relationship is affirmed by r-values of 0.866** with significant p-values of 0.000 at the level of 0.05 (2-tailed) (r = .866**, p< .05). This implies that effective risk identification strongly enhances the operational effectiveness of SMEs in Mukono Municipality, suggesting that the more systematically risks are identified, the more efficient and resilient the enterprises become.

4.4 The relationship between risk assessment and operational effectiveness of SMEs

Table 5 summarizes respondents' responses on the relationship between risk assessment and operational effectiveness of SMEs in Mukono Municipality by using a Likert scale where SA (Strongly Agree), A (Agree), NS (Not Sure), D (Disagree) and SD (Strongly Disagree).

Table 5: Relationship between risk assessment and operational effectiveness of SMEs

Statements	Mean	Std. Dev.
My SME evaluates the likelihood and potential impact of identified risks before making decisions.	4.13	0.885
Risk assessment in my enterprise helps prioritize which risks require immediate action.	4.08	1.064
We use formal frameworks or tools to assess risks in financial, operational, and supply chain activities.	4.24	0.578
Regular risk assessment improves our ability to allocate resources efficiently.	4.31	0.409
The results of risk assessments are integrated into decision-making and planning in my enterprise.	4.00	1.007
Our SME monitors and updates risk assessments periodically to reflect changes in business conditions.	4.11	0.723

Source: *Primary data*

Table 5 above shows analysis concerning the relationship between risk assessment and operational effectiveness of SMEs in Mukono Municipalityusing means and standard deviations which was gotten from use of a Likert scale which was represented as: Strongly Disagree (1), Disagree (2), Not sure (3), Agree (4) and Strongly Agree (5). The scores of Strongly Disagree and Disagree have been taken to present a variable which mattered to a Small Extent (equivalent to mean score of 0 to 2.4 on the continuous Likert scale). The score of Not sure has been taken to represent a variable that mattered to a moderate extent (equivalent to a mean score of 2.5 to 3.4 on the continuous Likert scale). The score of Strongly agree and Agree have been taken to represent a variable that mattered to a Large Extent (equivalent to a mean score of 3.5 to 5.0 and on a continuous Likert scale). A standard deviation of >1.5 implies a significant difference

concerningthe relationship between risk assessment and operational effectiveness of SMEs in Mukono Municipality.

The results showed that on average, the majority of the respondents agreed that their SMEs evaluate the potentiality and likelihood of identified risks before making a decision as seen in (Mean = 4.13; Std. Dev. = 0.885). This high mean indicates that the majority of SMEs in Mukono Municipality place emphasis on the analysis of risks before acting, enhancing decision-making and operating readiness.

Findings from the research also showed that on average, most of the respondents agreed that risk analysis in their companies helps identify which risks to address first represented by (Mean = 4.08; Std. Dev. = 1.064). This shows that SMEs are cautious in prioritizing risks by urgency, which improves response and reduces exposure to high-impact disruptions.

Furthermore, the results in the study showed that at an average rate, a very high majority of respondents agreed that their SMEs utilize formal tools or frameworks to assess risks in financial, operational, and supply chain activities marked by (Mean = 4.24; Std. Dev. = 0.578). This high degree of agreement suggests that systematic approaches have an important function to play to deliver uniform and reliable risk assessment across business operations.

More so, the research findings revealed that on the average scale, the majority of respondents agreed that regular risk assessment supports their ability to utilize resources efficiently represented by (Mean = 4.31; Std. Dev. = 0.409). This reinforces the role of systematic analysis in supporting maximally effective resource utilization and improving the efficiency of SME operations.

In addition, the study also found that on average, most of the respondents agreed that outcomes of risk assessments are integrated into decision-making and planning within their companies represented by (Mean = 4.00; Std. Dev. = 1.007). Such agreement indicates the impact of risk assessment outcomes in establishing strategy, reducing uncertainty, and directing operations to align with business strategy.

Lastly, the study found that on average, by a wide majority, the respondents agreed that their SMEs monitor and update risk analyses every now and then to reflect changing business

conditions internalized in (Mean = 4.11; Std. Dev. = 0.723). This means that SMEs are cognizant of the dynamic nature of risks and apply adaptive mechanisms to ensure continuous relevance and robustness.

Overall, these findings present that SMEs in the Mukono Municipality tend to embrace risk assessment as an essential part of operational efficiency with recurring emphasis on examining, prioritizing, formalizing, integrating, and updating risk analyses for enhanced decision-making, resource allocation, and business sustainability.The findings of the study concerning the relationship between risk assessment and operational effectiveness of SMEs in Mukono Municipality were further determined using Pearson's correlation that was conducted as shown below;

Table 6: Pearson's correlation on risk assessment and operational effectiveness

Correlations

		Risk assessment	Operational effectiveness of SMEs
Risk assessment	Pearson Correlation	1	.892**
	Sig. (2-tailed)		.000
	N	120	120
Operational effectiveness of SMEs	Pearson Correlation	.892**	1
	Sig. (2-tailed)	.000	
	N	120	120

**. Correlation is significant at the 0.05 level (2-tailed).

Source: *Primary data*

The findings indicated in table above shows that there is a significant positive relationship between risk assessment and operational effectiveness of SMEs in Mukono Municipality. This relationship is affirmed by r-values of 0.892** with significant p-values of 0.000 at the level of 0.05 (2-tailed) (r = .892**, p< .05). This implies that effective risk assessment significantly improves the operational effectiveness of SMEs in Mukono Municipality, indicating that enterprises that systematically evaluate risks achieve higher efficiency and stability.

4.5 The relationship between risk mitigation and operational effectiveness of SMEs

Table 7 summarizes respondents' responses on the relationship between risk mitigation and operational effectiveness of SMEs in Mukono Municipality by using a Likert scale where SA (Strongly Agree), A (Agree), NS (Not Sure), D (Disagree) and SD (Strongly Disagree).

Table 7: Relationship between risk mitigation and operational effectiveness of SMEs

Statements	Mean	Std. Dev.
My enterprise has established measures to reduce the impact of identified risks.	4.20	0.867
We implement preventive actions, such as standard operating procedures, to minimize operational risks.	4.14	0.888
Risk mitigation strategies in my SME, such as insurance or hedging, protect financial and operational stability.	4.07	0.909
Our SME responds quickly to operational disruptions to prevent prolonged downtime.	4.03	0.997
We use technological tools (e.g., digital monitoring systems) to mitigate operational risks.	4.33	0.406
Mitigation plans are regularly reviewed and updated to remain effective under changing conditions.	4.28	0.555

Source: *Primary data*

Table 7 above shows analysis concerning the relationship between risk mitigation and operational effectiveness of SMEs in Mukono Municipalityusing means and standard deviations which was gotten from use of a Likert scale which was represented as: Strongly Disagree (1), Disagree (2), Not sure (3), Agree (4) and Strongly Agree (5). The scores of Strongly Disagree and Disagree have been taken to present a variable which mattered to a Small Extent (equivalent to mean score of 0 to 2.4 on the continuous Likert scale). The score of Not sure has been taken to represent a variable that mattered to a moderate extent (equivalent to a mean score of 2.5 to 3.4 on the continuous Likert scale). The score of Strongly agree and Agree have been taken to represent a variable that mattered to a Large Extent (equivalent to a mean score of 3.5 to 5.0 and on a continuous Likert scale). A standard deviation of >1.5 implies a significant difference

concerningthe relationship between risk mitigation and operational effectiveness of SMEs in Mukono Municipality.

The findings presented in Table 7 revealed that, on average, the majority of the respondents agreed that their companies have established mechanisms to counter the impacts of risks encountered, as reflected by (Mean = 4.20; Std. Dev. = 0.867). The high mean value reveals that risk mitigation strategies are greatly practiced within SMEs in Mukono Municipality to safeguard operations against any future challenges.

The findings also showed that on average the majority of the respondents agreed that preventive controls, such as standard operating procedures, exist to mitigate operational risks represented by (Mean = 4.14; Std. Dev. = 0.888). This level of agreement suggests that SMEs emphasize upfront measures to limit uncertainty and enhance the reliability of their business processes.

Furthermore, the study findings revealed that a majority of the respondents, on average, agreed that risk reduction strategies such as insurance or hedging protect the financial and operational stability of SMEs, as shown by (Mean = 4.07; Std. Dev. = 0.909). This implies that risk transfer and financial protection strategies are considered essential in ensuring business continuity and resilience against unexpected events.

More so, the findings affirmed that most of the respondents, on average, agreed that their SMEs respond quickly to operational disruptions to prevent prolonged downtime characterized by (Mean = 4.03; Std. Dev. = 0.997). The agreement highlights the emphasis SMEs place on rapid recovery measures and adaptive responses with a view to safeguarding productivity and service delivery.

In addition, the study revealed that most of the respondents strongly agreed, on average, that technology tools such as digital monitoring systems are being used to minimize operational risks represented by (Mean = 4.33; Std. Dev. = 0.406). The extremely high mean score indicates that the use of digital technologies is greatly significant in enhancing monitoring, efficiency, and early detection of risks among SMEs.

Lastly, the findings revealed that the majority of the respondents on average agreed that mitigation plans are constantly revised and updated so that they can remain effective in changing

circumstances represented by (Mean = 4.28; Std. Dev. = 0.555). This suggests that SMEs understand the dynamic risk nature and the need to constantly update their strategies so that they can attain long-term operational efficacy.

Overall, these findings show that risk mitigation approaches like risk reduction, preventive actions, insurance, quick response to disruptions, adoption of technology, and regular review of mitigation approaches enhance significantly the operational effectiveness of SMEs in Mukono Municipality.The findings of the study concerning the relationship between risk mitigation and operational effectiveness of SMEs in Mukono Municipality were further determined using Pearson's correlation that was conducted as shown below;

Table 8: Pearson's correlation onrisk mitigation and operational effectiveness of SMEs

Correlations

		Risk mitigation	Operational effectiveness of SMEs
Risk mitigation	Pearson Correlation	1	.885**
	Sig. (2-tailed)		.000
	N	120	120
Operational effectiveness of SMEs	Pearson Correlation	.885**	1
	Sig. (2-tailed)	.000	
	N	120	120

**. Correlation is significant at the 0.05 level (2-tailed).

Source: *Primary data*

The findings indicated in table above shows that there is a significant positive relationship between risk mitigation and operational effectiveness of SMEs in Mukono Municipality. This relationship is affirmed by r-values of 0.885** with significant p-values of 0.000 at the level of 0.05 (2-tailed) (r = .885**, p< .05). This implies that effective risk mitigation greatly enhances the operational effectiveness of SMEs in Mukono Municipality, meaning that enterprises that implement strong mitigation strategies are more likely to sustain efficiency and resilience.

CHAPTER FIVE

DISCUSSION, SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter includes the discussion of findings in relation to the literature. It also summarizes all findings reported in chapter four according to questions of the study, draws conclusions, suggests recommendations and also proposes some areas for further study.

5.1 Discussion of findings

5.1.1 Relationship between risk identification and operational effectiveness of SMEs

The findings of research showed that SMEs in Mukono Municipality mostly utilize systematic and participatory risk identification processes marked by high use of structured tools, repeat scanning, and staff reporting and this is in agreement with research that shows formalized identification processes and staff engagement increase detection and business continuity (AL-Dosari & Fetais, 2023). The findings are in line with Moschella et al. (2023) whose study found that accountant-led procedures and documented checklists improve internal control and reduce process errors, and Mumassabba (2024) whose findings showed that danger identification institutionalization enhances day-to-day process stability in SMEs.

The results of the research revealed, however, that systematic documentation of known threats is quite poor, consistent with earlier evidence that many small firms neglect formal documentation and therefore limit longer-term monitoring and learning (Ainembabazi, 2022). The findings are in line with the work of Odukomaiya (2023), who explained that the absence of well-defined risk registers is undermining follow-through on mitigation actions, and Tan & Lee (2022), who argued that variable adoption of ERM specifically weak record systems reduces the credibility of risk data for planning and resource allocation.

The results from the research pointed to an overall proactive risk-identification culture supportive of operational stability, and this is as evidenced in empirical study to link early identification to improved operational results and resiliency (Grondys et al., 2021). Findings are consistent with Hudáková et al. (2023) who established that operational risk management has a

positive impact on SME performance, and with Qiao & Zhao (2023) and Crovini et al. (2021) who established that timely mapping of risks enables more effective coordination, faster corrective action, and thus more effective operational power.

5.1.2 Relationship between risk assessment and operational effectiveness of SMEs

The findings from the research revealed that SMEs in Mukono Municipality proactively evaluate the likelihood and potential impact of identified risks prior to making decisions, which contributes to prioritizing principal risks requiring immediate attention. The findings align with literature offered by Grondys et al. (2021) whose view was that systematic risk assessment enables SMEs to identify priority risks and become more ready, and Foli et al. (2024) whose view was that proper assessment procedures enable resource management and business continuity in difficult business environments.

The outcomes of the research showed that systematic risk assessment facilitates good resource planning and the integration of risk intelligence in planning and strategic decision-making. The outcomes confirm literature by Hudáková et al. (2023) who emphasized that constant risk analysis improves the effectiveness of operations and managing resources, and Jiménez et al. (2024) who found that integrating risk assessment in enterprise planning results in strategic decision-making and SME long-term sustainability.

The findings indicated that SMEs routinely update risk evaluations in response to changes in business conditions; though using formal frameworks is inconsistent. The findings are concurrent with literature by Mumassabba (2024) that dynamic updating of risk assessment enhances responsiveness and competitiveness and by Omokhoa et al. (2024) that systematic but adaptive risk frameworks enhance operational stability of SMEs and enhance information-based decision-making. Pearson's correlation results ($r = .892^{**}$, $p < .05$) further indicate high and significant positive correlation between risk assessment and SMEs' operational performance in Mukono Municipality.

5.1.3 Relationship between risk mitigation and operational effectiveness of SMEs

The findings from the research showed that SMEs in Mukono Municipality have established procedures to counteract the impacts of risks detected and implement preventive controls such as

standard operating procedures. These findings are consistent with the work of Ainembabazi (2022), who thought that preventive and structured risk prevention in SMEs enhances operational efficiency and reduces weaknesses, as well as Hudáková et al. (2023), who emphasized that preventive risk management ensures consistency, security, and stable long-term business in small and medium-sized enterprises.

The findings of the study revealed that SMEs respond promptly to operation interference and utilize technology instruments, like DMS, to mitigate risks. The findings aligned with literature by AL-Dosari & Fetais (2023) that adopting technological risk management solutions increases the monitoring of operations and minimized downtime for SMEs, and by Omokhoa et al. (2024) who highlighted that the inclusion of technology in risk avoidance enables firms to respond quickly and stay resilient during interference.

The results of the research showed mitigation measures are reviewed from time to time and revised, promoting responsiveness to changing business situations, even though financial protection mechanisms like insurance and hedging are utilized less. The findings are in consonance with the literature by Isibor et al. (2022) who noted that continuous updating of mitigation frameworks enforces SMEs' shock survival and guarantees financial and operating stability, and Foli et al. (2024) who asserted that adaptive and responsive risk mitigation guarantees competitiveness and sustainability in the long term. The Pearson correlation results ($r = .885^{**}$, $p < .05$) also supported a strong and significant positive correlation between SMEs' operational effectiveness and risk avoidance in Mukono Municipality.

5.2 Summary of findings

The findings revealed that most SMEs in the Mukono Municipality directly undertake risk identification procedures, whereby 72.5% of the respondents agreed that their businesses routinely identify internal and external risks, and 82.5% agreed that the procedures are methodical and uniform in all business operations. Furthermore, 73.4% identified the use of official tools such as checklists, whereas 73.3% identified employee involvement in keeping potential risks records, indicating a healthy culture of operational stability. However, only 58.4% indicated maintaining official records of risks, which shows that there is no documentation that can deprecate systematic monitoring and long-term planning. Generally, these results show that

SMEs employ systematic, proactive, and participatory approaches to risk identification, although maintaining records formally is an improvement area. This is also supported by Pearson's correlation results (r = .866**, p< .05), which confirmed a strong and significant positive relationship between risk identification and operation effectiveness of SMEs within Mukono Municipality.

Furthermore, the study revealed that risk assessment is a widely used method among SMEs in Mukono Municipality, where most businesses (79.2%) evaluate the likelihood and impact of risks before making decisions and 80.0% prioritize risks that require immediate attention, testifying to its key importance in making informed and effective decisions. The majority (85.0%) also agreed that continuous risk assessment improves the process of resource allocation, while 74.2% agreed that results from assessment are included in plans, bearing witness to its contribution towards sustainability and resilience. Besides, 83.3% acknowledged that they revise risk assessments periodically to adapt to evolving environments, though only 64.2% applied formal frameworks, indicating a perceived disconnect between formal risk evaluation. In all, the results are reflective that SMEs cite risk assessment as pivotal in enhancing decision-making, resource utilization, and flexibility, albeit with differences in relation to application of formal tools. Pearson's correlation results (r = .892**, p< .05) also indicated high and significant positive correlation between risk assessment and operational effectiveness of SMEs in Mukono Municipality.

Lastly, the study revealed that SMEs in Mukono Municipality have adopted risk mitigation strategies widely, where 72.5% of them reported mechanisms in place to reduce risk impacts and 82.5% named preventive controls such as standard operating procedures to ensure consistency and effectiveness. A high percentage (73.4%) also responded that their businesses recover quickly from disruptions to their operations, while 73.3% agreed to the utilization of technical tools such as electronic monitoring systems to mitigate risks, witnessing the increasing use of technology in risk mitigation. Furthermore, 83.3% of the respondents stated that mitigation plans are regularly reviewed and updated, further corroborating agility in responding to changing circumstances, though areas of weakness exist as only 68.4% use financial protection tools like insurance and hedging. Overall, the findings suggest that risk mitigation is essential in its role to create resilience, reduce disruptions, and improve operational and financial stability of SMEs.

Pearson correlation results (r = .885**, p< .05) confirmed a significant and high positive relationship between risk mitigation and SMEs' operational effectiveness in Mukono Municipality.

5.3 Conclusions

The study concludes that risk identification is a critical practice in SMEs in Mukono Municipality, and the majority of the firms would identify both internal and external risks actively using systematic and participatory approaches. The high level of employee participation and use of structured tools such as checklists shows that SMEs recognize the importance of forecasting potential risks confronting operations. However, the relatively low proportion of SMEs maintaining formal records of risk indicates a deficiency in documentation, which may hinder long-term monitoring and strategic planning. All in all, excellent risk identification has a very strong correlation with enhanced operational effectiveness, as evidenced by the extremely high positive relationship (r = .866**, p< .05).

The study also concludes that risk assessment lies at the root of facilitating informed decision-making and business effectiveness among SMEs in Mukono Municipality. Through evaluating the likelihood and probable impact of risks, locating immediate threats, and integrating assessment results into planning, SMEs are able to better utilize resources and develop resilience against uncertainty. Despite this, the uneven application of formal approaches suggests that a few SMEs may not be fully leveraging systematic risk assessment methods. However, the high positive correlation between risk assessment and performance (r = .892**, p< .05) underlines the importance of including systematic risk assessment within business processes for improved performance and responsiveness.

Finally, the study concludes that risk mitigation is a key factor of operational and financial stability for SMEs in Mukono Municipality. Applying preventive measures, timely response mechanisms, technology-based mechanisms, and regular review of mitigation plans confirms that SMEs manage and contain the impacts of risks on their operations proactively. While low utilization of risk protection tools such as hedging and insurance recognizes an area of vulnerability, overall conclusions concur that effective risk mitigation enhances resilience, lessens operation disruptions, and enhances business performance. The robust positive

relationship between risk mitigation and operational efficiency (r = .885**, p< .05) further supports the salient point that the incorporation of strong mitigation measures is imperative to SME success.

5.4 Recommendations

Based on the findings of the study, the following recommendations have been found necessary concerning evaluation of risk management strategies and their operational effectiveness among small and medium enterprises (SMEs) in Mukono Municipality.

The study recommends the need for enhancing formal documentation of risk identification by SMEs in Mukono Municipality. Risk identification is pursued vigorously by the majority of business entities, and employee reporting is promoted, though there is a low percentage among them with formal records of risk. Formal documentation, which yields extensive and structured proof, will enhance monitoring, support long-term planning, and offer continuity to the risk management practice, in turn leading to enhanced operational efficiency and strategic decision-making.

The study also recommends the need for uptake and utilization of official risk assessment models by SMEs regularly. Though numerous are engaged in risk evaluation and ranking, few employ ad hoc approaches that may compromise the consistency and reliability of estimation. Employment of standardized frameworks or tools to measure risk probability and impact will guarantee decisions are made on the basis of informed knowledge, resources are optimally utilized, and resilience is enhanced against the interruption of operations.

Furthermore, the study recommends the need for integration of risk assessment findings more holistically into planning and strategy. Although the majority of companies consider the findings of assessments in decision making, there are inconsistencies in their usage in certain locations. Making sure that results of risk assessment get direct expression in processes of planning will enhance preparedness, remove exposure to main hazards, and build sustainable growth through coordination of operating functions with goals of risk management.

In addition, the study recommends the need for SMEs to expand the use of financial protection measures, such as insurance and hedging, in their risk management. The study reported that a

proportion of SMEs utilize these measures and leave them exposed to financial crisis. Enhancing access and utilization of financial protection instruments will render them less exposed to sudden shocks, enhance operational resilience, and provide long-term financial stability.

Lastly, the study recommends that SMEs need to make better use of technology in risk management processes. While there are companies that apply digital monitoring systems for risk identification and management, the use of advanced technological tools remains low. Investing in technology-driven solutions like real-time monitoring, prediction analysis, and auto-alarm systems will enhance timely detection of operational risks, allow for quick action, and improve overall operational effectiveness and resilience.

5.5 Areas for further research

Since this study aimed at evaluating risk management strategies and their operational effectiveness among small and medium enterprises (SMEs) in Mukono Municipality, the study recommends that;

Further studies would explore the impact that organizational culture and leadership styles have on the effectiveness of risk management practices for SMEs in Mukono Municipality.

Future studies can also reveal the impact of digitalization and advanced technological advances, such as artificial intelligence and predictive analytics, on the process of risk identification, assessment, and mitigation.

Comparative studies across industry or regional levels can also be carried out to explore the differences in risk management behavior between regions and their effects on business performance.

Lastly, longitudinal studies could also assess the long-term effects of risk management practices on SMEs' financial stability, competitiveness, and sustainability and provide more profound insights to policymakers and business practitioners to improve enterprise resilience.

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APPENDICES

Appendix 1: Questionnaire

For Selected SMEs in Mukono Municipality

Dear respondent,

My name is Komugisha Evalyne; I am a student of BBA at Uganda Christian University. I am conducting a study on "***An evaluation of risk management strategies and their operational effectiveness among small and medium enterprises in Mukono Municipality.***" You have been specifically selected to participate in this study and the information collected shall be purely for academic purpose and treated with the highest level of confidentiality. The success of this study shall greatly dependent on your response. Your cooperation shall highly be appreciated.

Section A: Personal Background Information

Tick where applicable

1. What is your gender?

a) Male ☐ b) Female ☐

2. What is your age group?

a) 21-30 years ☐ b) 31-40 years ☐

c) 41-50 years ☐ d) Above 50 years ☐

3. What is your highest level of education?

a) Primary ☐ b) Secondary ☐

c) Tertiary ☐ e) Others specify:……

4. Which kind of business do you operate in Mukono Municipality?

……..

5. How long have you been operating this business?

a) Less than 1 year ☐ b) 1-5 years ☐

c) 6-10 years ☐ d) Above 10 years ☐

Guide for Completing the Questionnaire:

Note: In the following sections, rate your degree of agreement on each statement under each objective using a scale of 5(Strongly Agree), 4(Agree), 3(Not sure), 2(Disagree) and 1(Strongly Disagree). Please answer questions by making a tick (√) on your preferred answer of choice.

Section B: Risk Management Strategies

	Statements	**Responses**				
s. no	**Risk identification**	**5**	**4**	**3**	**2**	**1**
1	My enterprise regularly identifies potential internal and external risks before they affect operations.					
2	We maintain a formal record or register of identified risks affecting our business.					
3	Risk identification processes in my SME are systematic and consistent across all business activities.					
4	Early identification of risks helps my enterprise reduce unexpected disruptions in operations.					
5	Our SME uses checklists or structured tools to identify operational and financial risks.					
6	Employees are actively involved in reporting potential risks that could affect our business performance.					
s. no	**Risk assessment**	**5**	**4**	**3**	**2**	**1**
1	My SME evaluates the likelihood and potential impact of identified risks before making decisions.					
2	Risk assessment in my enterprise helps prioritize which risks require immediate action.					
3	We use formal frameworks or tools to assess risks in financial,					

	operational, and supply chain activities.					
4	Regular risk assessment improves our ability to allocate resources efficiently.					
5	The results of risk assessments are integrated into decision-making and planning in my enterprise.					
6	Our SME monitors and updates risk assessments periodically to reflect changes in business conditions.					
s. no	**Risk mitigation**	**5**	**4**	**3**	**2**	**1**
1	My enterprise has established measures to reduce the impact of identified risks.					
2	We implement preventive actions, such as standard operating procedures, to minimize operational risks.					
3	Risk mitigation strategies in my SME, such as insurance or hedging, protect financial and operational stability.					
4	Our SME responds quickly to operational disruptions to prevent prolonged downtime.					
5	We use technological tools (e.g., digital monitoring systems) to mitigate operational risks.					
6	Mitigation plans are regularly reviewed and updated to remain effective under changing conditions.					

Section C: Operational effectiveness of SMEs in Mukono Municipality

	Statements	**Responses**				
s. no	**Operational performance of SMEs**	**5**	**4**	**3**	**2**	**1**
1	My SME consistently delivers products or services on time to meet customer expectations.					
2	We optimize our resources to achieve maximum efficiency in daily operations.					
3	Operational processes in my enterprise are reliable and minimize errors					

	or wastage.					
4	Our enterprise quickly adapts to operational challenges to maintain performance.					
5	Employee roles and responsibilities are clearly defined, supporting smooth workflow.					
6	Our SME achieves a balance between operational efficiency and service quality.					

Thank you very much for your cooperation