

MSMEs Competency: Parallel to Risk Management Practices and Holistic Approaches

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Abstract

In today's uncertain business environment, Micro, Small, and Medium Enterprises (MSMEs) play a vital role in economic growth, especially in developing countries like the Philippines. However, their limited access to management tools and resources makes them vulnerable to risks. This study examined the relationship between risk management practices and MSME competency, guided by the COSO Enterprise Risk Management (ERM) Framework (2013). It aimed to: (1) analyze MSME profiles (income, sector, assets, employees, years of operation); (2) assess the usage and effectiveness of risk management practices; (3) identify differences and relationships across business profiles; and (4) propose a practical risk management action plan. Findings showed that most MSMEs earn Php 9,000–35,000 monthly, have assets below Php 3 million, employ fewer than 10 workers, and operate mainly in wholesale/retail trade. Despite resource constraints, risk management—particularly in compliance, financial, and strategic areas—was rated “highly effective.” Significant differences emerged by income, assets, and years in operation, while correlation analysis revealed a strong positive link ($r = 0.6102$) between risk management effectiveness and overall competency. The study proposed a development plan including seminars on sustainable risk strategies, simplified loan processes, and digital promotion tools to strengthen MSME resilience and long-term sustainability.

The research supports the UN Sustainable Development Goals (SDGs): SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation, and Infrastructure), SDG 11 (Sustainable Cities and Communities), and SDG 17 (Partnerships). Overall, it highlights the transformative role of integrated risk management in enhancing MSME performance, resilience, and competitiveness.

Keywords: Risk Management Practices, Holistic Competency, COSO ERM Framework, Strategic Risk, Compliance Risk, and Financial Risk

INTRODUCTION

In today's era of rapid change and uncertainty, a sound business plan with effective operational strategies is essential for sustaining firms. Risk management—identifying, assessing, and controlling financial, strategic, and operational risks—plays a crucial role in ensuring stability and growth (Tucci, 2023; Maljugić et al., 2022). For Small and Medium Enterprises (SMEs), effective risk management is vital in addressing challenges such as poor management, flawed processes, and limited resources, which directly affect their financial sustainability and long-term survival (Wegner et al., 2017; Cepel et al., 2018). Strategic decision-making by owners or managers is also key to digital transformation and competitiveness (Dincă et al., 2019).

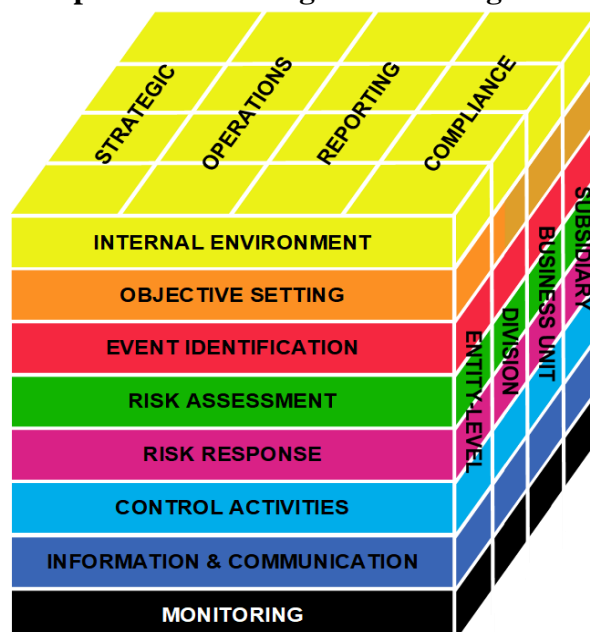
Globally, Micro, Small, and Medium Enterprises (MSMEs) have been recognized as economic pillars, particularly in developing nations like India and the Philippines, where they contribute significantly to growth and employment (Kulkarni, 2023; MSME Ministry, 2021). However, MSMEs often lack formal risk management systems, as many focus more on reputation and stakeholder accountability rather than structured governance (Panigrahi, 2017; Koval, 2021). Studies also highlight gaps in business knowledge, denial of management weaknesses, and reluctance to adopt educational tools (Pastrana et al., 2021). Given these challenges, this study addresses the research gap on the alignment of current MSME risk management practices with overall business performance. By examining their strategies, the research aims to strengthen MSME foundations for sustainability, resilience, and competitiveness in evolving markets. This study examined the relationship between risk management practices and the holistic competency of Micro, Small, and Medium Enterprises (MSMEs) to strengthen their competitiveness in the market. Specifically, it aimed to: (1) profile MSMEs by income, sector, assets, employees, and years of operation; (2) measure the extent and effectiveness of strategic, compliance, financial, and operational risk management practices; (3) determine significant differences in usage and effectiveness when grouped by business profiles; (4) assess the relationship between risk management and holistic competency in terms of sustainability, profitability, and performance; and (5) propose strategies to enhance MSME competency through effective risk management systems.

Theoretical Framework

Recognizing the critical role that risk management plays in influencing the holistic competency of enterprises within the evolving commerce sphere, this inquiry was anchored on the 2004 Enterprise Risk Management – Integrated Framework developed by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

The COSO ERM framework is one of the most extensively recognized standards in the realm of risk management, aiding organizations in navigating risks within a progressively ever-changing and uncertain business environment (Sadoian, 2023).

Figure 1 COSO Enterprise Risk Management – Integrated Framework (2013)

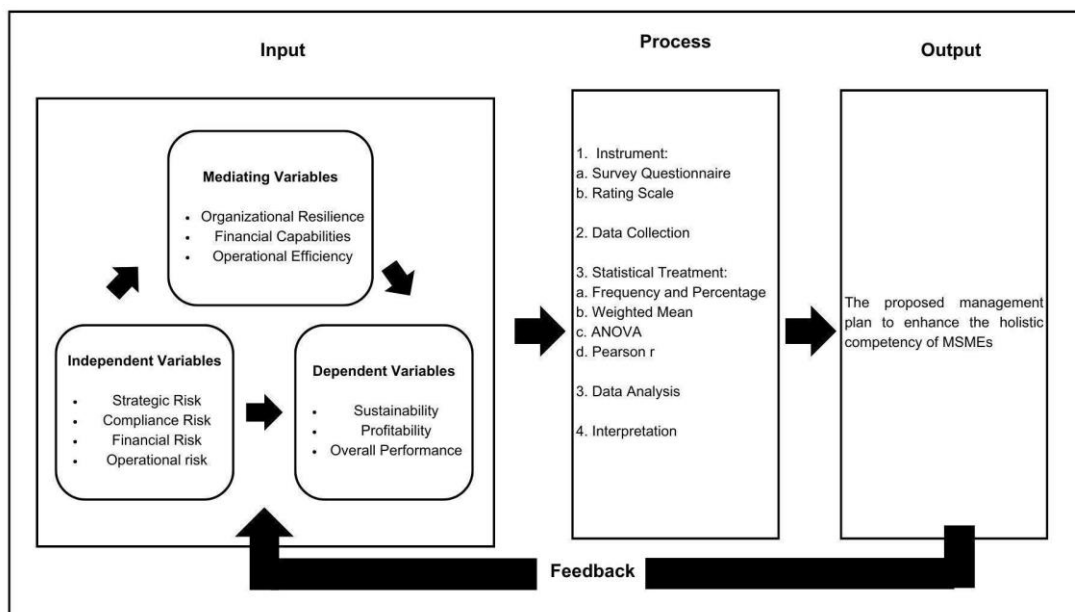


According to Williams (2023), COSO’s initial mission was to improve financial reporting and prevent fraud, leading to the Internal Control–Integrated Framework in 1992 and its update in 2013. While effective in addressing fraud and compliance risks, the framework lacked tools to identify and evaluate broader risks, prompting the development of the Enterprise Risk Management (ERM) – Integrated Framework in 2004. The ERM cube illustrates the interconnection between business objectives, risk components, and organizational units (IRM, n.d.). Unlike the original framework, which focused on operations, financial reporting, and compliance, the ERM model added strategic objectives to ensure alignment between mission, operations, reporting, and compliance (Protiviti, n.d.). Thus, COSO ERM emphasizes four categories of objectives: strategic, operations, reporting, and compliance (AcqNotes, 2021).

This study focuses on the four main categories of business objectives—strategic, compliance, financial, and operational—which also represent the primary risks enterprises must manage to enhance performance (Nibusinessinfo.co.uk, n.d.; IRM, n.d.). While frameworks like ISO 31000 and NIST share similar principles with COSO ERM, they were set aside due to their broader or cybersecurity-specific scope. Instead, COSO’s 2004 Enterprise Risk Management–Integrated Framework was adopted as the study’s foundation, as it emphasizes internal controls for managing risks across all organizational levels. COSO ERM ultimately aims to align operations, reporting, compliance, and strategy, enabling firms to strengthen competitiveness, productivity, resilience, and overall enterprise value (Kuot & Hawks, 2023; ILO, 2023).

Conceptual Framework

Figure 2 Independent-Dependent Model & IPO Model



The study’s conceptual framework, based on the IPO model, examines the relationship between risk management practices (strategic, compliance, financial, and operational risks) as independent variables and holistic competency (sustainability, profitability, and overall performance) as dependent variables. Mediating factors such as organizational resilience, financial capabilities, and operational efficiency are also considered. The process involves data collection, analysis, and interpretation, leading to a proposed risk management plan to strengthen MSME competency.

Scope and Limitations of the Study

This study examined the relationship between risk management practices and holistic competency among MSME managers in Santa Rosa, Laguna. Using multistage cluster sampling, 350 respondents were selected based on the Raosoft formula, and data were gathered through a structured questionnaire.

Significance of the Study

This study highlights the importance of risk management in strengthening the holistic competency of MSMEs in Santa Rosa, Laguna. It provides MSME owners and managers with deeper insights into managing strategic, compliance, financial, and operational risks, encouraging better practices to remain competitive. MSMEs, defined by asset size and employment, are the backbone of the Philippine economy—accounting for 99% of businesses, 35.7% of GDP, and millions of jobs (DTI, 2019). Despite their vital role, MSMEs face challenges such as limited risk awareness, financial constraints, and policy gaps. Effective adoption of Enterprise Risk Management can enhance their sustainability, competitiveness, profitability, and resilience. Government initiatives like DTI's 7Ms (Mindset, Mastery, Mentoring, Markets, Money, Machines, and Models) remain crucial in supporting their growth and contribution to national development.

Running a business is inherently risky, as enterprises face strategic, compliance, financial, and operational risks that can hinder growth and sustainability. Strategic risks stem from flawed business decisions or failure to adapt to changing environments, while compliance risks arise from non-adherence to laws and regulations, potentially damaging reputation and operations. Financial risks involve monetary losses due to poor monitoring, market fluctuations, or credit issues, often threatening the survival of SMEs. Operational risks relate to internal failures in processes, systems, or human resources that disrupt daily activities. Effective enterprise risk management is therefore essential, as it strengthens compliance, financial stability, operational efficiency, and overall competitiveness, ultimately supporting long-term business success.

Holistic business competency is closely tied to sustainability, which Spiliakos (2018) defines as operating without harming society and the environment. Studies show sustainability integrates economic, ecological, and social aspects, with environmental protection being the most prominent (Eizaguirre et al., 2019). Compliance is its first step (Hoover, 2024), while climate change is now a key factor in long-term business prospects (Warren, 2020). For MSMEs, sustainability is vital, especially post-pandemic, requiring competitiveness in pricing, technology, and quality (Afdal et al., 2021). However, they lag behind larger firms in adopting new technologies (Hamdan, 2021).

Research highlights that sustainability reporting enhances performance by increasing income, exposure, and workforce growth (Uwuigbe et al., 2018), while CSR positively affects financial outcomes (Lee & Hu, 2018). Larger firms often achieve better sustainability due to economies of scale (Dzeraviaha, 2022), and workforce size significantly influences SME productivity (Hernita et al., 2021). Similarly, business longevity contributes to adaptability and profitability (SciSpace, n.d.).

Profitability, defined as the income-expense ratio (Paller, 2022), is linked to effective risk management (AlNahhaal, 2023; PwC, 2022). Risk management improves financial decision-making and resource allocation (Chitta & Soni, 2023), while also supporting efficiency and diversification (Altuntas et al., 2019). Studies suggest employee satisfaction (Krevel, Ward, & De Neve, 2019), workforce size (Romo et al., 2023), and years of operation (Damodaran, 2024) all shape profitability and competitiveness. However, poor asset utilization often hinders MSMEs (Mayanja, 2020).

Business performance is measured through profits and goal attainment (Terpilowski, 2022), with KPIs

providing real-time insights into finances, productivity, and efficiency (Mosca, 2022). MSMEs significantly contribute to GDP and job creation (Gare, 2022), yet face challenges like limited financing, weak technology, and labor shortages. Studies confirm that employee size (Abidin et al., 2023), operational years (SciSpace, n.d.), and risk management practices (Fernando et al., 2019; Okere et al., 2018; Maletič et al., 2020) are critical drivers of overall competency and performance.

Synthesis of the Reviewed Literature and Studies

The Magna Carta for MSMEs (RA 9501) defines enterprises with assets from ₱3M–₱100M, excluding land, and highlights their 35.6% GDP contribution and 5.7 million jobs in 2018. Despite this, MSMEs face challenges in risk management due to limited knowledge and resources, with gaps in tailored policies. To address this, DTI introduced the 7Ms strategy (mindset, mastery, mentoring, markets, money, machines, and models). Risk management involves handling strategic, compliance, financial, and operational risks, which significantly affect sustainability, profitability, and overall performance. Studies show mixed findings: while many emphasize effective risk management as enhancing value, profitability, and resilience, others claim limited or no direct impact. Sustainability is linked to innovation, resources, and firm longevity; profitability varies by asset size, workforce, and industry; and performance depends on leadership, employee satisfaction, resources, and years of operation. Overall, MSMEs' growth and competitiveness are closely tied to sound risk management and holistic competency.

Gaps to be Bridged by the Study

A review of literature revealed limited studies focusing specifically on MSMEs, as most research emphasizes SMEs and their risk management practices. There is also a gap in policies tailored for MSMEs due to lack of knowledge and resources. To address this, the researchers present statistical data on the link between risk management practices and MSMEs' overall competence, and propose a comprehensive risk management plan for their growth and sustainability.

Statement of the Problem

This study aimed to examine the relationship between risk management practices and the holistic competency of Micro, Small, and Medium Enterprises (MSMEs). Specifically, it sought to answer the following questions:

1. What is the business profile of respondents in terms of:
 - 1.1 monthly income,
 - 1.2 industry or sector,
 - 1.3 asset size,
 - 1.4 number of employees, and years of operation?
2. To what extent are risk management practices applied in terms of:
 - 2.1 strategic risk,
 - 2.2 compliance risk,
 - 2.3 financial risk, and
 - 2.4 operational risk?
3. To what extent do risk management practices contribute to holistic competency in terms of:
 - 3.1 sustainability,
 - 3.2 profitability, and
 - 3.3 overall performance?
4. Are there significant differences in the extent of risk management practices when grouped according

to profile variables?

5. Are there significant differences in the effectiveness of risk management practices on holistic competency when grouped according to profile variables?
6. Is there a significant relationship between risk management practices and holistic competency?
7. Based on the findings, what risk management plan can be proposed to strengthen the holistic competency of MSMEs?

Hypothesis

The study tested three null hypotheses at a 0.05 significance level: (1) no significant difference in risk management practice usage across respondent profiles, (2) no significant difference in their effectiveness on holistic competency across profiles, and (3) no significant relationship between risk management practices and holistic competency.

Scope and Limitations of the Study

This study examined the relationship between risk management practices and the holistic competency of MSME managers in Santa Rosa, Laguna. Using multistage cluster sampling and the Raosoft formula, 350 respondents were selected. Data were gathered through a structured questionnaire.

Significance of the Study

This study examined the relationship between risk management practices and the holistic competency of MSMEs in Santa Rosa, Laguna. Its findings benefit MSME owners and managers by enhancing risk management strategies for sustainability, profitability, and performance; assist management and accounting graduates in deepening their knowledge and skills; broaden readers' understanding of MSMEs' role in economic sustainability; and provide researchers and future researchers with a valuable reference for academic and professional work.

REVIEW OF LITERATURE AND STUDIES

This chapter reviewed local and international literature and studies that support the research, focusing on four sub-topics: the role and state of MSMEs, holistic business competency, business risks, and risk management practices.

The Role and State of the Micro, Small, and Medium Enterprises

Micro, Small, and Medium Enterprises (MSMEs) are defined by Republic Act No. 9501, or the Magna Carta for MSMEs, as entities with total assets of ₱3 million to ₱100 million, excluding land (Philippine e-Legal Forum, 2020). They are further classified by capitalization, sales turnover, and employee size (Ajuwon et al., 2017), with the Department of Trade and Industry (DTI, 2019) categorizing them based on employment: micro (1–9 employees), small (10–99), and medium (100–199).

MSMEs are recognized as the backbone of the Philippine economy, contributing 35.7% to GDP and generating 5.7 million jobs in 2018 (Congressional Policy and Budget Research Department, 2020). They also foster development in rural areas and reflect the overall economic strength of a country (Senate Economic Planning Office, n.d.; ITC, 2019).

In 2021, MSMEs made up 99% of registered businesses in the Philippines, creating vast employment opportunities (Khatibi, 2021). The highest concentrations were in NCR, CALABARZON, and Central Luzon (Congressional Policy and Budget Research Department, 2020), with Santa Rosa, Laguna, recording 7,009 establishments (BPLO Santa Rosa, 2024). Despite their growth, MSMEs face challenges in risk identification and management (Koval, 2021; Zainuddin, 2022). Employment is largely driven by

Wholesale and Retail Trade, followed by Food Services and Manufacturing (DTI, 2018).

Effective Enterprise Risk Management provides MSMEs with competitive advantage, improved profitability, operational efficiency, cost reduction, better decision-making, and enhanced corporate image (Ujagare, 2023).

MSMEs face policy development challenges due to limited understanding among policymakers (APEC Business Advisory Council, 2022). Their survival often depends on overcoming financial constraints since many rely on personal funds (Ganhinhin, 2021), making government support essential. Rosyidiana and Narsa (2024) emphasized that digitalization, organizational structures, financial capabilities, and owners' financial knowledge significantly affect performance.

To address these needs, the Philippine government promotes DTI's 7Ms strategy—Mindset, Mastery, Mentoring, Markets, Money, Machines, and Models of Business—for sustainable MSME growth (UP ISSI – Diliman, 2020).

Risks in Business

Running a business involves multiple risks stemming from uncertainties in internal and external factors (Nibusinessinfo.co.uk, n.d.). These risks are generally categorized as strategic, financial, operational, and compliance risks (Nibusinessinfo.co.uk, n.d.; Leung & Whitsett, 2023). Strategic risks arise from flawed decisions or failed strategies, potentially affecting competitiveness, growth, and sustainability (MasterClass, 2022; Glossop, 2021; World Bank Group, 2019). Enterprises that adopt strategic risk management improve their chances of survival (Baloyi & Ozumba, 2020). Operational risks, though often confused with strategic risks, originate from internal processes that disrupt workflow execution (Cascade Team, 2023). Compliance risks, meanwhile, occur when businesses fail to meet legal and regulatory requirements, threatening credibility and operations (Fitzgerald & Gutierrez, 2023; Schmidt & Raman, 2022; Martinez, 2023).

Compliance risk refers to the potential legal, financial, and reputational consequences of failing to comply with laws, regulations, and industry standards (Spooner & Lekatis, n.d.; Bonnie & Gutierrez, 2024). Unlike regulatory risk, which involves changes in laws, compliance risk stems from breaches of existing rules that may cause material loss and operational disruption (Spacey, 2023).

SMEs and MSMEs are particularly exposed to compliance risks, and without systematic identification, they may overlook threats; hence, adopting comprehensive risk management is essential to prevent major issues (TaxReturnWala, n.d.). Beyond avoiding penalties, compliance risk management also safeguards reputation, customer trust, and overall performance, though aligning compliance with business strategy remains a significant challenge (Bonnie & Gutierrez, 2024).

Financial risk refers to the probability of monetary losses resulting from business or investment choices, often leading to capital depletion (Verma, 2023). Regular financial monitoring enhances organizational performance by identifying risks and reducing their impact (Hayes, 2022; Tamplin, 2023). SMEs face internal and external financial risks that threaten survival, with data showing that 20% of small businesses fail within the first year and nearly 70% within a decade (Trymbiski, 2023). Studies also confirm its negative effect on SME performance and sustainability, highlighting the need for financial risk management to improve outcomes and stimulate economic growth (Offiong et al., 2019; Deskera, 2023). Operational risk, on the other hand, stems from ineffective processes, human error, system failures, or external events, affecting day-to-day business operations (BSP, n.d.). This risk can damage reputation, reduce income, and disrupt continuity if not managed effectively (Deloitte, 2024; Schmidt & Raman, 2022). SMEs are particularly vulnerable, as operational disruptions directly threaten their survival

(Panigrahi, 2017; Allianz Care, 2020).

Effective management of operational risk safeguards financial stability, prevents reputational damage, and supports long-term success (Vicente, 2023; Tookitaki, n.d.).

Effective management involves using resources efficiently to achieve organizational goals by applying the core functions of planning, organizing, leading, and controlling. Key practices include setting clear goals, communicating effectively, empowering employees, providing consistent feedback, making data-driven decisions, and fostering a culture of continuous development to drive success and employee motivation. Risk management is the structured process of identifying, assessing, and controlling potential threats that could negatively impact an organization's operations, finances, or reputation.

Overall, risks are inherent in business, but effective enterprise risk management strengthens financial stability, compliance, and operational efficiency while boosting confidence in strategic objectives (Gillis, 2023).

Risk Management Practices

Risk management is broadly defined as the process of identifying, assessing, and managing risks, including financial, legal, technological, and strategic uncertainties (Tucci, 2023; RiskOptics, 2022). Enterprise risk management focuses not on eliminating risks but on leveraging them to improve decision-making, performance, and profitability (Tucci, 2023; Jonas, n.d.; Hayes, 2022). Studies reveal that risk management significantly influences both financial and non-financial performance, particularly for MSMEs, where effective practices enhance sustainability and competitiveness (Mustapha et al., 2023; Hanggraeni et al., 2019; Ojubanire & Dawodu, 2021). Framework elements such as goal setting, control, and monitoring further strengthen organizational processes (Bello et al., 2019; Al-Nimer et al., 2021). While some findings show no direct effect on profits (Al-Nimer et al., 2021), other research confirms that risk management boosts business value, sustainability, and employee productivity (Yakob et al., 2019; SOCAR, 2024; Chellappa, 2023; Webb, 2021). Moreover, ongoing learning and development in risk management are essential for SMEs to better mitigate risks and improve long-term performance (Apaloo & Bright, 2022).

Establishing the Holistic Competency of Businesses

Sustainability is viewed as the ability of organizations to operate without harming society or the environment (Spiliakos, 2018), requiring long-term success strategies beyond financial goals (Ramanauskaitė & Kanelli, 2019). It integrates economic, ecological, and social aspects, with environmental preservation being most crucial (Eizaguirre et al., 2019). Compliance is its first step (Hoover, 2024), and climate change has become a key factor in investment decisions (Warren, 2020). For MSMEs, sustainability is vital for competitiveness, technology adaptation, and resilience, especially post-COVID-19 (Afdal et al., 2021; Hamdan, 2021). Human resource development through training and innovation is emphasized.

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innovation is emphasized.

Sustainability reporting improves financial performance, market exposure, and manpower growth (Uwuigbe et al., 2018). Corporate social responsibility (CSR) positively correlates with firm performance (Lee & Hu, 2018), though firm size and industry yield mixed effects (Dzeraviaha, 2022; Hernita et al., 2021). Longevity and adaptation to market fluctuations strengthen sustainability (SciSpace, n.d.).

Profitability, defined as the income-expense ratio (Paller, 2022), is enhanced by risk management (AlNahhaal, 2023), which boosts growth and resource allocation (PWC, 2022; Chitta & Soni, 2023). Risk management also improves income diversity and efficiency (Altuntas et al., 2019). SMEs can gain competitive advantage through core capabilities (Galli-Debicella, 2021), but many face profitability challenges due to poor asset utilization (Mayanja, 2020).

Larger firms often report higher profits (Ledley et al., 2020), while employee satisfaction strongly influences profitability and productivity (Krevel et al., 2019). Firm size, workforce, and operating years affect performance and profitability, with established companies showing greater stability (Damodaran, 2024; Romo et al., 2023). Business performance is measured through profits, resources, and goal achievement (Terpilowski, 2022; Riberolles, 2021). Key performance indicators (KPIs) provide real-time performance insights (Mosca, 2022). MSMEs significantly contribute to GDP and employment (Gare, 2022), but face challenges in financing, technology, marketing, and skilled labor. Income remains the primary performance driver (Matar & Eneizan, 2018), with variations across industries due to employee productivity and growth factors (Hung et al., 2019; Krevel et al., 2019).

Larger enterprises gain a competitive edge through greater financial resources, while micro and small businesses are increasing more rapidly in number compared to medium and large firms. Enterprise competency significantly varies with workforce size, as more employees generally enhance efficiency and performance (Abidin et al., 2023). Similarly, longer operational years influence resource utilization and overall performance, with firms showing mixed levels of efficiency (SciSpace, n.d.). Risk management also contributes to improved performance, as its disclosure enhances execution (Okere et al., 2018), and its integration into asset management resolves cost, performance, and risk issues, thereby boosting profitability (Maletič et al., 2018; Maletič et al., 2020; Fernando et al., 2019).

Synthesis of the Reviewed Literature and Studies

The Magna Carta for MSMEs (RA 9501) defines enterprises by asset size, with MSMEs contributing 35.6% to Philippine GDP and generating 5.7 million jobs in 2018, though they face challenges in risk management due to limited resources and knowledge (DTI, 2018). The DTI's 7Ms strategy aims to strengthen MSMEs' sustainability. Business risks—strategic, compliance, financial, and operational—pose major challenges (Nibusinessinfo.co.uk, n.d.; Bonnie et al., 2016; Hayes & Tamplin, 2022; BSP, n.d.). Effective risk management improves performance (Mustapha et al., 2020; Yakob et al., 2021; Apaloo & Bright, 2021), though some studies find no direct financial link (Al-Nimer et al., 2015). Sustainability, driven by environmental preservation, innovation, and human resources, enhances competitiveness (Spiliakos, 2018; Hamdan, 2019; Uwuigbe et al., 2018), with larger firms often advantaged due to resources (Dzeraviaha, 2019). Profitability varies by firm size, workforce, and age, with employee satisfaction also influencing performance (Romo et al., 2020; Krevel et al., 2019; Damodaran, 2012). Business performance depends on resources, leadership, and KPIs (Mosca, 2019; Riberolles, 2018), with studies confirming that more employees and longer operational years generally improve efficiency and outcomes (Abidin et al., 2023; SciSpace, n.d.).

Gaps to be Bridged by the Study

After reviewing related literature, the researchers noted a gap in studies focusing specifically on Micro, Small, and Medium Enterprises (MSMEs), as most existing works emphasize only SMEs and their risk management practices. Furthermore, there is limited knowledge and resources in creating policies directly tailored to MSMEs. To bridge this gap, this study provides statistical data on the relationship between risk management practices and holistic competence of MSMEs, alongside a proposed risk management plan to strengthen their operations.

Methodology

This chapter discusses the research design and method, population, sample size, sampling technique, description of respondents, research instrument evaluation, data gathering procedures, statistical treatment of data, and ethical considerations.

Method of Research

The study employed a quantitative research method to measure the relationship between risk management practices and the overall competency of Micro, Small, and Medium-sized Enterprises (MSMEs). Quantitative research, as defined by Creswell & Creswell (2018), involves the systematic collection and analysis of numerical data to test theories, describe characteristics, and examine relationships between variables. Specifically, this method allowed for the measurement of respondents' business profiles, the extent and effectiveness of risk management practices, and the differences in business competency when grouped by profile variables.

A descriptive-correlational research design was adopted to describe the business profiles of respondents and analyze statistical relationships between variables without implying causality (Bhat, 2023). This design enabled the researchers to determine the degree and direction of associations between risk management practices and holistic competency among MSMEs.

Population, Sample Size, and Sampling Technique

The study respondents were business owners and managers of MSMEs in the City of Santa Rosa, Laguna. According to the Business Permit and Licensing Office (BPLO, 2024), there are 7,009 MSMEs in the city (5,110 micro, 1,621 small, and 278 medium enterprises). From this population, the study obtained 350 respondents.

A multistage cluster sampling technique was used, which divides the population into clusters for easier data collection (Bhat, 2024). The 18 barangays of Santa Rosa were grouped into six clusters of three barangays each, based on proximity. Cluster 2: comprising randomly selected barangays, and respondents were chosen at random.

Given the large population and time constraints, the margin of error was set at 8%, which remains acceptable within the standard 4–8% range at a 95% confidence level (Appinio, 2022). The sample size was calculated using the Raosoft formula, applying this margin of error and confidence level.

Total Micro, Small, and Medium-sized Enterprises (MSMEs) in the City of Santa Rosa, Laguna (as of February 2025)	
Enterprise Classification	Frequency
Micro	1,089
Small	1,725
Medium	5,218
Total	8,032

Total Micro, Small, and Medium-sized Enterprises (MSMEs) in the Randomly Drawn Cluster (as of February 2025)	
Barangay	Frequency
Brgy. Tagapo	1550
Brgy. Market Area	1380
Brgy. Balibago	1470
Total	4,200
Computed Sample Size (at 8% margin of error)	352

Distribution of Respondents (based on Multistage Sampling)			
Barangay	Frequency	Total Sample Size	Sample Size Proportion
Brgy. Tagapo	320	352	110
Brgy. Market Area	328		140
Brgy. Balibago	528		102
Total	1,176	352	352

Table 1 Distribution of Respondents

Moreover, the researchers set specific eligibility criteria to ensure the selection of respondents was aligned with the research objectives.

These criteria were not based on personal preferences or biases but were established to guarantee the relevance and accuracy of the data.

Accordingly, the following qualification was applied: The business must be classified as a Micro, Small, or Medium Enterprise (MSME).

Table 2 Micro, Small, and Medium-sized Enterprises (MSMEs) Classification

Enterprise	Category	
	By Asset Size	By Number of Employees
Micro	not more than P3,000,000	1 - 9 employees
Small	P3,000,001 - P15,000,000	10 - 99 employees
Medium	P15,000,001 - P100,000,000	100 - 199 employees

Note. Sources: Philippine Statistics Authority (PSA) & Magna Carta for Micro, Small and Medium Enterprises (MSMEs) – Republic Act No. 9501.

Additional qualifications included:

- The business must have a monthly income of at least ₱7,000.
- Respondents must be owners, managers, or individuals in managerial positions who are knowledgeable and capable of providing accurate responses to the research questions.

These criteria ensured that the selected participants were relevant, reliable, and able to contribute significantly to the successful completion of the study. Moreover, the researchers recognized that the respondents' experience as business owners or managers, along with their first-hand expertise in handling business operations, enabled them to effectively assess the relationship between risk management practices and the holistic competency of their enterprises.

Description of Respondents

The respondents of this study consisted of 350 owners and managers of Micro, Small, and Medium-sized Enterprises (MSMEs) in the City of Santa Rosa, Laguna. They were chosen as they play a key role in identifying and mitigating business risks. MSMEs are vital drivers of economic growth in the Philippines by generating jobs and reducing unemployment. This study also encouraged respondents to assess and enhance their knowledge of risk management to keep pace with emerging trends and developments in the business industry.

Research Instrument

This study utilized researcher-made survey questionnaires to collect the necessary data directly from respondents. The questions were originally developed by the researchers, ensuring they were not adapted from previous studies. Furthermore, the closed-ended questions were carefully designed to be clear, unbiased, and aligned with the objectives of the research.

The instrument was administered to MSME owners and managers who qualified through a pre-survey based on predefined criteria. The questionnaire consisted of three parts: (1) a brief statement explaining the purpose of the study and assuring confidentiality, (2) the business profile of the respondents, and (3) checklist questions addressing risk management practices and holistic competency.

A self-made 4-point Likert scale, which avoids neutrality and assumes responses can be measured linearly, was used to assess the extent and effectiveness of practices (Nee & Yunus, 2020). Responses were tabulated, statistically analyzed, and interpreted using verbal descriptions aligned with the scale.

Table 3 Four-Point Scale in Testing the Extent of Usage of Risk Management Practices and the Extent of Effectiveness of Risk Management Practices to the Holistic Competency

Rate	Scale
4	Always
3	Often
2	Seldom
1	Never

Table 4 Verbal Interpretation Of The Extent Of Usage Of Risk Management Practices And The Extent Of Effectiveness Of Risk Management Practices To The Holistic Competency

Rating Scale	Verbal Interpretation
3.50 – 4.00	Highly Effective
2.50 – 3.49	Effective
1.50 – 2.49	Ineffective

1.00 – 1.49

Highly Ineffective

Data-Gathering Procedure

This study examined the correlation between risk management practices and the holistic competency of MSMEs in Santa Rosa, Laguna. Primary data were collected through a researcher-made questionnaire, divided into three scales: business profile, risk management practices, and holistic competency. The instrument was validated before distribution to qualified owners and managers, after which responses were organized, tallied, and statistically analyzed. Secondary data were drawn from related literature, including theses, journals, and articles, to support and strengthen the study

Statistical Treatment of Data

The researchers employed both descriptive and inferential statistics. Descriptive statistics were used to summarize and present an overview of the data, while inferential statistics were applied to test hypotheses and determine the statistical significance of observed relationships.

The researchers applied several statistical tools to analyze the data. Frequency and percentage were used to describe the respondents’ business profiles, while the weighted mean measured the extent and effectiveness of risk management practices on MSMEs’ holistic competency. To test for significant differences, Analysis of Variance (ANOVA) was employed, as it determines variations in means across groups (Singh, 2024). Lastly, Pearson’s correlation coefficient was used to examine the strength and direction of the relationship between risk management practices and holistic competency (Stewart, 2023)

Ethical Considerations

This research adhered to ethical standards, ensuring informed consent, confidentiality, and the anonymity of respondents. Permission was sought prior to data collection, and surveys were conducted at the respondents’ most convenient time to avoid disruption. The process prioritized the safety and well-being of participants, with only relevant data being gathered while disregarding any irrelevant information.

RESULTS AND DISCUSSION

The study strictly observed ethical standards by securing informed consent, ensuring confidentiality and anonymity, and prioritizing the respondents’ convenience and well-being. Only relevant data were collected, while all irrelevant information was disregarded.

1. The respondent’s business profile in terms of:

1.1. Monthly Income

Table 5 Frequency Distribution of the Respondents’ Profile in terms of Monthly Income

Monthly Income	Frequency	Percentage
Php 9,000 – Php 25,000	50	25.89%
Php 25,001 – Php 50,000	60	32.14%
Php 50,001 – Php 75,000	70	20.54%
Php 75,001 – Php 100,000	80	11.61%
Php 100,001 and above	92	9.82%
Total	352	100%

Table 5 shows the respondents profile in terms of monthly income. Most of the respondents, equivalent to 60 out of 352 or 32.14% have monthly income ranging from “P25,001 to P50,000”, and 29 or 25.89% have monthly income of “P9,000 to P25,000”. 23 or 20.54% choose “P50,001 to P75,000”, while 13 or 11.61% of the respondents choose “P75,001 to P100,000”. On the other hand, 11 or 9.82% have a monthly income of “P100,001 and above”.

Digitalization, organizational structures, financial capacities, and operational efficiency significantly affect business performance, with owners’ financial knowledge playing a vital role. (Rosyidiana and Narsa, 2024) Similarly, consistent financial monitoring strengthens an organization’s overall performance. (Hayes, 2022)

1.2. Industry or Sector

Table 6 Frequency Distribution of the Respondents’ Profile in terms of Industry or Sector

Industry or Sector	Frequency	Percentage
Wholesale and Retail Trade	85	28.57%
Repair of Motor Vehicles and Motorcycles	60	8.93%
Accommodation and Food Service Activities	47	33.04%
Manufacturing	30	4.46%
Financial and Insurance Activities	45	6.25%
Others	135	18.75%
Total	352	100%

Table 6 presents the respondents’ profiles by industry or sector. The majority, **47 respondents (33.04%)**, belong to the Accommodation and Food Service Activities sector, followed by **47 respondents (28.57%)** from Wholesale and Retail Trade. Meanwhile, **135 respondents (18.75%)** represent Other Industries, including beauty care services, barbershops, and similar businesses. Additionally, **60 respondents (8.93%)** are engaged in the Repair of Motor Vehicles and Motorcycles sector, while **45 respondents (6.25%)** come from Financial and Insurance Activities.

1.3. Asset Size

Table 7 Frequency Distribution of the Respondents’ Profile in terms of Asset Size

Asset Size	Frequency	Percentage
Php 3,000,000 and below	166	63.39%
Php 3,000,001 – Php 15,000,000	150	30.36%
Php 15,000,000 – Php 100,000,000	36	6.25%
Total	352	100%

Table 7 presents the respondents’ profile based on asset size. The majority, **166 businesses (63.39%)**, fall under Micro enterprises with total assets of **₱3,000,000 and below**. Meanwhile, **150 businesses (30.36%)** are classified as Small enterprises with assets ranging from **₱3,000,001 to ₱15,000,000**, while **36**

businesses (6.25%) belong to the Medium enterprise category with assets between **₱15,000,001 and ₱100,000,000**. As defined by the **Magna Carta for MSMEs (RA 9501, 2008)**, enterprises are classified as Micro, Small, or Medium depending on their total assets, excluding the value of land (Philippine e-Legal Forum, 2020).

1.4. Number of Employees

Table 8 Frequency Distribution of the Respondents' Profile in terms of Number of Employees

Number of Employees	Frequency	Percentage
Less than 10 employees	50	63.39%
10 – 99 employees	123	30.36%
100 – 199 employees	179	6.25%
Total	352	100%

Table 8 presents the respondents' profile in terms of employment size. A majority of businesses, **50 or 63.39%**, employ **less than 10 workers**, classifying them as Micro enterprises. Meanwhile, **123 businesses (30.36%)** have **10 to 99 employees**, falling under Small enterprises, while **179 businesses** operate with **100 to 199 employees**, placing them in the Medium enterprise category. The **Department of Trade and Industry (2019)** defines MSMEs in the Philippines using both **asset size** and **employment** micro (1–9 employees), small (10–99 employees), and medium (100–199 employees). With this classification, MSMEs are widely acknowledged as the **backbone of the Philippine economy**, playing a vital role in employment generation and inclusive growth.

1.5. Number of Years the Business Operates

Table 9 Frequency Distribution of the Respondents' Profile in terms of Number of Years the Business Operates

Years of Operation	Frequency	Percentage
1 – 5 years of operation	98	44.64%
6 – 10 years of operation	89	36.61%
11 – 15 years of operation	62	12.50%
16 – 20 years of operation	52	3.37%
21 years and above	51	2.68%
Total	352	100%

Table 9 presents the respondents' profile in terms of business longevity. The majority, **98 businesses or 44.64%**, have been operating for **1 to 5 years**, while **89 businesses or 36.61%** have sustained operations for **6 to 10 years**. A smaller share, **62 businesses (12.50%)**, have been in business for **11 to 15 years**, followed by **52 businesses (3.57%)** operating for **16 to 20 years**, and **51 businesses (2.68%)** that have been running for **21 years and above**.

According to owners, knowledge and ability to promote products or services significantly affect business performance, and longevity often reflects strong internal performance, productivity, and product or service quality. (Darmawan, 2022)

Similarly, the survival of MSMEs depends largely on overcoming financial challenges, as many rely on personal funds and limited resources. (Ganhinhin, 2021). Thus, government support remains a crucial factor in ensuring the sustainability and long-term growth of MSMEs.

2. The extent of usage of risk management practices in terms of:

2.1. Strategic Risk

Table 10 Extent of Usage of Risk Management Practices of Micro, Small, and Medium-sized Enterprises (MSMEs) in terms of Strategic Risk

Indicators	Weighted Mean	Interpretation
1. The business owner and its employees are involved in risk management.	3.44	Effective
2. The business considered risk management as an important agenda.	3.67	Highly Effective
3. The business strategy is related to the business objectives.	3.76	Highly Effective
4. The business owner inspects the risk management activities.	3.54	Highly Effective
5. The management monitors the results of the action taken.	3.63	Highly Effective
Average Weighted Mean	3.61	Highly Effective

Note. Rating Scale (Verbal Interpretation): 3.50 – 4.00 (Highly Effective), 2.50 – 3.49 (Effective), 1.50 – 2.49 (Ineffective), and 1.00 – 1.49 (Highly Ineffective).

Table 10 presents the respondents’ assessment of risk management practices in terms of strategic risk. Indicator 1, “The business owner and its employees are involved in risk management,” obtained a weighted mean of 3.44, interpreted as Effective. Indicator 2, “The business considered risk management as an important agenda,” garnered a weighted mean of 3.67, interpreted as Highly Effective. Indicator 3, “The business strategy is related to the business objectives,” achieved the highest weighted mean of 3.76, also interpreted as Highly Effective. Indicator 4, “The business owner inspects the risk management activities,” had a weighted mean of 3.54, while Indicator 5, “The management monitors the results of the action taken,” obtained 3.63—both interpreted as Highly Effective.

Overall, the indicators yielded an average weighted mean of 3.61, which indicates that risk management practices in terms of strategic risk were perceived as “Highly Effective.” This suggests that respondents recognize the importance of aligning business strategies with objectives, monitoring outcomes, and ensuring owner involvement in risk management activities.

The findings support the report, which emphasizes that business strategy serves as a comprehensive plan guiding firms toward their goals. Effective strategies involve decision-making, resource allocation, competitive advantage, and growth promotion. (World Bank Group, 2019)

For MSMEs, focusing on well-structured strategies enhances customer satisfaction, fosters innovation, and ensures sustainability, ultimately improving competitiveness and productivity

2.2. Compliance Risk

Table 11 Extent of Usage of Risk Management Practices of Micro, Small, and Medium-sized Enterprises (MSMEs) in terms of Compliance Risk

Indicators	Weighted Mean	Interpretation
1. The business processes and completes the necessary business permits, licenses, or documents.	3.96	Highly Effective
2. The business ensures to meet quality standards of products offered or services provided.	3.96	Highly Effective
3. The management handles sensitive and confidential data properly.	3.87	Highly Effective
4. The business adheres to the health and safety standards and environmental laws.	3.88	Highly Effective
5. The business considers and follows the essential aspects of consumer rights.	3.88	Highly Effective
Average Weighted Mean	3.91	Highly Effective

Note. Rating Scale (Verbal Interpretation): 3.50 – 4.00 (Highly Effective), 2.50 – 3.49 (Effective), 1.50 – 2.49 (Ineffective), and 1.00 – 1.49 (Highly Ineffective)

Table 11 presents the respondents’ assessment of **risk management practices in terms of compliance risk**. Indicator 1, “The business processes and completes the necessary business permits, licenses, or documents,” obtained a weighted mean of **3.96**, interpreted as **Highly Effective**. Indicator 2, “The business ensures to meet quality standards of products offered or services provided,” also garnered a weighted mean of **3.96**, interpreted as **Highly Effective**. Indicator 3, “The management handles sensitive and confidential data properly,” received **3.87**, while Indicator 4, “The business adheres to the health and safety standards and environmental laws,” obtained **3.88**. Likewise, Indicator 5, “The business considers and follows the essential aspects of consumer rights,” also earned **3.88**. All were interpreted as **Highly Effective**.

In conclusion, **Indicators 1 and 2 shared the highest weighted mean of 3.96**, both interpreted as **Highly Effective**. The **average weighted mean of 3.91** revealed that respondents perceived compliance risk management practices as “**Highly Effective.**” This highlights that MSMEs give high importance to securing permits and licenses, meeting product or service standards, protecting sensitive data, and observing both consumer rights and legal obligations.

The findings are consistent with the insights of **Schmidt and Raman (2022)**, who stressed that businesses ensure complete compliance with documents and standards to avoid operational disruptions. Similarly, **Martinez (2023)** emphasized that securing permits and licenses not only validates the legality of operations but also enhances customer trust and credibility.

Moreover, the study resonates with the observation that compliance risk management extends beyond avoiding legal penalties; it also strengthens reputation, prevents operational disruptions, and mitigates financial losses. (Bonnie and Gutierrez, 2024)

2.3. Financial Risk

Table 12 Extent of Usage of Risk Management Practices of Micro, Small, and Medium-sized Enterprises (MSMEs) in terms of Financial Risk

Indicators	Weighted Mean	Interpretation
1. The business' finances are regularly monitored.	3.81	Highly Effective
2. The business' profits are separated from the owners and employees' own money.	3.76	Highly Effective
3. The business avoids getting loans and if they do, they pay loans on time.	3.61	Highly Effective
4. The business makes sure that the financial records are accurate and updated.	3.74	Highly Effective
5. The business handles the financial problems well.	3.71	Highly Effective
Average Weighted Mean	3.73	Highly Effective

Note. Rating Scale (Verbal Interpretation): 3.50 – 4.00 (Highly Effective), 2.50 – 3.49 (Effective), 1.50 – 2.49 (Ineffective), and 1.00 – 1.49 (Highly Ineffective)

Table 12 presents the respondents' assessment of risk management practices in terms of financial risk. Indicator 1, "The business' finances are regularly monitored," obtained a weighted mean of 3.81, interpreted as Highly Effective. Indicator 2, "The business' profits are separated from the owners' and employees' own money," garnered 3.76, while Indicator 3, "The business avoids getting loans and if they do, they pay loans on time," received 3.61. Both were interpreted as Highly Effective. Indicator 4, "The business makes sure that the financial records are accurate and updated," earned 3.74, and Indicator 5, "The business handles financial problems well," obtained 3.71—all likewise interpreted as Highly Effective.

2.4. Operational Risk

Table 13 Extent of Usage of Risk Management Practices of Micro, Small, and Medium-sized Enterprises (MSMEs) in terms of Operational Risk

Indicators	Weighted Mean	Interpretation
1. The business owner and employees engage in training to attain necessary skills.	3.45	Effective
2. The business provides guidelines when there is a system or technical error.	3.45	Effective
3. The business has guidelines when there is an unexpected event like a natural disaster.	3.46	Effective
4. The business has a policy or procedure in identifying and mitigating operational risk.	3.55	Highly Effective

In conclusion, the extent of MSMEs’ usage of risk management practices across the four dimensions resulted in an overall composite mean of 3.65, signifying that respondents generally apply these practices at a Highly Effective level. The findings suggest that MSMEs place greater emphasis on compliance and financial risks likely due to legal requirements and financial stability being critical for business survival operational risks, though still managed effectively, receive comparatively less focus

3. The extent of effectiveness of risk management practices to the holistic competency in terms of:

3.1. Sustainability

Table 15 Effectiveness of Risk Management Practices to the Holistic Competency of Business in terms of Sustainability

Indicators	Weighted Mean	Interpretation
1. Risk management practices allow the business to be prepared for possible calamities like typhoons and earthquakes.	3.36	Effective
2. Risk management practices allow the business to consistently comply with every environmental policy.	3.62	Highly Effective
3. Risk management practices allow the business to have a safe work environment.	3.75	Highly Effective
4. Risk management practices allow the business to be aware and in compliance with business laws.	3.79	Highly Effective
5. Risk management practices allow the business to maintain a positive reputation and image.	3.71	Highly Effective
Average Weighted Mean	3.64	Highly Effective

Note. Rating Scale (Verbal Interpretation): 3.50 – 4.00 (Highly Effective), 2.50 – 3.49 (Effective), 1.50 – 2.49 (Ineffective), and 1.00 – 1.49 (Highly Ineffective)

Table 15 presents the extent of MSMEs’ usage of risk management practices in relation to sustainability. Results revealed an overall summative mean of 3.64, interpreted as Highly Effective, indicating that MSMEs generally apply risk management practices to support sustainable and competent operations. Among the indicators, compliance with business laws ranked highest (WM = 3.79, Highly Effective), followed by maintaining a safe work environment (WM = 3.75, Highly Effective), and sustaining a positive reputation (WM = 3.71, Highly Effective). Compliance with environmental policies (WM = 3.62, Highly Effective) came next, while preparedness for calamities ranked lowest (WM = 3.36, Effective). These findings affirm that MSMEs prioritize legal compliance, workplace safety, and reputation management as core aspects of sustainability, while disaster preparedness remains relatively less emphasized. As Ramanauskaitė and Kanelli (2019) emphasize, long-term business success relies on integrating financial and non-financial sustainability efforts. Similarly, Eizaguirre, Garcia-Feijoo, and Laka (2019) identify economic, ecological, and social dimensions as the foundations of sustainability.

Moreover, Hoover (2024) highlights compliance as the first step toward sustainability, aligning with this study’s finding that MSMEs’ strongest practice lies in adherence to business laws.

Finally, SOCAR (2024) stresses the interconnection between risk management and sustainability, noting that risk management provides a structured framework for advancing environmental, social, and governance (ESG) performance. The findings indicate that risk management practices are essential for sustaining business competency, particularly in maintaining a safe work environment, upholding a positive reputation, and ensuring compliance with environmental policies.

These practices also help businesses prepare for long-term challenges, such as climate-related risks, which the World Economic Forum (2022) identifies as critical in aligning organizational strategies with sustainability goals.

3.2. Profitability

Table 16 Effectiveness of Risk Management Practices to the Holistic Competency of Business in terms of Profitability

Indicators	Weighted Mean	Interpretation
1. Risk management practices facilitate enhancing the revenue of the business.	3.75	Highly Effective
2. Risk management practices facilitate in reducing financial losses due to unforeseen events.	3.65	Highly Effective
3. Risk management practices facilitate in seizing new business opportunities.	3.57	Highly Effective
4. Risk management practices facilitate in preventing potential penalties or expenses.	3.70	Highly Effective
5. Risk management practices facilitate better utilization of business capital or resources.	3.76	Highly Effective
Average Weighted Mean	3.69	Highly Effective

Note. Rating Scale (Verbal Interpretation): 3.50 – 4.00 (Highly Effective), 2.50 – 3.49 (Effective), 1.50 – 2.49 (Ineffective), and 1.00 – 1.49 (Highly Ineffective)

The results indicate that risk management practices significantly enhance the profitability of Micro, Small, and Medium-sized Enterprises (MSMEs).

Practices such as optimizing resource utilization, increasing revenue, preventing penalties, and minimizing financial losses were all rated “Highly Effective,” with a composite mean of 3.69. This demonstrates that MSMEs consistently employ risk management strategies to strengthen financial performance. These findings emphasized that risk management is crucial for achieving business profitability, who noted that properly maintained risk management reduces costly errors and promotes better business outcomes. (AlNahhaal, 2023 and Jonas, n.d.)

3.3. Overall Performance

Table 17 Effectiveness of Risk Management Practices to the Holistic Competency of Business in terms of Overall Performance

Indicators	Weighted Mean	Interpretation
1. Risk management practices help in achieving the business goals and objectives.	3.74	Highly Effective
2. Risk management practices help in customer satisfaction.	3.82	Highly Effective
3. Risk management practices help in the improvement of skills of the owner and the employees.	3.63	Highly Effective
4. Risk management practices help in the market competitiveness of the business.	3.72	Highly Effective
5. Risk management practices help in the improvement of quality of the product or service.	3.82	Highly Effective
Average Weighted Mean	3.75	Highly Effective

Note. Rating Scale (Verbal Interpretation): 3.50 – 4.00 (Highly Effective), 2.50 – 3.49 (Effective), 1.50 – 2.49 (Ineffective), and 1.00 – 1.49 (Highly Ineffective)

The findings show that risk management practices significantly enhance the overall performance of Micro, Small, and Medium-sized Enterprises (MSMEs), with an average weighted mean of 3.75, interpreted as “Highly Effective.” Specifically, these practices improve customer satisfaction, product or service quality, goal achievement, market competitiveness, and the skills of owners and employees. This underscores that MSMEs regularly apply risk management strategies to maintain operational efficiency and competitiveness. These results align that risk management enhances business performance, and who found that risk management disclosure substantially benefits overall execution. (Fernando, et. al., 2019; Okere, et. al, 2018). Furthermore, the effectiveness of risk management is supported by frameworks emphasizing internal environment, goal setting, control, and monitoring activities, (Bello et al., 2019; Al-Nimer et al., 2021) ultimately contributing to financial and non-financial improvements and organizational sustainability (Kotaskova et al., 2020; Edor, 2020; Mustapha et al., 2023).

Table 18 Summary of the Extent of Effectiveness of Risk Management Practices to the Holistic Competency of MSMEs

Indicators	Weighted Mean	Verbal Interpretation
Sustainability	3.64	Highly Effective
Profitability	3.69	Highly Effective
Overall Performance	3.75	Highly Effective
Average Weighted Mean	3.73	Highly Effective

Note. Rating Scale (Verbal Interpretation): 3.50 – 4.00 (Highly Effective), 2.50 – 3.49 (Effective), 1.50 –

2.49 (Ineffective), and 1.00 – 1.49 (Highly Ineffective)

Table 18 shows that risk management practices are highly effective in enhancing the holistic competency of Micro, Small, and Medium-sized Enterprises (MSMEs) across sustainability, profitability, and overall performance. Among the indicators, overall performance ranked highest with a weighted mean of 3.75, followed by profitability at 3.69, and sustainability at 3.64, all interpreted as “Highly Effective.” The overall average weighted mean of 3.73 demonstrates that the respondents consistently apply risk management practices to strengthen their businesses’ sustainability, financial outcomes, and operational efficiency (Fernando et al., 2019; Mustapha et al., 2023; Ramanauskaitė & Kanelli, 2019).

4. Significant difference in the extent of usage of risk management practices when grouped according to the respondents’ profile variables

Table 19 Difference in Respondents’ Extent of Usage of Risk Management Practices when Grouped by Their Profile Variables

Profile Variables	P value	Decision	Interpretation
Monthly Income	0.0484	Reject H ₀	There is a significant difference
Industry or Sector	0.2210	Accept H ₀	There is no significant difference
Asset Size	0.0003	Reject H ₀	There is a significant difference
Number of Employees	0.0003	Reject H ₀	There is a significant difference
Years of Operation	0.0369	Reject H ₀	There is a significant difference

Note. P-Value (Verbal Interpretation): P-Value < 0.05 (Significant Difference) and P-Value > 0.05 (No Significant Difference)

Table 19 presents the differences in the extent of usage of risk management practices among MSMEs when grouped by profile variables. Analysis of variance (ANOVA) at a 0.05 significance level revealed significant differences in four out of five profile variables. Monthly income (p = 0.0484), asset size (p = 0.0003), number of employees (p = 0.0003), and business operation length (p = 0.0369) showed significant differences, indicating that higher income, larger assets, more employees, and longer business operation are associated with greater application of risk management practices. In contrast, industry or sector (p = 0.2210) showed no significant difference, implying that sector classification does not influence the extent of risk management usage. These findings align with studies emphasizing the strategic importance of risk management in financial decisions, asset management, employee productivity, and business longevity (Altuntas et al., 2019; Chellappa, 2023; Maletič et al., 2018; Pastran et al., 2021; PWC Global Risk Survey, 2022; Webb, 2021).

5. Significant difference in the extent of effectiveness of risk management practices to the holistic competency when grouped according to the respondents’ profile variables.

Table 10 Difference in Respondents’ Extent of Effectiveness of Risk Management Practices to the Holistic Competency when Grouped by Their Profile Variables

Profile Variables	P value	Decision	Interpretation
Monthly Income	0.0076	Reject Ho	There is a significant difference.
Industry or Sector	0.0013	Reject Ho	There is a significant difference.
Asset Size	0.0026	Reject Ho	There is a significant difference.
Number of Employees	0.0026	Reject Ho	There is a significant difference.
Years of Operation	0.0477	Reject Ho	There is a significant difference.

Note. P-Value (Verbal Interpretation): P-Value < 0.05 (Significant Difference) and P-Value > 0.05 (No Significant Difference)

Table 20 presents the differences in the extent of effectiveness of risk management practices on the holistic competency of MSMEs when grouped according to profile variables, analyzed using ANOVA at a 0.05 significance level. Significant differences were observed across all profile variables: monthly income (p = 0.0076), industry or sector (p = 0.0013), asset size (p = 0.0026), number of employees (p = 0.0026), and years of operation (p = 0.0477). These results indicate that the effectiveness of risk management practices on sustainability, profitability, and overall performance varies depending on respondents’ income, sector, asset size, workforce, and business age. Higher income, larger assets, more employees, and longer operation periods were associated with greater effectiveness in risk management. These findings are supported by previous studies linking income and performance (Uwuigbe et al., 2018; Ledley et al., 2020; Matar & Eneizan, 2018), industry effects on profitability and overall performance (Krevel, Ward, & De Neve, 2019; Lee & Hu, 2018), firm size impacts on sustainability and competitiveness (Dzeraviaha, 2022; Hung, Vinh, & Thai, 2019; Abeyrthna & Priyadarshana, 2019), employee influence on productivity and business stability (Hernita et al., 2021; Romo et al., 2023; Abidin et al., 2023), and years of operation on long-term sustainability and efficiency (SciSpace, n.d.; Damodaran, 2024).

6. Significant relationship between risk management practices and holistic competency.

Table 21 Relationship Between Risk Management Practices and Holistic Competency

	R Value	Decision	Interpretation
Risk Management Practices and Holistic Competency	0.6102	Reject Ho	Strong Positive Correlation

Note. R Value [Verbal Interpretation]: 0.80 to 1.00 (-0.80 to -1.00) [Very Strong Positive (Negative) Correlation], 0.60 to 0.79 (-0.60 to -0.79) [Strong Positive (Negative) Correlation], 0.40 to 0.59 (-0.40 to -0.59) [Moderate Positive (Negative) Correlation], 0.20 to 0.39 (-0.20 to -0.39) [Weak Positive (Negative) Correlation], and 0.00 to 0.19 (0.00 to -0.19) [No Correlation or Very Weak Positive (Negative)]

Correlation]

Table 21 presents the relationship between risk management practices and the holistic competency of MSMEs using Pearson’s correlation coefficient. The analysis yielded an r value of 0.6102, indicating a strong positive correlation. This result rejects the null hypothesis, confirming that improvements in risk management practices are associated with enhanced holistic competency of enterprises. In other words, effective risk management contributes positively to overall business performance.

These findings are supported by previous research. Kulkarni and Ujagare (2023) emphasized that Enterprise Risk Management (ERM) positively affects MSMEs by promoting sustainable business models, competitive advantage, profitability, operational efficiency, and customer confidence. Similarly, Hanggraeni et al. (2019) found that identifying and managing risks significantly impacts overall business performance. Yakob et al. (2019) highlighted that effective risk management enables SME owners and managers to achieve business objectives, enhance profitability, and improve overall performance. Apaloo and Bright (2022) further stressed that continuous learning in risk management strengthens SMEs’ ability to identify, assess, and mitigate risks, thereby boosting performance and market competitiveness.

Table 22 Proposed Action Plan on Improved Access to Risk Management Approach to Micro, Small, and Medium Enterprises (MSMEs) around the City of Santa Rosa Laguna

Project / Program	Persons Involved		Goal	Budget	Date	Suggested Indicators	Baseline	Target
	Promoter	Target Participants						
1-Day seminar on Sustainable Risk Management Practices and Promotion of streamlined and coordinated MSME local regulations	Local Government Unit, BPLO	Owners or Managers of MSME and Aspiring Business Owners	To encourage MSMEs in registering and capturing opportunities in developing deals and strengthening their sustainability	Estimated ₱550,000 for 3,000 participants Breakdown: Pre-seminar expenses ₱210,000 Seminar expenses ₱306,700 Post-seminar expenses ₱10,000	for Every January - July of the year	Number of registered Barangay MSMEs increase	Total number of registered Barangay MSME on the previous year	10% increase
						Number of Barangay innovative business permit systems	Total number of Barangay technology based business	12 Barangays

						permit systems	
Simplifying loan processes for MSMEs and Financial Risk Management practices training	Local Government Unit, DTI	Owners or Managers of MSME and Aspiring Business Owners	To allow MSMEs in achieving business development through alternative financial tools to maximize finance	Estimated ₱850,000 for 3,000 participants	Every August of the year	Percentage of MSMEs with credit loans	Total number of registered businesses in the city
				Breakdown: Pre-training expenses ₱190,000 Training expenses ₱624,000 Post-training expenses ₱10,000		-	Number of MSME accepting digital payments
						5% increase	
Strategic and Operational Risk Approach Training and Development of Online Site focus on promotion of MSME around the city	Local Government Unit, PESO and IT Department	Owners or Managers of MSME, Aspiring Business Owners. Employees	To enhance the labor capacities for MSMEs and build opportunity to foster industry clustering	Estimated ₱1.2 Million for 3,000 participants and website development	Every February of the year	Number of MSMEs employees trained	To be generated by the concerned local government department
				Breakdown: Research & Development Expenses ₱300,000 Advertising Expenses ₱10,000 Pre-training expenses ₱190,000 Training expenses ₱624,000 Post-training expenses ₱10,000		-	Percentage increase of investments in MSME
						To be established by concerned local government department	

Table 23 Proposed Budget Plan on 1-Day Seminar on Sustainable Risk Management Practices and Promotion of Streamlined and Coordinated Micro, Small, and Medium Enterprises (MSMEs)
Local Regulations

PARTICULARS	TOTAL EXPENSES
I. Pre-Seminar Expenses	
A. Guest Speaker Fees	
P10,000 x 2 speakers	₱20,000.00
B. Materials	
P50 x 3,000 participants	₱150,000.00
C. Advertising Fees	
Design Fees for Publication Materials	₱10,000.00
D. Other Supplies/Services	₱30,000.00
II. Seminar Expenses	
A. Salaries and Wages	
Outsourced Staff - P500 x 10 staff	₱5,000.00
B. Food	
Participants - P100 x 3000 participants	₱300,000.00
Speakers - P350 x 2 speakers	₱700.00
Outsourced Staff - P100 x 10 staff	₱1,000.00
III. Post-Seminar Expenses	
A. Preparation of Report	₱20,000.00
GRAND TOTAL	₱536,700.00

Table 24 Proposed Budget Plan on Simplifying Loan Processes for Micro, Small, and Medium Enterprises (MSMEs) and Financial Risk Management Practices Training

PARTICULARS	TOTAL EXPENSES
I. Pre-Training Expenses	
A. Materials	
P50 x 3,000 participants	₱150,000.00

B. Advertising Fees	
Design Fees for Publication Materials	₱10,000.00
C. Other Supplies/Services	₱30,000.00
II. Training Expenses	
A. Salaries and Wages	
Outsourced Staff - P500 x 20 staff x 2 days	₱20,000.00
B. Food	
Participants - P100 x 3000 participants x 2 days	₱650,000.00
Outsourced Staff - P100 x 20 staff x 2 days	₱4,000.00
III. Post-Training Expenses	
A. Preparation of Report	₱20,000.00
GRAND TOTAL	₱884,000.00

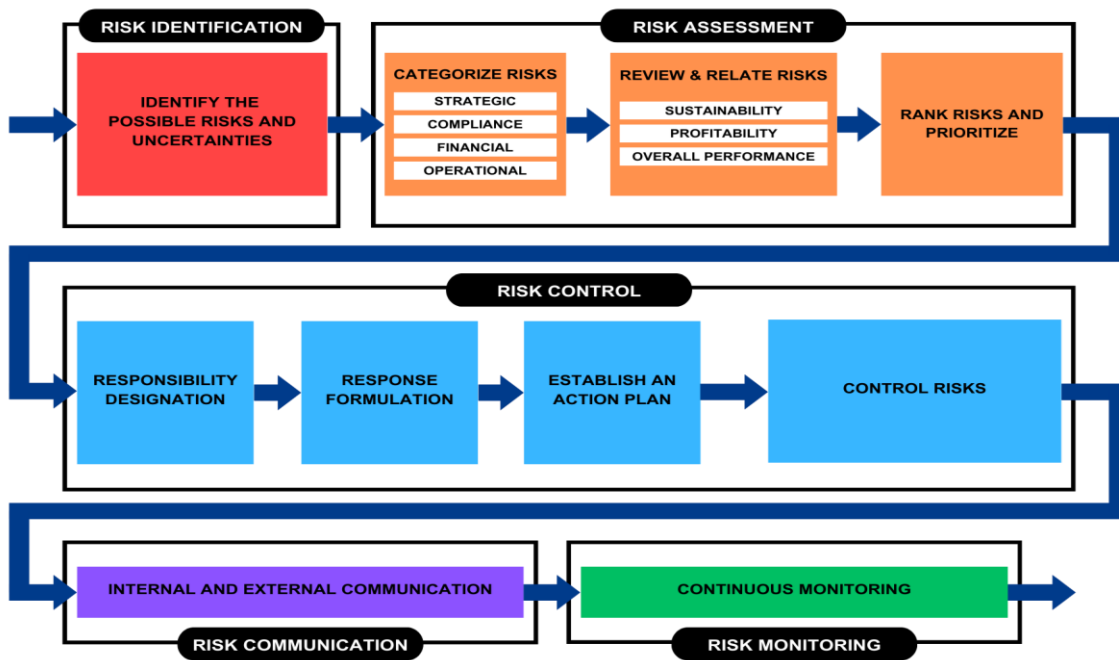
Table 25

PARTICULARS	TOTAL EXPENSES
Development of Online Site	
I. Research and Development Expenses	
A. Professional Fees	₱300,000.00
II. Advertising Expenses	
A. Design Fees for Publication Materials	₱10,000.00
	₱310,000.00

Risk Approach Training		
I. Pre-Training Expenses		
A. Materials		
P50 x 3,000 participants	₱150,000.00	
B. Advertising Fees		
Design Fees for Publication Materials	₱10,000.00	
C. Other Supplies/Services	₱30,000.00	
II. Training Expenses		
A. Salaries and Wages		
Outsourced Staff - P500 x 20 staff x 2 days	₱20,000.00	
B. Food		
Participants - P100 x 3000 participants x 2 days	₱600,000.00	
Outsourced Staff - P100 x 20 staff x 2 days	₱4,000.00	
III. Post-Training Expenses		
A. Preparation of Report	₱10,000.00	₱884,000.00
GRAND TOTAL		₱1,184,000.00

Proposed Budget Plan on Strategic and Operational Risk Approach Training and Development of Online Site Focused on Promotion of Micro, Small, and Medium Enterprises (MSMEs) Around the City

Figure 3 Proposed Risk Management Process



Summary of Findings

The study assessed the **risk management practices and holistic competency** of 350 Micro, Small, and Medium Enterprises (MSMEs) in Santa Rosa, Laguna, examining business profiles, usage, and effectiveness of risk management, and the relationship with holistic competency.

1. Respondent Profile (Tables 6–9)

- **Industry/Sector:** The majority were in Accommodation and Food Service Activities (33.04%) and Wholesale and Retail Trade (28.57%), with the remainder in various industries such as beauty care and repair services.
- **Asset Size:** Most respondents were Micro enterprises (\leq P3,000,000, 63.39%), followed by Small (P3,000,001–P15,000,000, 30.36%), and Medium (P15,000,001–P100,000,000, 6.25%) enterprises.
- **Number of Employees:** 63.39% had less than 10 employees, 30.36% had 10–99 employees, and the remainder had 100–199 employees.
- **Years of Operation:** Most businesses operated for 1–5 years (44.64%) and 6–10 years (36.61%), while fewer had been operating longer than 10 years.

2. Extent of Usage of Risk Management Practices (Tables 10–14)

- **Strategic Risk:** Weighted mean of 3.61 (“Highly Effective”), with the highest-rated practice being alignment of business strategy with objectives.
- **Compliance Risk:** Weighted mean of 3.91 (“Highly Effective”), particularly strong in completing permits and ensuring product/service quality.

- **Financial Risk:** Weighted mean of 3.73 (“Highly Effective”), with accurate financial records and separation of business and personal funds being most emphasized.
 - **Operational Risk:** Weighted mean of 3.50 (“Highly Effective”), notably in using risk management to minimize operational disruptions.
 - **Overall Usage:** Composite mean of 3.65 indicates respondents consistently implement highly effective risk management practices across all risk types.
3. **Effectiveness of Risk Management on Holistic Competency (Tables 15–18)**
- **Sustainability:** Weighted mean of 3.64 (“Highly Effective”), particularly in ensuring compliance with business laws and maintaining a safe work environment.
 - **Profitability:** Weighted mean of 3.69 (“Highly Effective”), strongest in better utilization of capital/resources and enhancing revenue.
 - **Overall Performance:** Weighted mean of 3.75 (“Highly Effective”), especially in improving product/service quality and customer satisfaction.
 - **Composite Effectiveness:** Average weighted mean of 3.73, showing that risk management significantly enhances holistic competency in sustainability, profitability, and overall performance.
4. **Differences Based on Profile Variables (Tables 19–20)**
- **Significant Differences:** Observed in monthly income, asset size, number of employees, and years of operation for both usage and effectiveness of risk management.
 - **Non-Significant Difference:** Industry/sector showed no significant difference in usage, though it was significant for effectiveness.
 - **Implication:** Businesses with higher income, larger asset size, more employees, and longer operation tend to implement and benefit more from risk management practices.
5. **Relationship Between Risk Management and Holistic Competency (Table 21)**
- **Pearson Correlation Coefficient:** $r = 0.6102$, indicating a strong positive correlation. **Interpretation:** Improved risk management practices are associated with higher holistic competency, confirming their critical role in enhancing sustainability, profitability, and overall business performance.
6. **Strategic Vision, Focus, and Strategies (Table 22)**
- **Vision:** MSMEs as a competent and systematized backbone of the local economy.
 - **Focus Areas:** Environmental measures, financial growth, improved management, and innovation. **Strategies:** Development of MSME support, sustainable approach, improved financing, and operational/innovation focus.

Conclusions

MSMEs in Santa Rosa, Laguna, demonstrate highly effective risk management practices that significantly enhance their holistic competency. The effectiveness and application of these practices vary according to business characteristics, highlighting strategic risk management as a crucial tool for operational efficiency, goal achievement, and competitive advantage.

1. Respondent Profile: Most MSMEs in Santa Rosa, Laguna, belong to Accommodation and Food Service Activities (33.04%) and Wholesale and Retail Trade (28.57%). The majority are Micro enterprises (63.39%) with less than 10 employees (63.39%) and have operated for 1–5 years (44.64%).
2. Extent of Usage of Risk Management Practices: MSMEs consistently apply risk management practices

across strategic, compliance, financial, and operational risks, with overall usage rated as Highly Effective (composite mean = 3.65).

3. Effectiveness of Risk Management on Holistic Competency: Risk management positively impacts sustainability (3.64), profitability (3.69), and overall performance (3.75) of MSMEs, indicating its essential role in enhancing holistic competency (average weighted mean = 3.73).
4. Differences Based on Profile Variables: Significant differences in risk management usage and effectiveness exist based on monthly income, asset size, number of employees, and years of operation.
5. Industry/sector had no significant effect on usage but affected effectiveness, implying that operational decisions are not industry-dependent.
6. Relationship Between Risk Management and Holistic Competency: A strong positive correlation ($r = 0.6102$) exists between risk management practices and holistic competency, confirming that improvements in risk management enhance sustainability, profitability, and overall performance.
7. Strategic Vision, Focus, and Strategies: MSMEs aim to be competent and systematized backbones of the local economy, focusing on environmental measures, financial growth, improved management, and innovation, through strategies like MSME support, sustainability, financing improvements, and operational/innovation initiatives.

Recommendations

1. MSMEs should continue implementing risk management practices consistently across strategic, compliance, financial, and operational areas to sustain high performance and holistic competency.
2. Business owners should invest in training and capacity building to strengthen the knowledge and skills necessary for effective risk management, especially in financial monitoring and compliance.
3. MSMEs with smaller assets or fewer employees should adopt tailored risk management frameworks suitable to their scale to improve sustainability and profitability.
4. Policy and support programs from local government or business associations should focus on encouraging MSMEs to integrate risk management into their operations, especially for newer or smaller businesses.
5. MSMEs should leverage risk management to enhance long-term sustainability, including environmental compliance, disaster preparedness, and safe work environments.
6. Strategic alignment should be emphasized by linking risk management to business objectives, innovation, and market competitiveness to ensure overall business growth and resilience.

References

1. Abeyrathna, S. P. G. M., & Priyadarshana, A. J. M. (2019, June). Impact of Firm size on Profitability. Impact of firm size on profitability. <https://www.ijfmr.com/research-paper-0619.php?rp=P908716>
2. Abidin, Z., Zaenal, F. R., Hamid, N. A., & Chair, U. (2023). The Effect of Age, Sales Volume and Number of Employees on MSME Business Performance in South Sulawesi, Indonesia. *Advances in Social Science, Education and Humanities Research*, 793. https://doi.org/10.2991/978-2-38476-174-6_26
3. AcqNotes. (2021, August 5). Enterprise Risk Management. Retrieved from https://acqnotes.com/acqnote/tasks/enterprise-risk-management#google_vignette
4. Afdal, Z., Siwi, M. K., Kurniawati, T., & Marwan. (2021, November 23). MSMEs Business Sustainability: A literature review. *MSMEs Business Sustainability: A Literature Review | Atlantis*

- Press. <https://www.atlantis-press.com/proceedings/piceeba-21/125964006>
5. Ajuwon, O. S., Ikhida, S., & Akotey, J. O. (2017). MSMEs and Employment Generation in Nigeria. *The Journal of Developing Areas*, 51(3), 229-249. <https://www.jstor.org/stable/26416942>
 6. Al-Nimer, M., Abbadi, S. S., Al-Omush, A., & Ahmad, H. (2021). Risk Management Practices and Firm Performance with a Mediating Role of Business Model Innovation. Observations from Jordan. *Journal of Risk and Financial Management*, 14: 113. <https://doi.org/10.3390/jrfm14030113>
 7. Allianz Care. (2020, July 28). How to Plan for Operational Risk as an SME Expanding Internationally. Retrieved from <https://www.allianzcare.com/en/about-us/blog/operational-risk-for-sme.html>
 8. AlNahhaal, A. E. (2023). Risk Management: Enhancing Profitability and Minimizing Risk in Projects & Initiatives. LinkedIn. <https://www.linkedin.com/pulse/risk-management-enhancing-profitability-minimizing-projects/>
 9. Altuntas, M., Berry-Stolzle, T. R., & Cummins, J. D. (2019). Enterprise risk management and economies of scale and scope: evidence from the German insurance industry, *Journal Annals of Operations Research*.
 10. Apaloo, S., & Bright, D. (2022, January 28). The Effect of Risk Management Practices on Performance of Small and Medium Scale Enterprises. *Enterprise Risk Management*, 7(1). <https://doi.org/10.5296/erm.v7i1.19287>
 11. APEC Business Advisory Council. (2022). THE NEW MSME ECONOMY: Post-Pandemic Drivers for Growth. Retrieved from <https://abac.ph/wp-content/uploads/2022/12/The-New-MSME-Economy-Post-Pandemic-Drivers-for-Growth-Final.pdf>
 12. Appinio. (2022, December 20). Margin of error and sample size: How they influence your research results. Retrieved from <https://www.appinio.com/en/blog/market-research/margin-of-error-and-sample-size>
 13. Baloyi, T., & Ozumba, A. (2020). Strategic Risk Management among Small Enterprises in the Construction Industry. *EDP Sciences*. Retrieved from https://www.matec-conferences.org/articles/mateconf/pdf/2020/08/mateconf_eppm2018_02013.pdf
 14. Bangko Sentral ng Pilipinas. (n.d.). 146 OPERATIONAL RISK MANAGEMENT – Manual of Regulations for Banks. Retrieved from <https://mor.bsp.gov.ph/146-operational-risk-management/>
 15. Bello, Z. S. U., Yusuf, I., & Nuhu, A. (2019). Effect of board and corporate characteristics on risk management disclosure of listed insurance companies in Nigeria. *Malaysia Journal of Business and Economics*, 1, 11-26.
 16. Bhat, A. (2024, February 9). Multistage Sampling: Definition, steps, applications + example. QuestionPro. Retrieved from <https://www.questionpro.com/blog/multistage-sampling-advantages-and-application/>
 17. <https://www.questionpro.com/blog/multistage-sampling-advantages-and-application/>
 18. Bhat, A. (2023, November 24). Descriptive Correlational: Descriptive vs Correlational Research. QuestionPro. Retrieved from <https://www.questionpro.com/blog/descriptive-research-vs-correlational-research/>
 19. Biljana Maljugić, et. al 2022 RISK ANALYSIS AND RISK MANAGEMENT IN BUSINESS PRACTICE. Conference: XII International Symposium Engineering Management and Competitiveness 2022 https://www.researchgate.net/publication/361231897_RISK_ANALYSIS_AND_RISK_MANAGEMENT_IN_BUSINESS_PRACTICE

20. Bonnie, E. & Gutierrez, R. (2024). Regulatory Compliance Risk Management: Frameworks, Best Practices, & How to Do a Risk Assessment. Retrieve from <https://secureframe.com/blog/regulatory-compliance-risk-management>
21. Borghesi, P. (2018, August 3). Cybersecurity and enterprise risk management: Two different planets? Retrieved from <https://www.linkedin.com/pulse/cybersecurity-enterprise-risk-management-two-planets-paolo-borghesi>
22. Cascade Team. (2023, June 2). Strategic Risk Management: Complete Overview (With Examples). Retrieved from <https://www.cascade.app/blog/strategy-risk-guide>
23. Cepel, M., Stasiukynas, A., Kotaskova, A., & Dvorsky, J. (2018). Business environment quality index in the SME segment. *Journal of Competitiveness*, 10(2), 21–40. doi:<https://doi.org/10.7441/joc.2018.02.02>
24. Chellappa, S. (2023). engagedly. Retrieved from A Guide to Employee Risk Management: <https://engagedly.com/blog/a-guide-to-employee-risk-management/>
25. Chitta, S., & Soni, H. (2023). The impact of financial risk management on firm performance: a study in financial management practices. *Revista de Gestão e Secretariado (Management and Administrative Professional Review)*. 14. 18095-18110. 10.7769/gesec.v14i10
26. Congressional Policy and Budget Research Department. (2020). Facts in Figures. Retrieved from <https://cpbrd.congress.gov.ph/2012-06-30-13-06-51/2012-06-30-13-36-50/1195-ff2020-19-msmes-in-the-philippines>
27. Creswell, J. W., & Creswell, J. D. (2018). The selection of a research approach. *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed., p. 41). Los Angeles, CA: SAGE Publications, Inc.
28. Damodaran, A. (2024, January 31). Data Update 5: Profitability, the End Game for Business? Retrieved from <https://www.linkedin.com/pulse/data-update-5-profitability-end-game-business-aswath-damodaran-1pqzc>
29. Darmawan, B. (2022). Improving MSMEs Operational Performance: the Role of Knowledge Management and Product Innovation. Retrieved from <https://ieomsociety.org/proceedings/2022australia/508.pdf>
30. Deloitte. (2024). Disruption dominates the executive agenda. Retrieved from
31. <https://www2.deloitte.com/us/en/pages/risk/articles/business-disruption-risk-dominates-executive-agenda-future-of-risk-trend-nine.html>
32. Department of Trade and Industry. (2018, October). The 7Ms of Successful Entrepreneurs. Department of Trade and Industry: Enabling Business, Empowering Consumers. <https://www.dti.gov.ph/businesses/msmes/the-7ms-of-successful-entrepreneurs>
33. Deskera. (2023, March 6). Financial Risk: What is it and How can You Control it? Deskera Blog. Retrieved from <https://www.deskera.com/blog/financial-risk/>
34. Dincă, V. M., Dima, A. M., & Rozsa, Z. (2019). Determinants of cloud computing adoption by Romanian SMEs in the digital economy. *Journal of Business Economics and Management*, 20(4), 798–798. <https://doi.org/https://doi.org/10.3846/jbem.2019.985620>.
35. DTI. (2019). 2019 MSME Statistics. Retrieved from <https://www.dti.gov.ph/resources/msme-statistics/>
36. Dzeraviaha, I. (2022, August 10). The impact of firm size on environmental sustainability: The assessment based on the analysis of cost structure. Wiley Online Library.

<https://onlinelibrary.wiley.com/doi/abs/10.1002/bsd2.221>

37. Edor, B. O. (2021). Effects of Risk Management on Financial Performance of Deposit Money Banks in Nigeria.
38. Eizaguirre, A., García-Feijoo, M., & Laka, J. P. (2019, April 17). Defining sustainability core competencies in business and management studies based on multinational stakeholders' perceptions. MDPI. <https://www.mdpi.com/2071-1050/11/8/2303>
39. Fernando, Y., Jabbour, C. J. C., & Wah, W. X. (2019). Pursuing green growth in technology firms through the connections between environmental innovation and sustainable business performance: does service capability matter? *Resources, Conservation and Recycling*, 141, 8-20.
40. Fitzgerald, A., & Gutierrez, R. (2023, December 28). What is compliance risk and how to manage it [+ free templates]. Secureframe. Retrieved from <https://secureframe.com/blog/compliance-risk>
41. Galli-Debicella, A. (2021, December 22). How SMEs compete against Global Giants through sustainable competitive advantages: Published in *Journal of Small Business Strategy*. *Journal of Small Business Strategy*. <https://jsbs.scholasticahq.com/article/29812>
42. Ganhinhin, W. (2021). Helping MSMEs survive in the new normal. Retrieved from <https://www.grantthornton.com.ph/insights/articles-and-updates1/from-where-we-sit/helping-msmes-survive-in-the-new-normal/>
43. Gare, D. (2022, October 10). Performance of micro, small and medium enterprises in India - IJCRT. <https://ijcrt.org/papers/IJCRT2210320.pdf>
44. Gillis, A. S. (2023, October 5). Enterprise Risk Management (ERM). TechTarget. Retrieved from <https://www.techtarget.com/searchcio/definition/enterprise-risk-management>
45. Glossop, A. (2021, June 11). Strategic Risk: A Quick Guide. Ideagen. Retrieved from <https://www.ideagen.com/thought-leadership/blog/strategic-risk-a-quick-guide>
46. Hamdan, H. (2021). Analysis of the Sustainability of MSMEs in the Covid-19 Pandemic Era. *JEJAK: Jurnal Ekonomi dan Kebijakan*, 14(1). doi:<https://doi.org/10.15294/jejak.v14i1.26342>
47. Hanggraeni, D., Ślusarczyk, B., Sulung, L. A. K., & Subroto, A. (2019, April 11). The Impact of Internal, External and Enterprise Risk Management on the Performance of Micro, Small and Medium Enterprises. *Sustainability* 2019, 11(7), 2172. <https://doi.org/10.3390/su11072172>
48. Hayes, A. (2022, September 7). Enterprise Risk Management (ERM): What Is It and How It Works. Retrieved from <https://www.investopedia.com/terms/e/enterprise-risk-management.asp>
49. Hernita, H., Surya, B., Perwira, I., Abubakar, H., & Idris, M. (2021, March 14). Economic Business Sustainability and Strengthening Human Resource Capacity Based on Increasing the Productivity of Small and Medium Enterprises (SMEs) in Makassar City, Indonesia. *Sustainability* 2021, 13, 3177. <https://doi.org/10.3390/su13063177>
50. Hoover, P. (2024). Smith Gambrell Russell. Retrieved from *Compliance: The Original Sustainability*: <https://www.sgrlaw.com/ttl-articles/1177/>
51. Hung, C. V., Vinh, T. P., & Thai, B. D. (2021, June 9). The impact of firm size on the performance of Vietnamese Private Enterprises: A case study. *Problems and Perspectives in Management*. <https://www.businessperspectives.org/index.php/journals/problems-and-perspectives-in-management/issue-380/the-impact-of-firm-size-on-the-performance-of-vietnamese-private-enterprises-a-case-study>
52. Institute of Risk Management. (n.d.). From the cube to the rainbow double helix: A risk practitioner's guide to the COSO ERM Frameworks. Retrieved from

- <https://www.theirm.org/media/6885/irm-report-review-of-the-coso-erm-frameworks-v2.pdf>
53. International Labour Organization. (2023, January). Enterprise Risk Management: A Guide for EBMOs to promote efficiency and business resilience. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---act_emp/documents/publication/wcms_865180.pdf
54. ITC. (2019). SME competitiveness outlook 2019: Big money for small business—Financing the sustainable development goals. International Trade Centre.
55. Jonas, V. (n.d.). Risk Decisions. Retrieved from How to improve profitability through risk management: <https://www.riskdecisions.com/how-to-improve-profitability-through-risk-management/>
56. Journal of Innovation and Entrepreneurship. (2022). The role of micro, small and medium enterprises (MSMEs) to the sustainable development of sub-Saharan Africa and its challenges: a systematic review of evidence from Ethiopia. Retrieved from <https://doi.org/10.1186/s13731-022-00221-8>
57. Khatibi, Z. (2021). Pandemic Unemployment Levels in the Micro, Small, and Medium Enterprises: Evidence from the Philippines. *International Journal of Progressive Research in Science and Engineering*, 2(4), 13-15. <https://www.journals.grdpublications.com/index.php/ijprse/article/view/253/248>
58. Kotaskova, A., Lazanyi, K., Amoah, J., & Belas, J. (2020). Financial risk management in the V4 Countries' SMEs segment. *Investment Management and Financial Innovations*.
59. Koval, S. (2021). Risk management in the sphere of wages. *Univ Econ Bull.* 2021;51:66–73. doi: 10.31470/2306-546X-2021-51-66-73
60. Krekel, C., Ward, G., & De Neve, J. (2019, March 21). Employee wellbeing, productivity, and firm performance. Saïd Business School WP 2019-04. SSRN: <http://dx.doi.org/10.2139/ssrn.3356581>
61. Kulkarni, A. (2023). Effectiveness of risk management in the msme sector: A systematic review. *The Online Journal of Distance Education and e-Learning*, volume 11
62. Kulkarni, A., & Ujagare, S. (2023, April). EFFECTIVENESS OF RISK MANAGEMENT IN THE MSME SECTOR: A SYSTEMATIC REVIEW. *The Online Journal of Distance Education and e-Learning*, 11(2). <https://www.tojdel.net/journals/tojdel/articles/v11i02/v11i02-45.pdf>
63. Kuot, D., & Hawks, D. (2023, November 21). COSO Internal Control Framework | Overview, Principles & Coverage. Study.com. Retrieved from <https://study.com/academy/lesson/what-is-coso-internal-control-framework-objectives-components.html>
64. Ledley, F., McCoy, S. S., Vaughan, G., & Cleary, E. G. (2020, March). Profitability of large pharmaceutical companies compared with other large public companies | request PDF. ResearchGate. https://www.researchgate.net/publication/339669989_Profitability_of_Large_Pharmaceutical_Companies_Compared_With_Other_Large_Public_Companies
65. Lee, Y. M., & Hu, J. L. (2018, July 4). Integrated approaches for business sustainability: The perspective of corporate social responsibility. MDPI. <https://www.mdpi.com/2071-1050/10/7/2318>
66. Leung, J. W. S., & Whitsett, D. (2023, November 21). Enterprise Risk Management | Definition, Strategies & Benefit. Study.com. Retrieved from <https://study.com/academy/lesson/enterprise-risk-types-strategies.html>
67. Maletič, D., Maletič, M., Al-Najjar, B., & Gomišček, B. (2018). Development of a model linking physical asset management to sustainability performance: An empirical research. *Sustainability [e-journal]*, 10(12), pp.4759. doi: 10.3390/su10124759.

68. Maletič, D., Pacaiova, H., Nagyova, A., & Maletič, M. (2020). The Link Between Asset Risk Management and Maintenance Performance: A Study of Industrial Manufacturing Companies Quality Innovation Prosperity. 24. 50.10.12776/qip.v24i3.1477.
69. Martinez, A. (2023). Philippine Business Permits and Licenses: Everything You Need to Know. Retrieved from <https://smallbusiness.ph/philippine-business-permits-and-licenses/>
70. MasterClass. (2022, August 4). What is Strategic Risk? 6 Types of Strategic Risk. Retrieved from <https://www.masterclass.com/articles/strategic-risk>
71. Matar, A., & Eneizan, B. (2018, January). Determinants of financial performance in the industrial firms: Evidence from Jordan. ResearchGate. https://www.researchgate.net/publication/322397030_Determinants_of_Financial_Performance_in_the_Industrial_Firms_Evidence_from_Jordan
72. Mayanja, S. N. (2020). Status of Profitability of MSMEs in a Developing Country: Uganda as a Case Study. *International Journal of Sciences: Basic and Applied Research (IJSBAR)* (2020) Volume 53, No 1, pp 66-79
73. Merkaš, Z. (2018). Rizici globalnog poslovnog okruženja–izazovi prve četvrtine 21. stoljeća. *Zbornik sveučilišta Libertas*, 3(3), 95-106.
74. Ministry of Micro, Small and Medium Enterprises. (2021). Annual Report 2021-22. <https://msme.gov.in/sites/default/files/MSMEENGLISHANNUALREPORT2021-22.pdf>
75. Mosca, L. (2022, October 12). Key performance indicators 101 & why they're important. *Forbes*. Retrieved from <https://www.forbes.com/sites/louismosca/2019/06/18/key-performance-indicators-101-why-theyre-important/?sh=494a8a722652>
76. Mustapha, B., Olaleye, B. R., Oyewole, Y. B., Olanike, O. O., Akindele, G., Ibrahim, A., Adedokun, J. O., Bamidele, J. A., & Owoniya, B. (2023, March 9). RISK MANAGEMENT PRACTICE AND ORGANIZATIONAL PERFORMANCE: THE MEDIATING ROLE OF BUSINESS MODEL INNOVATION. Retrieved from https://www.researchgate.net/publication/373155286_Risk_Management_Practice_and_Organizational_Performance_The_Mediating_Role_of_Business_Model_Innovation
77. Nee, C., & Yunus, M. (2020). RollRoll Dice: An Effective Method to Improve Writing Skills among Year 3 Pupils in Constructing SVOA Sentences. *Universal Journal of Educational Research*. 8. 2368-2382. 10.13189/ujer.2020.080621.
78. New York State. (n.d.). COSO Model for Internal Controls. Retrieved from <https://www.dot.ny.gov/recovery-transparency/coso-model-internal-controls-longdescription>
79. Nibusinessinfo.co.uk. (n.d.). Risk management: Types of risk your business faces. Retrieved from <https://www.nibusinessinfo.co.uk/content/types-risk-your-business-faces>
80. Offiong A. I., Udoka, C. O., & Basseyy, J. G. (2019, December 3). Financial risk and performance of small and medium enterprises in Nigeria. *Investment Management and Financial Innovations*, 16(4), 110-122. doi:10.21511/imfi.16(4).2019.10
81. Ojubanire, O. A., & Dawodu, S. (2021). Risk management practices and financial performance nexus: Evidence from MSMEs in Osun State, Nigeria. Retrieved from https://www.researchgate.net/publication/351956548_Risk_management_practices_and_financial_performance_nexus_Evidence_from_MSMEs_in_Osun_State_Nigeria
82. Okere, W., Isiaka, M., & Ogunlowore, A. (2018). Risk management and financial performance of deposit money banks in Nigeria. *European Journal of Business, Economics and Accountancy*, 6(2),

30-42.

83. Paller, C. (2022, October 14). How to measure business profitability. CO. <https://www.uschamber.com/co/run/finance/how-to-measure-business-profitability>
84. Panigrahi, A. (2017). Risk Management in Micro, Small and Medium Enterprises (MSMEs) in India: A Critical Appraisal. Retrieved from <https://ssrn.com/abstract=2342484>
85. Pastran, A., Colli, E., & Poclaba, C. (2021). Sustainable entrepreneurship: A new way of doing business. Retrieved from <https://www.tandfonline.com/doi/abs/10.1080/26437015.2021.1882915>
86. Philippine e-Legal Forums. (2020). Micro, Small and Medium Enterprises: What Businesses are Considered MSMEs. Retrieved from <https://pnl-law.com/blog/micro-small-and-medium-enterprises-what-businesses-are-considered-msmes/>
87. Protiviti. (n.d.). Guide to Enterprise Risk Management: Frequently Asked Questions. Retrieved from <https://www.researchgate.net/profile/Jorge-Gomes-4/post/The-effect-on-firm-value-of-enterprise-risk-management-May-I-link-the-between-firm-value-and-enterprise-risk-management-Which-methods-can-I-apply/attachment/59d61f7e79197b807797df00/AS%3A283726362759170%401444657044341/download/Guide+ERM.pdf>
88. PWC. (2022). 2022 Global Risk Survey. Retrieved from <https://www.pwc.com/us/en/services/consulting/cybersecurity-risk-regulatory/library/global-risk-survey.html>
89. Ramanauskaitė, V., & Kanelli, E. (2019). accountancyeuropa. Retrieved from Radical change to fight our environmental crisis: <https://accountancyeuropa.eu/stories/radical-change-to-fight-our-environmental-crisis/>
90. Riberolles, H. (2021, April 6). What is business performance?. Primeum. <https://www.primeum.com/en/blog/definition-what-is-business-performance>
91. RiskOptics. (2022). What Does Risk Management Involve? Retrieved from <https://reciprocity.com/resources/what-does-risk-management-involve/>
92. RiskOptics. (2019, December 13). Guide to COSO Framework and Compliance. Retrieved from <https://reciprocity.com/resource-center/guide-to-coso-framework-and-compliance/>
93. Romo, G. D. A., Sarmiento, J. M. P., Durano, F. L. A., Acopiado, I. M. A., Acuna, T. R., Traje, A. M., & Wahing, G. D. (2023, July 10). Organizational resilience and enterprise profitability in the Philippines during the COVID-19 pandemic: an approach using the fuzzy-set qualitative comparative analysis. *Journal of Global Operations and Strategic Sourcing*. <https://doi.org/10.1108/JGOSS-11-2022-0113>.
94. Rosyidiana, R. & Narsa, M. (2024). Micro, small, and medium-sized enterprises (MSMEs) during the post-pandemic economic recovery period: digitalization, literation, innovation, and its impact on financial performance. Retrieve from <https://www.tandfonline.com/doi/pdf/10.1080/23311975.2024.2342488>
95. Sadoian, L. (2023, November 22). Effective Risk Management: The COSO ERM Framework. UpGuard. Retrieved from <https://www.upguard.com/blog/coso-erm-framework>
96. Sanna, N. (2017, March 30). How FAIR can ensure the success of COSO risk management Programs. The FAIR Institute. Retrieved from <https://www.fairinstitute.org/blog/how-fair-can-ensure-the-success-of-coso-risk-management-programs>
97. Schmidt, W., & Raman, A. (2022). Operational Disruptions, Firm Risk, and Control Systems.

- Retrieved from <https://www.hbs.edu/faculty/Pages/item.aspx?num=58660>
98. SciSpace. (n.d.). Does years of operation affect the performance of a company? | 5 Answers from Research papers. Retrieved from <https://typeset.io/questions/does-years-of-operation-affect-the-performance-of-a-company-34nq0lxg8g>
 99. SciSpace. (n.d.). How does long years of business operation affect the success of a business? | 5 Answers from Research papers. Retrieved from <https://typeset.io/questions/how-does-long-years-of-business-operation-affect-the-success-2ywuyt3cml>
 100. Senate Economic Planning Office. (n.d.). The MSME Sector at a Glance. Retrieved from <https://legacy.senate.gov.ph/publications/AG%202012-03%20-%20MSME.pdf>
 101. Singh, G. (2024, February 7). ANOVA: Complete guide to statistical analysis & applications (updated 2024). Analytics Vidhya. <https://www.analyticsvidhya.com/blog/2018/01/anova-analysis-of-variance/>
 102. SOCAR. (2024). SOCAR Turkiye. Retrieved from Why is Risk Management Important in Sustainability?: <https://www.socar.com.tr/blog-en/sustainability/why-is-risk-management-important-in-sustainability>
 103. Spacey, J. (2023, August 29). Compliance vs Regulatory Risk. Simplicable. Retrieved from <https://simplicable.com/new/compliance-vs-regulatory-risk>
 104. Spiliakos, A. (2018, October 10). What is sustainability in business?: HBS Online. Business Insights Blog. <https://online.hbs.edu/blog/post/what-is-sustainability-in-business>
 105. Spooner, L., & Lekatis, G. (n.d.). Compliance Risk: Compliance Risk and the Chief Compliance Officer (CCO). Retrieved from https://www.chief-compliance-officer.org/Compliance_Risk.html
 106. Stewart, K. (2023, October 10). Pearson's correlation coefficient | Definition, Formula, & Facts. Encyclopedia Britannica. Retrieved from <https://www.britannica.com/topic/Pearsons-correlation-coefficient>
 107. Tamplin, T. (2023). Financial Plan Monitoring. Retrieved from <https://www.financestrategists.com/financial-advisor/financial-planning/financial-plan-monitoring/>
 108. TaxReturnWala. (n.d.). Risk-Based Auditing. File Taxes Online | Online Tax Services in India | Online E-tax Filing. Retrieved from <https://www.taxreturnwala.com/risk-based-auditing-sme-msme/>
 109. Terpilowski, A. (2023, June 2). What is business performance? definition and examples. RSS. <https://www.primetric.com/blog/business-performance>
 110. Tookitaki. (n.d.). Understanding Operational Risk: Types, Importance, and Risk Management Strategies. Retrieved from <https://www.tookitaki.com/glossary/operational-risk>
 111. Trymbiski, L. (2023, February 27). 4 Effective Strategies for SMEs to tackle financial Risks (And 6 Ways to manage those Risks). StartupNation. Retrieved from <https://startupnation.com/manage-your-business/protect-your-business/4-effective-strategies-for-smes-to-tackle-financial-risks-and-6-ways-to-manage-those-risks/>
 112. Tucci, L. (2023). What is risk management and why is it important? Retrieved from <https://www.techtarget.com/searchsecurity/definition/What-is-risk-management-and-why-is-it-important>
 113. Ujagare, S. (2023). Effectiveness of Risk Management in the MSME Sector: A Systematic Review. Retrieved from <https://www.tojsat.net/journals/tojdel/articles/v11i02/v11i02-45.pdf>
 114. UP ISSI – Diliman. (2020). Uplifting Micro, Small, and Medium Enterprises (MSMEs) in the Philippines thru DTI's 7Ms: Suggested Policies for Implementation. Retrieved from

- <https://beta.entrepreneurship.org.ph/2020/02/21/uplifting-micro-small-and-medium-enterprises-msmes-in-the-philippines-thru-dtis-7ms-suggested-policies-for-implementation/>
115. Uwuigbe, U., Teddy, O., Uwuigbe, O. R., Emmanuel, O., Asiriwa, O., Akpevwenghene, G., & Taiwo, O. (2018, June). Sustainability reporting and firm performance: a bi-directional approach. ResearchGate. https://www.researchgate.net/profile/Osariemen-Asiriwa/publication/328651991_Sustainability_reporting_and_firm_performance_A_bi-directional_approach/links/5c46317ea6fdccd6b5bf10a4/Sustainability-reporting-and-firm-performance-A-bi-directional-approach.pdf
116. Verma, E. (2023, August 8). What are financial risks and their types? Everything you need to know. Simplilearn.com. Retrieved from <https://www.simplilearn.com/financial-risk-and-types-rar131-article>
117. Vicente, V. (2023, April 27). A Complete Overview of Operational Risk Management. AuditBoard. Retrieved from <https://www.auditboard.com/blog/operational-risk-management/>
118. Warren, B. (2020, May 19). Why investors are putting sustainability first. EY. https://www.ey.com/en_gl/power-utilities/why-investors-are-putting-sustainability-at-the-top-of-the-agenda
119. Webb, R. (2021). ClearRisk. Retrieved from 10 Reasons Risk Management Matters for All Employees: <https://www.clearrisk.com/risk-management-blog/risk-management-matters-for-all-employees-0-0-0-0>
120. Wegner, D., Zarpelon, F. M., Verschoore, J. R., & Balestrin, A. (2017). Management practices of small-firm networks and the performance of member firms. *Business: Theory and Practice*, 18 (0), 197–207. doi:<https://doi.org/10.3846/btp.2017.021>
121. Williams, C. A. (2023, May 10). COSO ERM Framework – Background & Overview - Strategic Decision Solutions. Strategic Decision Solutions. Retrieved from <https://strategicdecisionsolutions.com/coso-erm-framework/>
122. World Bank Group (2019). Assessing the Effectiveness of MSME and Entrepreneurship Support. Retrieved from <https://documents1.worldbank.org/curated/en/853041563828559514/pdf/Philippines-Assessing-the-Effectiveness-of-MSME-and-Entrepreneurship-Support.pdf>
123. World Economic Forum. (2022). The Global Risks. Insight Report
124. Yakob, S., Syah, H. B. A. M., Yakob, R., & Raziff, N. A. M. (2019). The Effect of Enterprise Risk Management Practice on SME Performance. *The South East Asian Journal of Management*, 13(2), 151-169. <https://doi.org/10.21002/seam.v13i2.11785>
125. Zainuddin, S. A., Abdullah, B., Nasir, N. A. M., Abdullah, T., Nawi, N. C., Patwary, A. K., & Hashim, N. A. A. N. (2022). Sustainable risk management practice in the organization: a Malaysian case study. *Environ Sci Pollut Res Int*. 2023 Feb;30(9):24708-24717. doi: 10.1007/s11356-022-23897-7. Epub 2022 Nov 8. PMID: 36344894; PMCID: PMC9640835.