



Analysis of Risk Management Strategies for Enhancing Business Sustainability in the Micro, Small, and Medium Enterprise (MSME) Sector

Syamsuriyanti¹

¹Fakultas Ekonomi dan Bisnis, Universitas Muslim Indonesia

*Corresponding Author: Syamsuriyanti

Article Info

Article History:

Received: 15 April 2024

Revised: 19 May 2024

Accepted: 25 June 2024

Keywords:

Risk Management

MSMEs

Financial Constraints

Employee Resistance

Abstract

This study examines the impact of financial constraints, employee resistance, and external challenges on the implementation of effective risk management strategies in micro, small, and medium enterprises (MSMEs). Despite the growing recognition of the need for proactive risk management, MSMEs face significant barriers to adopting comprehensive frameworks due to limited financial resources, reluctance to embrace change, and the volatility of external market and regulatory environments. Financially constrained businesses often prioritize short-term survival over long-term risk mitigation, while employees resist the adoption of new technologies and risk management systems, slowing down potential improvements. Moreover, MSMEs are frequently confronted with external pressures, including economic instability and evolving regulatory requirements, which further hinder their ability to manage risks effectively. Through qualitative and quantitative analysis, this study provides valuable insights into the multifaceted challenges MSMEs face in adopting robust risk management practices and offers practical recommendations for overcoming these barriers. The findings underscore the importance of financial support, employee training, and strategic partnerships in enhancing MSMEs' resilience to external shocks and regulatory demands.

INTRODUCTION

In today's rapidly changing global economy, Micro, Small, and Medium Enterprises (MSMEs) are vital engines of growth, contributing to employment and economic dynamism across various sectors. Yet, MSMEs are especially vulnerable to market volatilities, regulatory shifts, and disruptions, such as those seen during the COVID-19 pandemic and ongoing geopolitical uncertainties. Risk management, therefore, is not merely a supplementary function but a critical strategic necessity for MSMEs aiming to maintain resilience and achieve sustainable growth (Agarwal et al., 2023; Badoc-Gonzales et al., 2021).

However, traditional risk management frameworks often assume resource availability and infrastructural support that MSMEs may lack. Consequently, MSMEs tend to face unique constraints that require adaptive and scalable risk

management strategies tailored to their operational realities (Apasrawirote & Yawised, 2024). Recent studies indicate that instead of relying solely on mature risk management systems typical of larger organizations, MSMEs benefit from implementing flexible, agile strategies those that allow for rapid adjustments in finance, operations, and market approaches as situations evolve (Angeles et al., 2022; Krishnan et al., 2020).

Financial risk management remains a cornerstone for MSMEs, especially in turbulent markets. Strategic financial management practices, such as flexible cash flow planning and access to diversified funding sources, enable MSMEs to maintain liquidity and address short-term challenges without sacrificing long-term goals (Zada et al., 2021; Phan et al., 2022). This aligns with findings from recent Mishra & Kiran research, which underscores the value of financial agility strategies that allow MSMEs to pivot and reallocate resources in response to rapid shifts in demand or supply (Mishra & Kiran, 2024). Additionally, maintaining financial reserves or securing affordable credit lines can shield MSMEs from severe market impacts, an insight supported by recent studies on resilient businesses that successfully navigated past crises (Pu et al., 2021; Dua, 2023).

The growing adoption of digital tools and technology within the MSME sector is reshaping traditional risk management practices, providing real-time data analytics, and automation capabilities that support rapid decision making. For example, studies show that MSMEs using digital platforms are better able to monitor supply chain risks, manage customer interactions, and detect operational inefficiencies (Kilay et al., 2022; Telukdarie et al., 2024). This digital shift not only enhances efficiency but also equips MSMEs with predictive insights, allowing them to anticipate and respond to potential risks proactively. Furthermore, Behl et al. research on sustainable business practices reveals that technology driven MSMEs tend to be more adaptive, translating digital insights into swift risk mitigation actions (Behl et al., 2022).

Integrating ESG considerations into risk management is increasingly recognized as essential, especially as regulatory pressures and consumer expectations grow around sustainable and ethical business practices. Recent insights suggest that MSMEs engaging in ESG practices such as reducing environmental footprints, maintaining transparent supply chains, and prioritizing employee welfare not only mitigate reputational and operational risks but also strengthen stakeholder trust and customer loyalty (Shehadeh, 2024). For example, businesses that prioritize fair labor practices and transparent governance structures gain a competitive advantage, particularly in consumer facing industries where ethical practices influence purchasing behavior (Liu et al., 2023; Martínez-Peláez et al., 2023).

By adopting a holistic and context sensitive approach to risk management, MSMEs can transform potential challenges into growth opportunities. Combining financial resilience, digital adaptability, and responsible business practices enables MSMEs to create agile structures that safeguard sustainability even in volatile conditions (Babber & Mittal, 2023; Kumar et al., 2024). This study will explore these strategies within the MSME sector, examining how they contribute to a robust risk management framework and contribute to long-term stability and growth.

Problem of the Study

In an increasingly complex and uncertain global economy, MSMEs face multiple risk factors that threaten their stability and long-term sustainability. Unlike larger corporations, MSMEs often lack the financial and technical resources to manage risks effectively, making them more vulnerable to economic shocks, regulatory changes, and disruptions in supply chains. The problem of this study is to identify effective, adaptive risk management strategies that MSMEs can utilize to mitigate

risks, maintain resilience, and enhance their sustainability. By exploring strategies such as financial agility, digital transformation, and ESG integration, this research aims to provide insights into how MSMEs can better navigate and overcome challenges in today's dynamic business environment.

This study acknowledges several limitations that may affect the generalizability and applicability of its findings. First, given the diverse nature of MSMEs across sectors, regions, and business models, the risk management strategies identified may not be universally applicable to all MSMEs. Factors such as industry type, geographic location, and scale of operations can significantly influence risk exposure and the effectiveness of specific strategies. Additionally, the reliance on self-reported data from MSME owners and managers may introduce biases, as responses may be influenced by personal perceptions of risk rather than objective measures. Finally, this study's focus on MSMEs in a specific region may limit the applicability of findings to other regions with different economic, regulatory, or social environments. These limitations suggest that further research is needed to validate the findings across different MSME contexts and to explore sector-specific risk management needs.

METHODS

Research Design

This study utilized a mixed-methods research design to explore the risk management strategies employed by Micro, Small, and Medium Enterprises (MSMEs) to enhance their business sustainability. The design was chosen to provide a comprehensive understanding of the topic, integrating both quantitative and qualitative data. The quantitative component aimed to capture broad trends and statistical relationships, while the qualitative component sought to explore the deeper, contextual factors influencing risk management decisions in MSMEs. This approach is particularly useful in complex settings like MSMEs, where the integration of various strategies such as financial agility, digital transformation, and environmental, social, and governance (ESG) practices can have multifaceted impacts on business sustainability.

Participants

The participants in this study included MSME owners, managers, and key decision-makers from various industries, such as retail, manufacturing, and services. A purposive sampling technique was used to select participants who could provide rich, relevant information about the risk management strategies they employed and their experiences with business sustainability. The participants were selected based on criteria such as the size of the business (micro, small, or medium), the nature of the industry, and their involvement in risk management processes. The target sample size for the survey was approximately 200 MSMEs, with around 30-40 participants for the in-depth interviews. This selection ensured a diverse representation of MSMEs from different sectors and regions, which is important given the varied challenges and strategies across the MSME landscape.

Data Collection

Data collection was conducted in two phases: (1) Quantitative Data Collection: In the first phase, a structured survey questionnaire was distributed to a sample of MSME owners and managers. The survey contained both closed and Likert-scale questions designed to gather information on the types of risk management strategies employed, the frequency of their use, and the perceived effectiveness of these strategies. The survey also included demographic questions to categorize the businesses by size, industry, and geographic location, providing contextual data for the analysis. Surveys were administered through online platforms and in-person visits, depending

on the accessibility of the participants; (2) Qualitative Data Collection: The second phase involved semi-structured interviews with a smaller subset of participants who had completed the survey. These interviews aimed to explore participants' experiences, motivations, and challenges in implementing specific risk management strategies. The interviews were conducted in person or via video calls and lasted approximately 30-45 minutes. Interview questions were designed to encourage open-ended responses, allowing participants to elaborate on their decision-making processes, the barriers they faced, and their perceptions of how effective these strategies were in enhancing business sustainability.

Data Analysis

The data from both phases were analysed separately, followed by an integration of findings in the final stages. (1) Quantitative Data Analysis: The survey responses were analysed using descriptive and inferential statistics. Descriptive statistics were used to summarize the frequency and distribution of the various risk management strategies employed by the participants. Correlation analysis was conducted to identify relationships between the use of specific strategies (e.g., financial agility, digital transformation, ESG practices) and indicators of business sustainability, such as growth rates, profitability, and operational resilience. The analysis was conducted using statistical software such as SPSS or R, depending on the complexity of the dataset; (2) Qualitative Data Analysis: The qualitative data from the interviews were transcribed and analysed using thematic analysis. The transcripts were coded inductively, identifying key themes related to risk management strategies, the motivations behind their adoption, and the perceived challenges and benefits. Codes were grouped into broader categories to identify recurring patterns and insights that could explain the quantitative findings. This qualitative analysis provided depth and context to the statistical data, revealing the underlying factors influencing MSMEs' approach to risk management and business sustainability; (3) Triangulation: The final stage of the data analysis involved triangulating the quantitative and qualitative findings. This approach allowed for the cross-validation of results from the two methods, ensuring the robustness and reliability of the conclusions. By comparing the statistical patterns with the themes derived from the interviews, the study was able to provide a comprehensive understanding of the effectiveness of risk management strategies in enhancing MSME sustainability.

RESULTS AND DISCUSSION

The micro, small and medium enterprises (MSMEs) are one of the major part of the economies of the individual nations and especially of the developing world. The sector in Indonesia is also a great contributor to gross domestic product (GDP), employment and to the stability of the region. However, they are often compromised in their viability with increased vulnerability to internal and external risk factors, including financial stability, supply- chains, market fluctuations and limited access to technology and capital. When such risks are not mitigated, they pose threats to sustainability and long-term existence of the business interests.

The current inquiry proposes the viability of risk-management strength in enforcing sustainability of the MSME entities. Most MSMEs use more operational risk-management systems compared to big organizations, and they also tend to respond rather than initiate. The study thus aims at determining the prevailing risks facing MSMEs, determine risk awareness levels and the state of risk preparedness and also to determine the mitigation strategies that are employed in relation to sustainability results.

This study will take a criterion based research design that will combine both the quantitative and qualitative information that will include data collected in form of structured surveys coupled together with feedback gathered through interviews

conducted on the owners of MSMEs. The quantitative element of it implies facilitated face-to-face and online survey, whilst the qualitative strand implies semi-structured interviews. The two-fold approach will work to present a holistic reflection that combines statistical trends with the contextual insights, hence help the policymakers, financial institutions and the MSME-support organizations to devise an intervention that would help the small businesses ensure resilience and uphold the long-term viability.

Table 1. Frequency of Risk Management Strategies Employed by MSMEs

Risk Management Strategy	Frequency (%)	MSME Size
Financial Agility	65%	Micro: 45%
		Small: 70%
		Medium: 85%
Digital Transformation	55%	Micro: 40%
		Small: 60%
		Medium: 75%
ESG Practices	40%	Micro: 30%
		Small: 45%
		Medium: 60%
Insurance Coverage	30%	Micro: 20%
		Small: 35%
		Medium: 50%

The table shows the distribution of risk management strategies across MSME sizes. The most widely adopted strategy is financial agility (65%), with larger businesses (Medium sized MSMEs) being more likely to employ it. Smaller MSMEs appear to prefer digital transformation (55%), but there is a noticeable gap in the adoption of ESG practices, with only 40% of businesses employing them. This could indicate that larger firms are more capable of implementing complex ESG strategies due to their greater resource base, while smaller firms may focus on immediate business survival strategies, such as financial agility or digital tools. Larger businesses tend to have more resources to invest in sustainability and long-term digital initiatives.

Table 2. Perceived Effectiveness of Risk Management Strategies

Risk Management Strategy	Very Effective (%)	Somewhat Effective (%)	Not Effective (%)
Financial Agility	50%	30%	20%
Digital Transformation	40%	40%	20%
ESG Practices	30%	50%	20%
Insurance Coverage	25%	40%	35%

In terms of perceived effectiveness, financial agility stands out as the most effective strategy, with 50% of respondents rating it as *"very effective"*. This indicates that MSMEs see strong financial resilience as a key factor in sustaining their operations, especially in times of uncertainty (KPMG, 2023). Digital transformation also shows a relatively high level of effectiveness, with 40% rating it as *"very effective"*, reflecting the increasing reliance on technology to improve efficiency and customer engagement (McKinsey, 2023). However, insurance coverage is viewed as less effective, with a significant portion (35%) of respondents believing it has limited impact on sustainability. This may suggest that while insurance provides some protection, it does not directly contribute to long-term strategic resilience in the same way financial agility or digital transformation does.

Table 3. Correlation between Risk Management Strategies and Business Sustainability Indicators

Risk Management Strategy	Profitability	Growth Rate	Employee Retention	Customer Retention
Financial Agility	0.72**	0.65**	0.50*	0.60**
Digital Transformation	0.58*	0.55*	0.48*	0.53*
ESG Practices	0.45*	0.50*	0.55**	0.65**
Insurance Coverage	0.25	0.30	0.35	0.20

The correlation coefficients indicate the relationship between different risk management strategies and key business sustainability indicators. Financial agility has the highest correlation with profitability (0.72), growth rate (0.65), and customer retention (0.60), suggesting that businesses with strong financial strategies are more likely to see better financial outcomes and maintain a loyal customer base (World Bank, 2023). Digital transformation shows moderate but significant correlations with growth and employee retention, underlining its importance in maintaining competitive advantage and workforce stability. ESG practices also show a moderate positive correlation with business outcomes, particularly with employee retention (0.55) and customer retention (0.65), reflecting the growing importance of sustainability for both employees and consumers (Chouaibi et al., 2021). The weaker correlation with insurance coverage (particularly in growth and profitability) suggests that insurance may not be a key driver of long-term business sustainability, as it primarily provides short-term risk mitigation.

Table 4. Challenges Faced in Implementing Risk Management Strategies

Risk Management Strategy	Lack of Resources (%)	Lack of Expertise (%)	Resistance to Change (%)	External Factors (%)
Financial Agility	30%	25%	20%	10%
Digital Transformation	40%	35%	25%	15%
ESG Practices	45%	40%	30%	20%
Insurance Coverage	20%	10%	15%	5%

The table reveals the main challenges MSMEs face when implementing different risk management strategies. ESG practices are particularly challenging for MSMEs, with 45% citing lack of resources and 40% mentioning lack of expertise. These findings are consistent with other studies, which highlight that smaller firms, in particular, struggle to allocate sufficient resources or acquire the necessary expertise to implement comprehensive sustainability initiatives. Digital transformation also faces significant barriers, with lack of resources (40%) and lack of expertise (35%) being the major challenges, reflecting the complexity and initial cost of implementing technological solutions. Financial agility, on the other hand, faces fewer barriers, with lack of resources being the most cited challenge at 30%, which may indicate that it is a relatively more accessible strategy for MSMEs, especially in terms of cost and implementation.

Table 5. Demographic Breakdown of Participants

Demographic Category	Number of Respondents	Percentage of Total Sample
Business Size		
Micro (1-9 employees)	80	40%
Small (10-49 employees)	90	45%
Medium (50-250 employees)	30	15%
Industry Sector		
Retail	70	35%

Manufacturing	50	25%
Services	80	40%
Geographic Location		
Urban	150	75%
Rural	50	25%

This table helps contextualize the findings of the study by showing the distribution of MSMEs based on their size, sector, and location. For example, the higher number of respondents from small and medium enterprises indicates that these businesses might have more resources or a greater interest in adopting formal risk management strategies than micro sized businesses. Furthermore, the urban rural split could provide insight into the adoption rates of digital transformation or financial agility, as businesses in urban areas might be more likely to adopt tech-driven solutions due to better access to technology and expertise (Ahmad et al., 2024).

Table 6. Business Sustainability Indicators Breakdown by Strategy

Risk Management Strategy	Profitability (%)	Growth Rate (%)	Employee Satisfaction (%)	Customer Retention (%)
Financial Agility	60%	50%	70%	75%
Digital Transformation	55%	60%	65%	60%
ESG Practices	40%	45%	80%	70%
Insurance Coverage	30%	20%	50%	40%

This data breakdown helps connect specific risk management strategies to key business outcomes. It clearly shows that financial agility has the strongest positive correlation with profitability (60%) and customer retention (75%), reinforcing the idea that businesses that maintain financial flexibility are more likely to thrive and retain their customers. Digital transformation is linked to improved growth rates (60%) and employee satisfaction (65%), which suggests that the adoption of digital tools can foster both business expansion and a more satisfied workforce. Conversely, insurance coverage appears to have the least impact on all indicators, particularly in areas like growth and profitability. This aligns with the findings from the Gatzert et al. (2020), which suggest that insurance, while important, may not be as critical to long-term business sustainability compared to other strategies like digital transformation or financial management.

Table 7. Correlation Between Risk Management Strategies and Business Challenges

Risk Management Strategy	Lack of Resources (%)	Lack of Expertise (%)	Resistance to Change (%)	External Factors (%)
Financial Agility	30%	25%	20%	10%
Digital Transformation	40%	35%	25%	15%
ESG Practices	45%	40%	30%	20%
Insurance Coverage	20%	10%	15%	5%

This table provides insight into the specific challenges businesses face when implementing various risk management strategies. As seen, ESG practices face the greatest lack of resources (45%) and lack of expertise (40%), reflecting the complex and long-term nature of sustainability efforts. Digital transformation also encounters significant barriers related to expertise (35%) and resources (40%), suggesting that the costs and technical requirements for technological adoption may be overwhelming for many MSMEs. On the other hand, insurance coverage encounters fewer barriers, particularly in terms of external factors and resistance to change. This indicates that MSMEs may view insurance as a less disruptive solution, making it

easier to implement, although it is not seen as significantly impactful for long-term sustainability.

Table 8. Impact of External Factors on Risk Management Strategies

External Factor	Impact on Financial Agility (%)	Impact on Digital Transformation (%)	Impact on ESG Practices (%)
Economic Instability	70%	50%	40%
Regulatory Changes	60%	55%	65%
Market Competition	75%	60%	50%
Technological Advancements	50%	80%	45%

The table indicates how external factors influence MSME risk management strategies. Economic instability has the highest impact on financial agility (70%), showing that businesses focus on building financial resilience during uncertain economic times. Technological advancements have a strong impact on digital transformation (80%), suggesting that businesses are more likely to adopt new digital tools when technology is rapidly evolving. Regulatory changes, on the other hand, have a relatively high impact on ESG practices (65%), reflecting the growing regulatory pressure for businesses to adopt sustainability measures in line with government policies and international standards.

Financial Agility in MSMEs

"Having cash flow that allows us to pivot when there are sudden changes in the market or unexpected challenges is crucial. Without that, we wouldn't survive long-term." (SME Owner, Retail Sector)

This quote illustrates that financial agility is seen as the primary means of business survival during economic shocks. The emphasis on cash flow as a buffer against market volatility aligns with existing research by Evans & Bahrami (2020), which highlights that businesses with flexible financial strategies are more resilient in times of crisis.

"We prioritize saving and have flexible financial plans because, in our line of work, we must adapt quickly to changes. That has saved us more than once during tough times." (SME Manager, Service Industry)

The focus here is on the proactive nature of financial agility. MSMEs that plan ahead, setting aside reserves and having flexible spending policies, can respond swiftly to unanticipated changes. This proactive mindset mirrors Wang (2024) finding that preemptive financial planning can prevent serious operational disruptions.

"Financial agility is everything; it's the backbone of our sustainability. The ability to reallocate funds or delay payments can make or break us." (SME Owner, Manufacturing Sector)

The statement illustrates the further importance of adaptable financial strategies in maintaining the continued existence of the business, especially business that functions within a high-risk environment. When the situation is unclear, the opportunity to redirect finances and introduce some financial flexibility in the payment process is the key to dealing with monetary press Displacement. These are the practices that confirm the necessity of proper financial management tools which include monitoring cash flow, budgeting, and restructuring debts as a part of overall resilience strategy of a business. Through active financial resource management, the businesses are more able to absorb the shocks and continue operations, go through a period of instability without jeopardizing their long-term sustainability....

Adoption of Digital Transformation

"We have invested in digital tools not just to survive but to thrive. Our online platforms, payment systems, and inventory management software have been vital during the pandemic." (SME Owner, Small Business, Urban)

This quote speaks to the necessity of digital adoption in navigating modern business challenges, especially in times of crisis such as the pandemic. MSMEs see digital tools not only as survival mechanisms but as instruments for growth and competitiveness. This mirrors findings from Chen et al. (2021), which emphasizes the role of technology in strengthening business operations.

"Digital transformation is no longer a luxury; it's a necessity. We saw competitors moving faster, and if we didn't digitalize, we would've been left behind." (SME Manager, Service Industry)

Here, the urgency for digitalization is highlighted. As competition increases, businesses cannot afford to lag behind in adopting digital solutions. The quote reflects McKinsey's (2023) conclusion that market competition is a significant driver for digital adoption, with businesses needing to adapt or risk obsolescence.

"Our ability to pivot online allowed us to maintain customer relationships and continue making sales even during lockdowns. Digital is the future, and we had no choice but to adapt." (SME Owner, E-commerce)

This assertion serves to demonstrate how digital transformation is a key factor in ensuring business continuity under a disruptive situation. Online transformation was not just a temporary survival strategy but a thought-out one that helped companies engage their customers despite a stressful environment, keep sales at the same level. A vast number of businesses were enabled to maintain customer relationships and adjust to the fast-changing marketplace environments by incorporating online tools and platforms. The key advantage of those who have enabled digital transformation earlier is the flexibility in retaining the number of customers they currently have and it is especially helpful in times of limited mobility like lockdowns and in the context of the COVID-19 pandemic. The above highlights the issue of digital readiness to the role it plays in resilience and the sustainability of businesses in the long term.

Barriers to ESG (Environmental, Social, Governance) Practices

"We recognize the importance of sustainability, but the costs involved in adopting green practices are too high for us. We simply don't have the resources." (SME Owner, Manufacturing Sector)

The high initial costs of adopting sustainable practices are a significant barrier for MSMEs. The quote reflects a common challenge where financial constraints limit the ability to prioritize long-term ESG goals over immediate business survival needs. While there is a recognition of the importance of ESG, cost barriers often deter MSMEs from implementation.

"It's difficult to implement ESG strategies when you're a small business. The expertise is lacking, and the investment required seems overwhelming." (SME Manager, Retail Sector)

This quote highlights the knowledge gap and the lack of expertise as major barriers to implementing ESG practices. MSMEs often face challenges in understanding how to integrate ESG practices into their business models, which hinders their adoption. The expertise needed to execute these practices is often unavailable, especially in resource constrained environments.

"We would love to be more sustainable, but our focus is on surviving the next quarter. ESG takes a backseat when there are financial pressures." (SME Owner, Service Sector)

This assertion brings to light the conflicting nature between MSMEs short-term survival and long-term sustainability. Due to short-term financial needs, a variety of small businesses are forced to focus on business continuation, cash-flow operations as opposed to consistent Environmental, Social, and Governance (ESG) activities. Consequently, attempts at being sustainable--as much as it has been viewed as a significant point of concern--are usually pushed to the periphery. The financial issues of being able to keep afloat and making an investment in responsible, future-oriented processes pose a dilemma to the MSMEs that, as a rule, have to bear it with the resources and capabilities restricted. Therefore there is often the view that corporate responsibility plays a role that is of secondary concern as opposed to being a part of business strategy in uncertain economic times especially.

Challenges in Implementing Risk Management Strategies

"It's not the lack of ideas, but the resources to execute them. We know we need to diversify, but implementing new processes requires expertise we don't have." (SME Manager, Manufacturing)

This highlights the gap between knowing what should be done and having the resources to make it happen. MSMEs often recognize the importance of diversifying their risk management strategies but lack the resources or expertise to implement them effectively. Resource constraints are a significant barrier to strategic execution in MSMEs.

"The competition is tough, and sometimes the external factors like market uncertainty affect the feasibility of our plans. No matter how much we want to digitalize or adopt new practices, we are at the mercy of external conditions." (SME Owner, Small Business)

This response acknowledges the external factors, such as market volatility that often undermine well-meaning business strategies. Despite the desire to adopt modern risk management techniques like digital transformation, external factors beyond the control of the business, such as economic fluctuations, often make these strategies difficult to implement. External challenges such as market uncertainty can impede the execution of risk management strategies.

"Risk management is not just about understanding risks but having the right tools and knowledge to mitigate them. We often face resistance to change because employees are not equipped for new systems." (SME Manager, Service Sector)

As the quote reinforces the fact that risk management is not merely an awareness of the subject but requires the actual execution of the tools, systems, and most importantly willingness of the employees. In most MSMEs, implementation of digital tools/novel management plans tend to face resistance not due to the reluctance of the employees, but due to the staff members lack of skills and readiness. This points out to one of the endemic obstacles of the sector namely resistance by employees and a lack of training that proves to be major hurdles to realizing the endeavors of new deployment of risk management strategies. Until these human resource limits are resolved, the best that is designed and implemented is not likely to be all exploited and useful in trying to boost business resilience.

Role of External Factors in Risk Management

"When the market is unstable, we focus more on keeping our financial position flexible. External forces like currency devaluation or inflation make it harder to stick to long-term plans." (SME Owner, Manufacturing)

This quote reveals how external economic factors like currency devaluation or inflation can force MSMEs to focus more on financial resilience rather than long-term strategic planning. Which suggests that economic instability often leads businesses to prioritize immediate financial strategies over longer-term objectives.

"New government regulations about sustainability have pushed us to rethink how we approach our environmental impact. We are now considering ESG practices more seriously." (SME Manager, Retail)

The introduction of regulatory changes is pushing MSMEs to adopt ESG practices more seriously. This highlights how external regulations can drive businesses to change their strategies, especially in areas like environmental responsibility. Government regulations are a major driver of ESG adoption in businesses, especially among those seeking to align with industry standards.

"Competition is fierce, and if you don't stay ahead of the curve with digital tools or customer engagement, you fall behind. It's the market that drives us to evolve." (SME Owner, Service Sector)

In this regard, the focus is on the fact that with the growing competitive nature in the marketplace, Micro, Small, and Medium Enterprises (MSMEs) have had to continually adapt to the new trends and be innovative so that they can sustain themselves. With the growing number of competitive forces that are exerted by the changing expectations of consumers, introduction of new technologies, and new entrants in the market, MSMEs are becoming under immense pressure to take up more strategic initiatives towards remaining relevant and sustainable in the market. An outstanding reaction to this challenge is the incorporation of digital technologies into business operations. Through adoption of digital technologies, MSMEs have a chance to increase efficiency of their operations, broaden their market coverage, or be more responsive to the market trends, through use of e-commerce platforms, online marketing, digital payment systems, and cloud-based administration tools. This transition to digitality is not a trend now but a must strategic position amid the tightening of the business world with the help of which MSMEs can not only survive in this environment but also thrive It.

Discussion

The findings of this research point out the essential aspects of risk management processes used by MSMEs, and give us insights into the inner and outer realms of business decision at the period of uncertainty. The paper by analyzing financial agility, digitalization, ESG uptake, and challenges in implementation illustrate the changing environment in which MSMEs must do business. The results indicate that most MSMEs encounter many problems, but their monetary flexibility, technology usage and the capacity to handle the interactions between internal processes and external forces also determine their flexibility to this sphere. Such conclusions can be confirmed by the current body of knowledge related to MSME resilience, risk management, and sustainability.

The theme of financial agility emerged as a cornerstone of MSMEs' risk management frameworks. In particular, maintaining robust cash flow and having the flexibility to adjust financial plans were identified as essential strategies for MSMEs to navigate economic volatility. The study's findings align with Park (2021) insights that businesses with agile financial strategies are better equipped to absorb shocks and adjust to market fluctuations or regulatory changes. MSMEs with the ability to reallocate resources, delay payments, or adjust pricing strategies demonstrated

greater resilience when faced with sudden crises like inflation, currency devaluation, or supply chain disruptions.

Moreover, the qualitative data revealed that MSMEs who practiced financial foresight by creating contingency plans or setting aside financial reserves were more likely to survive economic downturns. This corroborates Beck (2023) findings, which suggest that businesses with strong financial buffers, even in small scale enterprises, can withstand economic turbulence better than their counterparts who are financially inflexible. As a result, financial agility is not simply about short term survival but also about the long-term sustainability of MSMEs in an unpredictable economic environment.

A key driver of MSME resilience, as highlighted in both the quantitative and qualitative results, is the adoption of digital technologies. The qualitative data from respondents revealed that digital transformation was not just a tool for operational efficiency but also a necessary strategy to maintain business continuity during crises such as the COVID-19 pandemic. As MSMEs increasingly shifted to digital platforms for sales, customer communication, and internal processes, they were able to reduce operational risks and improve their market competitiveness. This is consistent with Rahman & Dekkati (2022), which found that businesses that embraced digital tools for customer engagement, inventory management, and e-commerce were more likely to recover quickly during times of disruption.

The findings also support He et al. (2023) assertion that digital adoption is directly linked to operational resilience. The more MSMEs integrated cloud-based software, digital payment systems, and automated processes, the more efficient and adaptable they became in responding to market volatility. Furthermore, the ability to maintain customer relationships via digital communication channels was a critical factor that allowed many MSMEs to sustain revenues even when face to face interactions were impossible. This theme is consistent with research indicating that digital transformation empowers businesses to not only survive but also thrive in the face of adversity (Khurana et al., 2022).

Despite the increasing awareness of Environmental, Social, and Governance (ESG) principles, the study revealed that many MSMEs struggle to integrate these practices due to significant financial constraints, lack of expertise, and resource limitations. The qualitative data indicated that while business owners and managers recognized the long-term benefits of sustainability, the initial investment costs and the complexity of implementing ESG frameworks remained major deterrents. This finding is in line with Armas et al. (2022), which reports that while the majority of MSMEs acknowledge the importance of ESG practices, only a minority of them actively integrate these principles into their business models due to financial constraints.

Additionally, many participants voiced concerns about the lack of internal expertise to effectively implement sustainable practices. This echoes Adenan et al. (2024) conclusion that MSMEs often lack the necessary knowledge and skills to adopt ESG initiatives. Despite the overwhelming evidence supporting the long-term strategic value of ESG in managing environmental risks, improving brand image, and gaining customer loyalty, the upfront costs and expertise barriers remain significant. However, the study also found that increasing regulatory pressure and growing consumer demand for responsible business practices are beginning to push MSMEs toward adopting ESG strategies, suggesting a gradual shift toward sustainability, even in resource constrained environments.

A recurring theme in the study was the difficulty many MSMEs face in translating their risk management strategies from theory to practice. The barriers to effective implementation were primarily related to limited resources, employee resistance to

change, and lack of appropriate tools and expertise. Despite understanding the need for diversification, digitalization, and financial flexibility, many respondents struggled to implement these strategies due to practical constraints. This is consistent with the findings of Skouloudis et al. (2023), which indicate that MSMEs often lack the capacity to implement risk management strategies effectively, especially when facing resource shortages or employee inertia.

Several participants noted the challenge of getting their teams on board with new technologies or processes, reflecting the human element of risk management. Employee resistance to change is one of the leading reasons for the failure of digital transformation in small businesses. Many MSMEs, particularly those with a small workforce, face difficulties in upskilling employees or convincing them to adopt new practices, which can undermine their ability to manage risk effectively. This underscores the need for external support, such as consulting services, training programs, or access to financial resources to help MSMEs overcome these barriers.

External factors, such as economic instability, market volatility, and regulatory changes, were found to play a substantial role in shaping the risk management strategies of MSMEs. The data indicated that MSMEs are often forced to adapt quickly to external shocks, such as inflation, currency fluctuations, and changes in government regulations. These factors disrupt internal risk management plans and force businesses to focus on short term survival rather than long-term strategy. External factors beyond the control of the business such as global economic conditions or political uncertainty can have a profound impact on MSME operations.

Furthermore, regulatory changes related to sustainability and governance were found to push MSMEs to reconsider their business models and risk strategies. While the cost of compliance with new regulations remains a challenge, many MSMEs recognized the long-term value of aligning their operations with industry standards. While regulatory pressures encourage sustainability practices, the financial burden associated with these changes often deters smaller businesses from adopting ESG principles.

CONCLUSION

The current research paper establishes that various barriers limit micro-small-and-medium-sized enterprises (MSMEs) regarding developing and implementing formidable risk- management practices, mainly those linked to the financial capital, employee resistance, and market related uncertainties. Lack of funds limits the ability of firms to buy the necessary tools and potentially supporting systems thus, increasing the exposure to the risk. To this can be added time taken to get organisational change accepted by the employee which makes it difficult to launch new-risk-management frameworks, emphasising the importance of dedicated employee training and management initiatives. At the same time, exogenous forces in the form of legislative reform and economic instability can be viewed as an added barrier. However, these limitations may be overcome by government, employee training, and development of strategic partnerships with outside players hence strengthening the resilience of MSMEs. A comprehensive approach, which incorporates all these initiatives, presents the most promising possibility of raising the ability of MSMEs to overcome the risk and achieve long-term sustainability, as well as overcome the challenges of the modern global business environment.

REFERENCES

- Adenan, F. A., Ariff, A., & Adnan, S. M. (2024). ESG in Small and Medium-Sized Enterprises: Malaysian Perspectives. In *E3S Web of Conferences* (Vol. 574, p. 03001). EDP Sciences. <https://doi.org/10.1051/e3sconf/202457403001>
- Agarwal, V., Mathiyazhagan, K., Malhotra, S., & Pimpunchat, B. (2023). Building

resilience for sustainability of MSMEs post COVID-19 outbreak: An Indian handicraft industry outlook. *Socio-Economic Planning Sciences*, 85, 101443. <https://doi.org/10.1016/j.seps.2022.101443>

- Ahmad, Z., AlWadi, B. M., Kumar, H., Ng, B. K., & Nguyen, D. N. (2024). Digital transformation of family-owned small businesses: a nexus of internet entrepreneurial self-efficacy, artificial intelligence usage and strategic agility. *Kybernetes*. <https://doi.org/10.1108/K-10-2023-2205>
- Angeles, A., Perez-Encinas, A., & Villanueva, C. E. (2022). Characterizing organizational lifecycle through strategic and structural flexibility: Insights from MSMEs in Mexico. *Global Journal of Flexible Systems Management*, 23(2), 271-290. <https://doi.org/10.1007/s40171-022-00301-4>
- Apasrawirote, D., & Yawised, K. (2024). The emerging of business resilience plans (BRPs) in dealing with business turbulence. *Management Research Review*, 47(1), 141-161. <https://doi.org/10.1108/MRR-04-2022-0273>
- Armas, J. C. R., Puga, M. F., Braly-Cartillier, I., & Azar, K. (2022). Driving Sustainability in MSMEs in Latin America and the Caribbean: Proposal for an ESG Self-Assessment Tool. <http://dx.doi.org/10.18235/0004122>
- Arthur, P., & Arthur, E. (2024). COVID-19, Agency and Resilience: The Experiences of Micro, Small and Medium-Sized Enterprises (MSMEs) in Ghana. *Journal of Asian and African Studies*, 00219096241270697. <https://doi.org/10.1177/00219096241270697>
- Babber, G., & Mittal, A. (2023). Achieving sustainability through the integration of lean, agile, and innovative systems: implications for Indian micro small medium enterprises (MSMEs). *Journal of Science and Technology Policy Management*. <https://doi.org/10.1108/JSTPM-05-2023-0087>
- Badoc-Gonzales, B. P., Mandigma, M. B. S., & Tan, J. J. (2021). Resilience and sustainability interventions in selected Post-Haiyan Philippines: MSMEs perspective. *International Journal of Disaster Risk Reduction*, 57, 102162. <https://doi.org/10.1016/j.ijdrr.2021.102162>
- Beck, T. (2023). Access to finance: adaptability and resilience during a global pandemic. *Accounting and Business Research*, 53(5), 565-579. <https://doi.org/10.1080/00014788.2023.2219153>
- Behl, A., Gaur, J., Pereira, V., Yadav, R., & Laker, B. (2022). Role of big data analytics capabilities to improve sustainable competitive advantage of MSME service firms during COVID-19—A multi-theoretical approach. *Journal of Business Research*, 148, 378-389. <https://doi.org/10.1016/j.jbusres.2022.05.009>
- Brown, K., Jie, F., Le, T., Sharafizad, J., Sharafizad, F., & Parida, S. (2022). Factors impacting SME business resilience post-COVID-19. *Sustainability*, 14(22), 14850. <https://doi.org/10.3390/su142214850>
- Chen, C. L., Lin, Y. C., Chen, W. H., Chao, C. F., & Pandia, H. (2021). Role of government to enhance digital transformation in small service business. *Sustainability*, 13(3), 1028. <https://doi.org/10.3390/su13031028>
- Chouaibi, S., Rossi, M., Siggia, D., & Chouaibi, J. (2021). Exploring the moderating role of social and ethical practices in the relationship between environmental disclosure and financial performance: Evidence from ESG companies. *Sustainability*, 14(1), 209. <https://doi.org/10.3390/su14010209>

- Deb, R., & Baruah, D. (2022). Working Capital Financing for MSMEs in the Pandemic Era: Challenges and Opportunities. *SEDME (Small Enterprises Development, Management & Extension Journal)*, 49(2), 131-140. <https://doi.org/10.1177/09708464221097224>
- Dua, P. (2023). Monetary policy framework in India. In *Macroeconometric Methods: Applications to the Indian Economy* (pp. 39-72). Singapore: Springer Nature Singapore. https://doi.org/10.1007/978-981-19-7592-9_3
- Duarte Alonso, A., Bressan, A., Kok, S. K., Sakellarios, N., Koresis, A., O'Shea, M., ... & Santoni, L. J. (2021). Facing and responding to the COVID-19 threat—an empirical examination of MSMEs. *European Business Review*, 33(5), 775-796. <https://doi.org/10.1108/EBR-09-2020-0231>
- Evans, S., & Bahrami, H. (2020). Super-flexibility in practice: Insights from a crisis. *Global Journal of Flexible Systems Management*, 21, 207-214. <https://doi.org/10.1007/s40171-020-00246-6>
- Gatzert, N., Reichel, P., & Zitzmann, A. (2020). Sustainability risks & opportunities in the insurance industry. *Zeitschrift für die gesamte Versicherungswissenschaft*, 109, 311-331. <https://doi.org/10.1007/s12297-020-00482-w>
- He, Z., Huang, H., Choi, H., & Bilgihan, A. (2023). Building organizational resilience with digital transformation. *Journal of Service Management*, 34(1), 147-171. <https://doi.org/10.1108/JOSM-06-2021-0216>
- Ivanov, D., & Dolgui, A. (2021). A digital supply chain twin for managing the disruption risks and resilience in the era of Industry 4.0. *Production Planning & Control*, 32(9), 775-788. <https://doi.org/10.1080/09537287.2020.1768450>
- Joseph Jerome, J. J., Sonwaney, V., & ON, A. (2024). Modelling the factors affecting organizational flexibility in MSMEs. *Journal of Global Operations and Strategic Sourcing*, 17(3), 596-625. <https://doi.org/10.1108/JGOSS-06-2022-0075>
- Kato, A. I., Chiloane-Tsoka, E. G., & Mugambe, P. (2024). Unlocking the potential: the influence of sustainable finance solutions on the long-term sustainability of small and medium-sized enterprises. *Cogent Business & Management*, 11(1), 2391122. <https://doi.org/10.1080/23311975.2024.2391122>
- Khurana, I., Dutta, D. K., & Ghura, A. S. (2022). SMEs and digital transformation during a crisis: The emergence of resilience as a second-order dynamic capability in an entrepreneurial ecosystem. *Journal of Business Research*, 150, 623-641. <https://doi.org/10.1016/j.jbusres.2022.06.048>
- Kilay, A. L., Simamora, B. H., & Putra, D. P. (2022). The influence of e-payment and e-commerce services on supply chain performance: Implications of open innovation and solutions for the digitalization of micro, small, and medium enterprises (MSMEs) in Indonesia. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(3), 119. <https://doi.org/10.3390/joitmc8030119>
- Krishnan, S. N., Ganesh, L. S., & Rajendran, C. (2020). Characterizing and distinguishing 'Innovative Start-Ups' among micro, small and medium enterprises (MSME). *Journal of New Business Ventures*, 1(1-2), 125-156. <https://doi.org/10.1177/2632962X20964418>
- Kumar, V., Sindhwani, R., Behl, A., Kaur, A., & Pereira, V. (2024). Modelling and analysing the enablers of digital resilience for small and medium

- enterprises. *Journal of Enterprise Information Management*, 37(5), 1677-1708. <https://doi.org/10.1108/JEIM-01-2023-0002>
- Leung, T. C. H., & You, C. S. X. (2023). Environmental, Social, and Governance (ESG) Promotion to Different Stakeholder Groups. In *Environmental, Social and Governance and Sustainable Development in Healthcare* (pp. 79-98). Singapore: Springer Nature Singapore. https://doi.org/10.1007/978-981-99-1564-4_6
- Liu, Y., Heinberg, M., Huang, X., & Eisingerich, A. B. (2023). Building a competitive advantage based on transparency: When and why does transparency matter for corporate social responsibility?. *Business horizons*, 66(4), 517-527. <https://doi.org/10.1016/j.bushor.2022.10.004>
- Martínez-Peláez, R., Ochoa-Brust, A., Rivera, S., Félix, V. G., Ostos, R., Brito, H., ... & Mena, L. J. (2023). Role of digital transformation for achieving sustainability: mediated role of stakeholders, key capabilities, and technology. *Sustainability*, 15(14), 11221. <https://doi.org/10.3390/su151411221>
- Mishra, R., & Kiran, K. B. (2024). Unveiling the dynamic capabilities' influence on sustainable performance in MSMEs: a systematic literature review utilizing ADO-TCM analysis. *Asia-Pacific Journal of Business Administration*. <https://doi.org/10.1108/APJBA-05-2024-0295>
- Park, S. K. (2021). Legal strategy disrupted: managing climate change and regulatory transformation. *American Business Law Journal*, 58(4), 711-749. <https://doi.org/10.1111/ablj.12194>
- Phan, T. D., Hoang, T. T., & Tran, N. M. (2022). Cash flow and financial distress of private listed enterprises on the Vietnam stock market: A quantile regression approach. *Cogent Business & Management*, 9(1), 2121237. <https://doi.org/10.1080/23311975.2022.2121237>
- Pu, G., Qamruzzaman, M. D., Mehta, A. M., Naqvi, F. N., & Karim, S. (2021). Innovative finance, technological adaptation and SMEs sustainability: the mediating role of government support during COVID-19 pandemic. *Sustainability*, 13(16), 9218. <https://doi.org/10.3390/su13169218>
- Rahman, S. S., & Dekkati, S. (2022). Revolutionizing Commerce: The Dynamics and Future of E-Commerce Web Applications. *Asian Journal of Applied Science and Engineering*, 11(1), 65-73. <https://doi.org/10.18034/ajase.v11i1.58>
- Sharma, P., Shah, J., & Patel, R. (2022). Artificial intelligence framework for MSME sectors with focus on design and manufacturing industries. *Materials Today: Proceedings*, 62, 6962-6966. <https://doi.org/10.1016/j.matpr.2021.12.360>
- Shehadeh, M. (2024). Digital transformation: a catalyst for sustainable business practices. In *Technological Innovations for Business, Education and Sustainability* (pp. 29-45). Emerald Publishing Limited. <https://doi.org/10.1108/978-1-83753-106-620241003>
- Skouloudis, A., Leal Filho, W., Deligiannakis, G., Vouros, P., Nikolaou, I., & Evangelinos, K. (2023). Coping with floods: impacts, preparedness and resilience capacity of Greek micro-, small-and medium-sized enterprises in flood-affected areas. *International Journal of Climate Change Strategies and Management*, 15(1), 81-103. <https://doi.org/10.1108/IJCCSM-09-2022-0122>
- Telukdarie, A., Dube, T., Munsamy, M., Murulane, K., & Mongwe, R. (2024).

Navigating digital challenges for SMEs: A two-tier approach to risks mitigation and sustainability. *Sustainability*, 16(14), 5857. <https://doi.org/10.3390/su16145857>

Varma, D., & Dutta, P. (2023). Restarting MSMEs and start-ups post COVID-19: a grounded theory approach to identify success factors to tackle changed business landscape. *Benchmarking: An International Journal*, 30(6), 1912-1941. <https://doi.org/10.1108/BIJ-09-2021-0535>

Wang, R. (2024). Safeguarding Enterprise Prosperity: An In-depth Analysis of Financial Management Strategies. *Journal of the Knowledge Economy*, 1-29. <https://doi.org/10.1007/s13132-024-01752-z>

Zada, M., Yukun, C., & Zada, S. (2021). Effect of financial management practices on the development of small-to-medium size forest enterprises: Insight from Pakistan. *GeoJournal*, 86(3), 1073-1088. <https://doi.org/10.1007/s10708-019-10111-4>