Sustainable Financial Management in MSMEs: A Qualitative Study of Green Business Adaptation in Indonesia

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ABSTRACT. This study aims to explore how Micro, Small, and Medium Enterprises (MSMEs) in Indonesia implement sustainable financial management within the context of green business adaptation. The study employed a qualitative exploratory approach involving 15 MSME owners operating in the food and beverage, fashion, handicraft, and eco-friendly product sectors. Data were collected through semi-structured interviews and direct observation, then analyzed using thematic analysis. The findings reveal that sustainable financial management among MSMEs is primarily implemented through operational efficiency, waste reduction, environmentally responsible resource allocation, and gradual adaptation toward sustainable business practices. Sustainability adaptation is strongly influenced by owner-manager values, customer expectations, market pressures, and organizational learning processes. The study also found that sustainable financial management contributes positively to organizational resilience, customer trust, and long-term business confidence. However, MSMEs continue to face challenges related to limited financial resources, restricted access to green financing, inadequate sustainability knowledge, and insufficient institutional support. The study contributes theoretically by strengthening Sustainable Financial Management Theory within MSME contexts and practically by providing insights for policymakers and business development institutions in supporting sustainability transformation among small businesses in Indonesia.

Keyword: Green Business Adaptation; MSMEs; Sustainable Financial Management
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INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play a dominant role in supporting economic growth, employment creation, and community resilience in many developing countries, including Indonesia. The contribution of MSMEs to national economic activity continues to increase because these businesses are able to absorb labor and support local supply chains in both urban and rural areas. However, the sustainability of MSMEs is currently facing serious pressure due to environmental degradation, rising operational costs, climate-related risks, and changes in consumer preferences toward environmentally responsible products. Many MSMEs still prioritize short-term profitability and survival rather than long-term sustainability planning in their financial management practices. Financial decisions are often limited to operational needs without considering environmental efficiency, waste reduction, or sustainable investment strategies. According to Ardito et al. (2021), sustainable business practices are becoming increasingly important because stakeholders are demanding greater environmental accountability from firms of all sizes. Research by Dey et al. (2022) also explained that small businesses are under growing pressure to integrate sustainability into their financial and operational activities to remain competitive in the modern market. The increasing expectation for environmentally responsible business practices indicates that MSMEs can no longer separate financial management from sustainability concerns.

The transition toward a green economy has significantly changed how businesses manage resources, investments, and operational expenditures. Green economy principles encourage firms to minimize environmental damage while maintaining economic growth and social welfare. In practice, many MSMEs in Indonesia still face difficulties in adapting their financial management systems to support sustainable business activities. Limited access to green financing, inadequate financial literacy, and low awareness of environmental accounting remain major challenges among small business owners. Several MSMEs continue to rely on traditional production methods that generate excessive waste and inefficient energy consumption. According to OECD (2023), small enterprises in developing countries frequently experience barriers in implementing sustainable financial strategies because of resource limitations and weak institutional support. Meanwhile, Bocken and Short (2021) stated that sustainable business transformation requires firms to redesign financial priorities and allocate resources toward environmentally responsible activities. These conditions demonstrate that sustainable financial management is not only a financial issue but also an organizational adaptation process influenced by internal capabilities and external pressures.

Recent environmental and economic disruptions have intensified the need for sustainable financial management among MSMEs. The post-pandemic recovery period has forced many businesses to reconsider how financial resources are allocated in order to improve resilience and long-term sustainability. Rising energy prices, raw material scarcity, and global climate uncertainty have increased production costs for small enterprises in many sectors. MSMEs operating in food processing, fashion, agriculture, and handicraft industries are increasingly expected to adopt eco-friendly production systems while maintaining profitability. According to Supramono et al. (2025), financial behavior and adaptive capabilities significantly influence the sustainability performance of MSMEs in Indonesia. Research conducted by Centobelli et al. (2022) further emphasized that sustainable financial planning can improve organizational resilience during periods of economic uncertainty. Consumers are also becoming more selective in purchasing products from businesses that demonstrate environmental responsibility and ethical production processes. These changes indicate that sustainable financial management has become a strategic necessity rather than an optional business practice for MSMEs.

The environmental challenges faced by Indonesian MSMEs are also closely related to the increasing global commitment toward sustainable development and ESG-oriented business practices. Governments, investors, and international markets are increasingly emphasizing environmental accountability in supply chain activities and business financing. MSMEs that fail to adapt to green business expectations may experience difficulties in accessing investment opportunities and broader markets. In Indonesia, many MSMEs still lack formal financial planning systems that incorporate sustainability indicators into budgeting and investment decisions. Environmental initiatives are often implemented informally without long-term financial strategies or measurable sustainability targets. According to Khan et al. (2021), integrating sustainability into financial management enables businesses to improve efficiency, reduce operational risks, and strengthen stakeholder trust. At the same time, research by Nosratabadi et al. (2020) highlighted that sustainable business adaptation requires organizational learning and managerial commitment in order to achieve long-term competitiveness. These findings suggest that financial sustainability and environmental responsibility are increasingly interconnected within contemporary business environments.

Despite the increasing discussion regarding sustainability and green economy practices, many MSMEs still encounter structural barriers that prevent them from implementing sustainable financial management effectively. One major issue involves the limited understanding of how environmental responsibility can be integrated into financial decision-making processes. Many business owners perceive sustainability initiatives as additional costs rather than long-term investments that generate economic value. Financial records among MSMEs are frequently incomplete, informal, and focused only on daily cash flow activities. This condition makes it difficult for MSMEs to evaluate environmental costs, energy efficiency, and sustainable investment opportunities systematically. According to Yadav et al. (2022), small businesses often struggle to adopt sustainable practices because of weak financial capabilities and insufficient managerial knowledge. Research by Agyabeng-Mensah et al. (2021) also revealed that sustainability-oriented financial management requires strategic leadership and organizational commitment to encourage long-term adaptation. The persistence of these limitations indicates that many MSMEs remain vulnerable to environmental and economic disruptions in the absence of sustainable financial systems.

Several recent studies have discussed sustainability practices among MSMEs, yet the majority of previous research has focused primarily on quantitative approaches and financial performance outcomes. Many studies examine green finance, ESG implementation, or financial literacy using survey-based methods and statistical analysis. While these studies provide valuable empirical findings, they often fail to capture the lived experiences, interpretations, and adaptive behaviors of MSME owners in implementing sustainable financial management practices. In the Indonesian context, qualitative investigations exploring how MSMEs interpret and practice sustainable financial management remain limited. Supramono et al. (2025) examined the relationship between financial behavior, dynamic capabilities, and business sustainability using a quantitative approach, but the study did not deeply explore how MSME actors personally experience green business adaptation within their daily financial practices. This condition creates an important research gap because sustainable business adaptation is highly contextual and influenced by cultural, social, and managerial factors. According to Eisenhardt et al. (2021), qualitative research is essential for understanding organizational adaptation processes and uncovering complex behavioral dynamics that cannot be fully explained through quantitative analysis alone. Therefore, there is still limited understanding regarding how MSMEs in Indonesia manage financial decisions while simultaneously adapting to sustainability and green economy demands.

The present study is grounded in the concept of Sustainable Financial Management, which emphasizes the integration of economic sustainability, environmental responsibility, and long-term business resilience within financial decision-making processes. This concept is considered highly relevant because MSMEs increasingly operate in environments where financial performance cannot be separated from ecological and social considerations. Sustainable Financial Management focuses on how firms allocate resources, manage investments, control operational costs, and plan future business strategies while considering environmental impacts. The concept also highlights the importance of balancing profitability with resource efficiency and responsible business behavior. According to Bansal and DesJardine (2021), sustainability-oriented financial strategies enable organizations to maintain long-term stability while reducing exposure to environmental risks and stakeholder pressures. In addition, Dyllick and Muff (2020) argued that sustainability management should move beyond symbolic compliance and become integrated into core business decision-making processes. This theoretical perspective is appropriate for the present study because it provides a specific framework for understanding how MSMEs adapt financial management practices in response to sustainability challenges. The concept also allows the study to examine sustainability adaptation from both economic and behavioral perspectives.

The use of Sustainable Financial Management as the main theoretical foundation is important because MSMEs often experience tensions between economic survival and environmental responsibility. Many small business owners perceive sustainable practices as difficult to implement because they require additional investments, technological adaptation, and operational adjustments. However, sustainable financial management does not merely focus on environmental spending but also emphasizes efficiency, waste reduction, and long-term value creation. Businesses that successfully integrate sustainability into financial planning may improve operational resilience, customer trust, and market competitiveness. According to Sharma et al. (2022), environmentally responsible financial practices can strengthen business adaptability and support sustainable growth in uncertain economic conditions. Research by Khan and Quaddus (2021) also demonstrated that sustainability-oriented financial planning improves organizational flexibility and stakeholder engagement among small enterprises. These perspectives suggest that sustainable financial management can become an important strategic capability for MSMEs facing environmental and market pressures. Consequently, understanding how MSMEs interpret and practice this concept is highly relevant within the context of green business adaptation in Indonesia.

The urgency of this research is increasingly evident because sustainability has become a global business priority affecting organizations of all sizes. International markets and supply chains are gradually requiring businesses to demonstrate environmental responsibility and transparent sustainability practices. MSMEs that fail to adapt may experience declining competitiveness, limited market access, and reduced investment opportunities in the future. In Indonesia, green economy policies and sustainability programs are also becoming more prominent in national economic development strategies. However, the implementation of sustainability principles among MSMEs remains uneven because many business owners still lack practical guidance and contextual understanding regarding sustainable financial management. According to United Nations

Development Programme (2022), MSMEs are critical actors in achieving sustainable development goals because of their economic contribution and social impact. Research conducted by Awan et al. (2021) further explained that sustainability transformation among small businesses requires deeper understanding of managerial behavior and adaptation processes at the organizational level. Therefore, research exploring sustainable financial management practices among Indonesian MSMEs is urgently needed to support both academic development and practical business transformation.

This study is also important because qualitative exploration can provide richer insights into how MSME actors experience sustainability adaptation within their financial activities. Quantitative studies often focus on measurable variables such as profitability, financial literacy, or investment outcomes, while overlooking the subjective experiences and contextual realities faced by business owners. In practice, MSMEs may adopt sustainability practices gradually, informally, and based on personal values or local community expectations. Financial adaptation toward green business practices may involve emotional considerations, social relationships, and cultural interpretations that are difficult to capture through numerical analysis alone. According to Gioia et al. (2021), qualitative research allows scholars to understand organizational meaning-making processes and uncover deeper insights regarding strategic adaptation. Similarly, Pratt et al. (2022) emphasized that interpretive qualitative studies are essential for examining emerging business phenomena that involve behavioral and contextual complexity. These perspectives strengthen the importance of conducting a qualitative investigation into sustainable financial management among MSMEs in Indonesia. The findings are expected to contribute to a more comprehensive understanding of sustainability adaptation within small business environments.

Another important aspect underlying this research is the growing public awareness regarding environmentally responsible consumption and ethical business practices. Consumers are increasingly paying attention to how products are produced, how businesses manage waste, and whether companies demonstrate social and environmental responsibility. MSMEs that are able to integrate sustainable practices into their financial and operational systems may gain stronger customer loyalty and reputational advantages. On the other hand, businesses that ignore sustainability concerns may gradually lose relevance in increasingly competitive and environmentally conscious markets. According to Delmas and Burbano (2021), sustainability-oriented business transformation can improve organizational legitimacy and stakeholder trust when implemented consistently and authentically. Research by Filser et al. (2023) also showed that small firms adopting green business practices tend to achieve stronger long-term resilience and innovation capability. These developments indicate that sustainable financial management should not only be viewed as a financial strategy but also as a broader organizational adaptation mechanism. Understanding how MSMEs interpret these changes is therefore highly important for supporting sustainable economic development.

Based on these issues, the present study aims to explore how MSMEs in Indonesia understand and implement sustainable financial management within the context of green business adaptation. The study specifically seeks to examine how MSME owners manage financial planning, operational expenditures, investment decisions, and sustainability-related practices in their daily business activities. The research also intends to identify the challenges, motivations, and adaptive strategies experienced by MSMEs while transitioning toward environmentally responsible business practices. Through a qualitative approach, the study is expected to provide deeper insights into the behavioral and contextual dimensions of sustainable financial management that are often overlooked in previous quantitative research. According to Creswell and Poth (2021), qualitative inquiry is highly suitable for exploring complex social phenomena and understanding participants' lived experiences within specific contexts. This study therefore aims to contribute theoretically by enriching the discussion on sustainable financial management and green business adaptation among MSMEs. Practically, the findings are expected to support policymakers, business development institutions, and MSME practitioners in designing more contextual and effective sustainability programs. Ultimately, the study seeks to strengthen the role of MSMEs in supporting sustainable economic development and green economy transformation in Indonesia.

LITERATURE REVIEW

Sustainable Financial Management Theory

Bansal and DesJardine (2021) define Sustainable Financial Management Theory as a managerial approach that integrates financial decision-making with environmental responsibility, long-term organizational resilience, and sustainable value creation. The theory emphasizes that financial management should not only focus on short-term profitability but also consider ecological sustainability and responsible resource allocation. In the context of MSMEs, this theory explains how small businesses balance financial objectives with environmental considerations in their operational activities. Sustainable Financial Management Theory highlights the importance of efficiency, waste reduction, sustainable investment, and responsible financial planning. The theory also recognizes that environmental sustainability can strengthen long-term business competitiveness and organizational adaptability. Businesses adopting sustainability-oriented financial practices are generally more capable of responding to market uncertainty and stakeholder expectations. Financial decisions therefore become part of a broader sustainability strategy rather than merely operational calculations. According to Eccles and Klimenko (2022), sustainability integration within financial management contributes to stronger organizational legitimacy and strategic flexibility. Therefore, Sustainable Financial Management Theory provides an important framework for understanding sustainability adaptation among MSMEs.

Schaltegger et al. (2021) explain that the development of Sustainable Financial Management Theory emerged from the growing awareness that financial performance and environmental sustainability are closely interconnected. Traditional financial management initially focused primarily on liquidity, profitability, and shareholder wealth maximization. Over time, environmental challenges such as climate change, resource scarcity, and sustainability pressures encouraged businesses to rethink financial priorities and operational strategies. This shift led scholars to integrate environmental and social considerations into organizational financial management frameworks. Sustainability-oriented financial management gradually evolved into a strategic approach that supports long-term organizational resilience and responsible business transformation. Researchers increasingly emphasized that environmental responsibility should become part of investment planning, budgeting systems, and resource allocation decisions. The theory has since been widely discussed in relation to sustainable business models, green finance, and organizational adaptability. Recent studies also indicate that sustainability-based financial management can improve operational efficiency and stakeholder trust. Fatemi et al. (2021) note that organizations implementing sustainability-oriented financial strategies are more capable of maintaining competitiveness in dynamic business environments.

Dyllick and Muff (2020) argue that Sustainable Financial Management Theory is highly relevant for examining MSMEs adapting to green economy demands and sustainability expectations. MSMEs often face pressures related to environmental responsibility, operational efficiency, and long-term business continuity. The theory allows researchers to analyze how business owners allocate financial resources while responding to sustainability challenges. It also provides insights into how MSMEs interpret environmentally responsible financial practices within daily business activities. Sustainable Financial Management Theory is suitable for qualitative research because it focuses on strategic behavior, organizational adaptation, and decision-making processes. Small business owners frequently rely on personal values and practical experiences when managing finances and sustainability initiatives. The theory therefore helps explain how sustainability principles are translated into operational and financial practices within MSMEs. Furthermore, it captures the interaction between environmental pressures, financial limitations, and business resilience. As supported by Ameer and Othman (2021), sustainability-oriented financial management frameworks offer a comprehensive perspective for understanding sustainable business adaptation. Therefore, this theory is considered appropriate for guiding the present study.

Sustainable Financial Management in MSMEs

Sharma et al. (2022) define Sustainable Financial Management in MSMEs as the process through which small businesses manage financial resources while simultaneously considering environmental sustainability, long-term resilience, and responsible business practices. This concept emphasizes the integration of financial planning, operational expenditures, investment decisions, and resource allocation with environmentally conscious business strategies. Sustainable financial management also includes efforts to reduce waste, improve energy efficiency, and support sustainable operational systems. In MSMEs, these practices are often shaped by owner-managers through informal decision-making processes and practical business experiences. Sustainability-oriented financial management is increasingly viewed as an important capability for maintaining long-term competitiveness. Businesses implementing sustainable financial practices may achieve stronger operational efficiency and stakeholder trust. However, the implementation process frequently depends on financial literacy, organizational commitment, and environmental awareness. Many MSMEs adopt sustainability practices gradually because of limited resources and operational constraints. According to Khan and Quaddus (2021), sustainable financial management supports balanced economic and environmental value creation within small business environments.

Bansal and DesJardine (2021) suggest that Sustainable Financial Management Theory directly influences how MSMEs develop sustainability-oriented financial practices. Businesses adopting sustainability-based financial management tend to allocate resources more responsibly and prioritize long-term operational resilience. This relationship highlights the importance of integrating environmental awareness into financial decision-making processes. Sustainable Financial Management Theory encourages firms to consider sustainability impacts when planning investments, budgeting operational costs, and managing organizational risks. In MSMEs, the theory explains how owner-managers adapt financial strategies in response to environmental and market pressures. Sustainability-oriented financial practices can also strengthen efficiency, stakeholder trust, and organizational adaptability. The theory therefore provides a conceptual explanation regarding how environmental responsibility becomes integrated into business financial systems. It also clarifies how sustainability values influence operational and managerial behavior within MSMEs. According to Nosratabadi et al. (2020), sustainability-oriented financial frameworks support business continuity and strategic flexibility in uncertain environments. Therefore, the theory is highly relevant for understanding sustainable financial management practices among MSMEs.

Recent empirical studies provide evidence supporting the importance of sustainable financial management in MSMEs. For example, Agyabeng-Mensah et al. (2021) found that sustainability-oriented financial and operational strategies positively influence organizational resilience and long-term business performance among small enterprises. The study highlights that environmentally responsible financial practices strengthen business adaptability within dynamic market conditions. Similarly, Centobelli et al. (2022) demonstrated that sustainable financial planning and efficient resource management contribute significantly to organizational sustainability and innovation capability. These findings indicate that sustainability-oriented financial management is not only related to environmental responsibility but also to strategic business competitiveness. Previous studies also reveal that MSMEs adopting sustainable financial practices are generally more capable of responding to economic uncertainty and environmental challenges. However, many existing studies focus primarily on quantitative analysis and measurable performance indicators. Limited qualitative research has explored how MSME owners personally experience and interpret sustainable financial management practices within their daily operations. These empirical findings therefore provide an important foundation for the present study. Consequently, this research seeks to enrich the literature through a qualitative exploration of sustainable financial management among MSMEs.

Green Business Adaptation

Filser et al. (2023) define Green Business Adaptation as the process through which organizations adjust operational, financial, and strategic activities to align with environmental sustainability principles and green economy expectations. This adaptation process includes environmentally responsible production systems, efficient resource utilization, waste reduction, and sustainability-oriented business planning. Green business adaptation also reflects how firms respond to changing consumer preferences, environmental regulations, and competitive sustainability pressures. In MSMEs, adaptation toward green business practices often occurs incrementally through operational adjustments and managerial learning processes. Small business owners play a central role in determining how sustainability principles are implemented within business activities. Green adaptation is increasingly considered important for improving long-term resilience and market competitiveness. Businesses adopting environmentally responsible practices may also strengthen customer trust and organizational legitimacy. Nevertheless, many MSMEs still experience barriers related to limited resources, financial constraints, and inadequate sustainability knowledge. According to Delmas and Burbano (2021), green business adaptation has become an essential strategy for businesses operating in environmentally conscious markets.

Schaltegger et al. (2021) explain that Sustainable Financial Management Theory strongly supports the implementation of green business adaptation within MSMEs. The theory emphasizes that financial planning and resource allocation should support both economic sustainability and environmental responsibility. Businesses adapting to green economy demands often need to redesign budgeting priorities, operational expenditures, and investment decisions. In this context, sustainable financial management becomes an important mechanism for supporting environmentally responsible business transformation. The theory also explains how firms balance operational efficiency with ecological sustainability within daily business activities. MSMEs implementing green adaptation strategies frequently rely on financial flexibility and sustainability-oriented managerial behavior. Sustainable Financial Management Theory therefore helps explain the relationship between financial decision-making and environmental adaptation within small enterprises. It also provides a framework for understanding how sustainability principles influence operational and strategic changes. According to Bocken and Short (2021), green business transformation requires organizations to realign financial priorities and operational systems with sustainability objectives. Therefore, the theory is highly relevant for analyzing green business adaptation among MSMEs.

Recent empirical studies provide strong evidence regarding the importance of green business adaptation among small enterprises. For instance, Awan et al. (2021) found that sustainability-oriented adaptation strategies improve organizational resilience and strengthen competitive advantage within uncertain business environments. The study demonstrates that environmentally conscious business transformation positively influences long-term business continuity and market responsiveness. Likewise, Dey et al. (2022) revealed that MSMEs adopting green operational and financial practices achieve stronger stakeholder engagement and better sustainability performance. The findings also indicate that green business adaptation requires managerial commitment, financial readiness, and organizational learning capability. Previous studies confirm that environmentally responsible adaptation can support innovation and strengthen market positioning among small businesses. However, many MSMEs still struggle to implement sustainability-oriented practices because of limited knowledge and operational constraints. Existing research has also largely focused on quantitative analysis rather than exploring the lived experiences of MSME owners. These empirical studies therefore provide important support for the present research context. Consequently, this study aims to deepen understanding regarding how MSMEs interpret and experience green business adaptation through a qualitative perspective.

METHODS

This study employed a qualitative research approach with a descriptive exploratory design to understand how MSMEs in Indonesia interpret and implement sustainable financial management practices within the context of green business adaptation. A qualitative approach was considered appropriate because the study aimed to explore participants' experiences, perceptions, meanings, and adaptive behaviors related to sustainability-oriented financial management. According to Creswell and Poth (2021), qualitative research is suitable for examining complex social phenomena that require contextual and in-depth understanding. The exploratory design was selected because sustainable financial management among MSMEs remains an emerging issue that requires deeper investigation from the perspectives of business actors themselves. This approach allowed the researcher to identify patterns, challenges, and strategies related to environmentally responsible financial practices within MSMEs. The study focused on understanding real business experiences rather than measuring relationships between variables statistically. Therefore, qualitative inquiry was considered the most relevant method for achieving the research objectives.

The population of this study consisted of MSME owners operating in the food and beverage, fashion, handicraft, and eco-friendly product sectors in Indonesia. These sectors were selected because they are closely associated with sustainability challenges such as waste management, resource utilization, packaging practices, and environmentally responsible production systems. The study used purposive sampling to select participants who met specific research criteria. Participants were required to own or manage MSMEs that had operated for at least three years and demonstrated initial sustainability-related practices within their business operations. The sample consisted of 15 MSME owners located in several urban areas, including Jakarta, Bandung, Yogyakarta, and Surabaya. According to Patton (2020), purposive sampling is appropriate in qualitative research because it allows researchers to select information-rich participants capable of providing deep insights related to the research topic. The selected participants were expected to provide diverse experiences regarding sustainable financial management and green business adaptation. This sampling strategy therefore supported the objective of obtaining comprehensive and contextual qualitative findings.

Data collection in this study was conducted through semi-structured in-depth interviews and direct observation of business activities. Semi-structured interviews were used to provide flexibility for participants to explain their experiences, perceptions, and business strategies related to sustainability-oriented financial management. The interview process focused on financial planning, resource allocation, operational efficiency, environmental responsibility, and challenges in implementing green business practices. Observations were conducted to strengthen the credibility of interview findings by examining sustainability-related practices within business operations. Interview sessions were conducted both offline and online depending on participant availability and accessibility. Each interview lasted approximately 45 to 60 minutes and was recorded with participant consent to ensure data accuracy. According to Yin (2021), combining interviews and observations can improve the depth and credibility of qualitative research findings. Therefore, the use of multiple data collection techniques supported richer and more reliable interpretations regarding sustainable financial management among MSMEs.

The variables explored in this study consisted of Sustainable Financial Management in MSMEs and Green Business Adaptation. Sustainable Financial Management in MSMEs refers to how small businesses manage financial planning, operational expenditures, investment decisions, and resource allocation while considering environmental sustainability and long-term business resilience. This concept emphasizes environmentally responsible financial practices, operational efficiency, and sustainability-oriented decision-making processes. Sharma et al. (2022) explain that sustainable financial management supports long-term competitiveness and organizational adaptability among small businesses. Meanwhile, Green Business Adaptation refers to organizational efforts to adjust operational, financial, and strategic activities in response to sustainability demands and green economy expectations. This adaptation process includes eco-friendly production systems, efficient resource utilization, waste reduction, and sustainability-oriented business transformation. According to Filser et al. (2023), green business adaptation strengthens organizational resilience and innovation capability within environmentally conscious markets. These variables were selected because they are closely interconnected in supporting sustainability transformation among MSMEs.

The data analysis process employed thematic analysis to identify recurring themes, patterns, and meanings emerging from participant experiences. The analysis began with data transcription, followed by coding, categorization, and theme development based on participant responses and observational findings. The researcher carefully interpreted the data to understand how MSME owners perceive sustainability-oriented financial management and adapt to green business practices. To ensure research credibility, triangulation was conducted by comparing interview data, observation results, and relevant documentation. Member checking was also carried out by confirming several findings with participants to ensure interpretive accuracy. According to Braun and Clarke (2021), thematic analysis is an effective qualitative analysis technique for identifying patterns and constructing meaningful interpretations within social research contexts. The use of thematic analysis therefore enabled the study to generate deeper insights into the sustainability adaptation experiences of MSME actors. Ultimately, this method supported the objective of understanding sustainable financial management from the perspectives of MSME practitioners in Indonesia.

RESULT AND DISCUSSION

RESULT

The findings of this study reveal that MSME owners in Indonesia increasingly recognize the importance of integrating sustainability principles into financial management practices. Most participants explained that environmental responsibility is no longer viewed solely as a moral obligation but also as a strategic necessity for maintaining business continuity and market competitiveness. MSME owners operating in food and beverage businesses emphasized that customers have become more selective regarding packaging materials, waste management practices, and environmentally friendly production processes. Participants from the fashion and handicraft sectors similarly reported growing consumer awareness regarding sustainable raw materials and ethical production systems. These conditions encouraged business owners to reconsider how operational costs, resource allocation, and investment decisions are managed within their enterprises. Although sustainability awareness varied among participants, all informants acknowledged that environmentally responsible practices increasingly influence business reputation and customer trust. Several MSME owners stated that sustainability adaptation initially emerged from external market pressures rather than internal strategic planning. Over time, however, sustainability practices gradually became integrated into broader financial and operational considerations. The findings therefore indicate that sustainability adaptation among MSMEs is strongly influenced by changing market expectations and long-term business survival concerns.

The study also found that sustainable financial management among MSMEs is primarily implemented through operational efficiency and resource optimization strategies. Most participants explained that they attempt to reduce unnecessary expenses by minimizing energy consumption, controlling production waste, and optimizing raw material usage. Several business owners reported replacing conventional packaging with reusable or biodegradable materials despite higher initial costs. Participants believed that these decisions could improve long-term operational efficiency and strengthen brand image among environmentally conscious consumers. In addition, many MSME owners emphasized the importance of separating personal and business finances to support more organized sustainability-related budgeting. Financial planning was generally conducted informally because most participants still relied on simple bookkeeping systems rather than formal accounting software. Nevertheless, sustainability considerations were increasingly included in purchasing decisions, supplier selection, and operational planning. Participants also noted that environmentally responsible financial practices helped reduce operational risks associated with waste and resource inefficiency. These findings demonstrate that sustainable financial management within MSMEs often develops gradually through practical business experiences rather than formal strategic frameworks.

Another important finding concerns the strong role of personal values and managerial awareness in shaping sustainability-oriented financial decisions. Many participants stated that environmental responsibility was closely related to personal beliefs, ethical considerations, and community values. MSME owners who possessed stronger environmental awareness tended to demonstrate greater commitment toward sustainable operational practices despite financial limitations. Several informants explained that sustainability adaptation required consistent behavioral changes rather than immediate large-scale investments. Business owners frequently described sustainability as a long-term learning process influenced by daily experiences and interactions with customers, suppliers, and local communities. In many cases, sustainability initiatives began through small operational adjustments such as reducing plastic usage, minimizing electricity consumption, or reusing production materials. Participants also emphasized that sustainability-related financial decisions often involved balancing environmental goals with short-term profitability pressures. This condition created ongoing tensions between operational survival and sustainability commitments. The findings therefore suggest that sustainability adaptation among MSMEs is highly dependent on owner-manager values and behavioral orientation.

The research further identified several major barriers preventing MSMEs from implementing sustainable financial management more effectively. One of the most common challenges involved limited financial resources and restricted access to green financing opportunities. Many participants perceived environmentally friendly materials and sustainable technologies as expensive and difficult to access for small businesses. MSME owners also reported uncertainty regarding the financial returns of sustainability investments because benefits are often realized gradually over long periods. In addition, participants explained that limited financial literacy and inadequate knowledge regarding sustainability-oriented business management hindered the implementation of environmentally responsible practices. Some business owners admitted that they lacked formal understanding regarding environmental accounting, sustainability reporting, and green investment planning. Regulatory uncertainty and inconsistent government support were also identified as external barriers affecting sustainability adaptation. Several participants expressed the need for more practical training programs and accessible sustainability guidance specifically designed for MSMEs. These findings indicate that sustainability transformation among MSMEs remains constrained by both internal capability limitations and external institutional challenges.

The findings additionally reveal that customer expectations significantly influence green business adaptation among MSMEs. Many participants explained that consumers increasingly prefer businesses demonstrating environmentally responsible practices and ethical operational behavior. MSME owners stated that sustainability-oriented branding positively affected customer loyalty, product differentiation, and market reputation. Some participants reported receiving direct customer feedback regarding packaging waste, environmentally friendly materials, and responsible sourcing practices. These interactions encouraged MSMEs to reconsider operational decisions and allocate financial resources toward sustainability improvements. Business owners also emphasized that social media played an important role in shaping public perceptions regarding environmental responsibility. MSMEs implementing green practices were more likely to attract younger consumers who prioritize sustainability values in purchasing decisions. However, several participants noted that environmentally friendly products are still often perceived as more expensive by certain consumer groups. Consequently, MSMEs must continuously balance sustainability investments with market affordability considerations. These findings demonstrate that customer pressure has become a significant driver of green business adaptation among MSMEs.

The study further found that sustainability adaptation contributes positively to organizational resilience and long-term business confidence. Participants explained that operational efficiency improvements resulting from sustainability practices helped reduce unnecessary costs and improve resource utilization. Several MSME owners believed that sustainability-oriented financial management strengthened business preparedness during periods of economic uncertainty and fluctuating raw material prices. Businesses adopting environmentally responsible operational systems also reported stronger relationships with local communities and customers. In some cases, sustainability practices opened access to collaboration opportunities, local exhibitions, and environmentally focused business networks. Participants described sustainability adaptation as an investment in long-term business continuity rather than a short-term financial strategy. MSME owners who consistently implemented sustainability initiatives tended to demonstrate stronger confidence regarding future business development. Nevertheless, the process of sustainability adaptation remained gradual and highly dependent on business capacity and managerial commitment. These findings suggest that sustainable financial management and green business adaptation can strengthen organizational resilience among MSMEs despite existing operational limitations.

Overall, the findings indicate that sustainable financial management among MSMEs in Indonesia is characterized by gradual adaptation processes shaped by market pressures, personal values, operational efficiency considerations, and customer expectations. Sustainability practices are generally implemented informally and evolve through continuous learning experiences rather than formal sustainability frameworks. MSME owners increasingly recognize that financial management and environmental responsibility are interconnected aspects of long-term business sustainability. However, sustainability adaptation remains constrained by financial limitations, inadequate managerial knowledge, and restricted institutional support. The findings also reveal that sustainability-oriented financial behavior is strongly influenced by owner-manager awareness and practical business realities. MSMEs adopting environmentally responsible practices tend to experience improved business confidence, stronger customer relationships, and greater operational resilience. At the same time, sustainability implementation continues to require significant behavioral adaptation and strategic flexibility. Therefore, sustainable financial management among MSMEs should be understood as a dynamic organizational learning process within the broader context of green economy transformation in Indonesia.

DISCUSSION

The findings of this study demonstrate that sustainable financial management among MSMEs in Indonesia is increasingly interpreted as a strategic mechanism for ensuring long-term business continuity within environmentally conscious markets. MSME owners no longer perceive sustainability solely as an external demand or ethical obligation, but rather as an adaptive business response to changing consumer expectations and competitive pressures. This finding supports the argument of Bansal and DesJardine (2021), who explain that sustainability-oriented financial management enables organizations to strengthen long-term resilience while responding to environmental uncertainty. The results indicate that MSMEs integrate sustainability gradually through operational efficiency, waste reduction, and environmentally responsible financial allocation. This condition reflects the central assumption of Sustainable Financial Management

Theory, which emphasizes the integration of environmental considerations into organizational financial decision-making. The findings also suggest that sustainability adaptation within MSMEs is strongly contextual because implementation depends on organizational capabilities, managerial awareness, and resource accessibility. Unlike large corporations that often adopt formal sustainability frameworks, MSMEs tend to implement sustainability informally through practical operational adjustments. This pattern highlights the flexible and experience-based nature of sustainability adaptation among small enterprises. Therefore, sustainable financial management within MSMEs should be understood as a dynamic learning process rather than a standardized organizational model.

The study further reveals that operational efficiency serves as the primary entry point for sustainability adaptation among MSMEs. Most participants emphasized reducing energy consumption, minimizing production waste, and improving resource utilization as practical strategies for integrating sustainability into financial management. These findings align with Sharma et al. (2022), who argue that sustainability-oriented financial practices contribute to long-term operational efficiency and organizational competitiveness. MSME owners generally viewed sustainability practices as mechanisms for controlling operational costs rather than purely environmental initiatives. This perspective indicates that financial considerations remain highly dominant in shaping sustainability adoption among small enterprises. However, the findings also demonstrate that operational efficiency gradually leads MSMEs toward broader environmental awareness and responsible business behavior. Sustainability adaptation therefore emerges incrementally through cost-efficiency practices that later evolve into more strategic sustainability commitments. This finding expands previous literature by showing that MSMEs often begin sustainability transformation through financially motivated operational adjustments rather than formal environmental strategies.

The study consequently highlights the importance of understanding sustainability implementation from the practical realities of MSME operations. Sustainability-oriented financial management among MSMEs is therefore closely connected to economic survival and resource optimization.

Another important finding concerns the role of personal values and managerial awareness in influencing sustainability-oriented financial behavior. The study found that MSME owners with stronger environmental awareness demonstrated greater commitment toward implementing sustainable operational practices despite financial constraints. This finding supports Dyllick and Muff (2020), who emphasize that sustainability-oriented management requires internal commitment rather than symbolic compliance. MSME owners frequently described sustainability adaptation as part of their personal responsibility toward communities and future generations. Sustainability practices were often shaped by ethical considerations, social relationships, and individual experiences rather than external regulations alone. This condition indicates that sustainability adaptation among MSMEs is highly behavioral and value-driven in nature.

The findings also suggest that owner-manager orientation significantly influences how sustainability principles are translated into operational and financial practices. In qualitative terms, sustainability adaptation cannot be separated from the lived experiences and personal interpretations of MSME actors. This insight enriches previous quantitative studies that primarily focus on measurable sustainability outcomes while overlooking behavioral dimensions. Therefore, the present study contributes to the literature by demonstrating that sustainability-oriented financial management within MSMEs is deeply influenced by subjective managerial values and organizational culture.

The findings additionally reveal that sustainability adaptation among MSMEs remains constrained by structural and financial limitations. Limited access to green financing, high costs of environmentally friendly materials, and inadequate sustainability knowledge were identified as major barriers affecting implementation. These findings are consistent with Yadav et al. (2022), who found that resource limitations and weak managerial capabilities frequently hinder sustainability adoption among small enterprises. MSME owners often perceived sustainability investments as financially risky because returns are generally realized over longer periods. This perception creates tensions between short-term business survival and long-term sustainability objectives. The study also found that many participants lacked formal understanding regarding sustainability accounting, green investment planning, and environmentally responsible financial systems.

These limitations demonstrate that sustainability transformation among MSMEs cannot rely solely on individual awareness but also requires institutional and educational support. Government programs and sustainability initiatives often remain inaccessible or insufficiently contextualized for small business realities. Consequently, MSMEs frequently implement sustainability incrementally through trial-and-error processes rather than structured sustainability planning. The findings therefore confirm that sustainability adaptation within MSMEs is influenced not only by internal motivation but also by broader institutional and economic environments.

Customer expectations emerged as another important factor influencing green business adaptation among MSMEs. Participants consistently reported increasing consumer attention toward environmentally responsible products, ethical production systems, and sustainable packaging practices. This finding supports Filser et al. (2023), who argue that sustainability adaptation can strengthen organizational legitimacy and improve long-term market competitiveness. MSME owners recognized that sustainability practices positively influence customer trust, business reputation, and product differentiation within competitive markets. Social media was also identified as a significant driver shaping public perceptions regarding environmental responsibility. Younger consumers in particular were described as more likely to support businesses implementing environmentally conscious operational practices.

These findings indicate that sustainability adaptation is increasingly market-driven rather than purely regulation-driven among MSMEs. Businesses therefore adopt sustainability practices not only to reduce environmental impacts but also to maintain customer relevance and strengthen market positioning. However, participants also emphasized that environmentally friendly products are often associated with higher prices, creating challenges in balancing sustainability commitments with affordability considerations. This condition reflects the complex relationship between market expectations, consumer behavior, and financial realities within sustainability-oriented business transformation.

The findings further demonstrate that sustainable financial management contributes positively to organizational resilience among MSMEs. Participants explained that sustainability-oriented operational practices helped improve resource efficiency, reduce unnecessary expenditures, and strengthen preparedness during periods of economic uncertainty. This finding aligns with Centobelli et al. (2022), who found that sustainable financial planning supports organizational resilience and adaptive capability in dynamic business environments. MSME owners perceived sustainability adaptation as an investment in long-term business continuity rather than immediate profitability. Businesses implementing environmentally responsible practices also reported stronger relationships with customers, communities, and local business networks. These relational benefits contributed to increased business confidence and organizational stability. Sustainability adaptation therefore generated both operational and social advantages for MSMEs. The findings suggest that sustainability-oriented financial management can function as a strategic resilience mechanism within uncertain economic conditions. This perspective extends previous discussions by emphasizing that sustainability among MSMEs should not only be evaluated through financial performance indicators but also through adaptive capacity and long-term organizational endurance. Consequently, sustainability adaptation becomes closely associated with broader organizational resilience and strategic flexibility.

Another important contribution of this study lies in its qualitative exploration of sustainability adaptation processes among MSMEs. Previous research on sustainability-oriented financial management has predominantly relied on quantitative approaches emphasizing statistical relationships between variables. While these studies provide important empirical evidence, they often fail to capture how MSME owners personally experience sustainability transformation within daily business activities. The present study demonstrates that sustainability adaptation is shaped by subjective meanings, practical experiences, and contextual business realities. MSME owners frequently implement sustainability through gradual operational adjustments influenced by environmental awareness, financial limitations, and customer interactions. This finding supports Gioia et al. (2021), who argue that qualitative inquiry is essential for understanding organizational meaning-making processes and behavioral complexity. The study therefore contributes methodologically by providing deeper interpretive insights regarding sustainable financial management among MSMEs. It also highlights the importance of examining sustainability from behavioral and contextual perspectives rather than relying exclusively on measurable organizational outcomes. Consequently, the research enriches existing sustainability literature by emphasizing the lived experiences of MSME actors within green economy transformation.

From a theoretical perspective, the findings strengthen the relevance of Sustainable Financial Management Theory in explaining sustainability adaptation among MSMEs. The theory successfully explains how financial decision-making becomes interconnected with environmental responsibility, operational efficiency, and long-term organizational resilience. The findings demonstrate that MSMEs increasingly integrate sustainability considerations into budgeting, resource allocation, and operational planning processes.

However, the study also reveals that sustainability implementation among MSMEs remains highly informal and context-dependent. This indicates that Sustainable Financial Management Theory should be interpreted flexibly when applied to small business environments characterized by limited resources and informal managerial systems. Sustainability adaptation within MSMEs often occurs through experiential learning rather than formal strategic planning. The findings therefore extend the theoretical discussion by showing that sustainability-oriented financial management among MSMEs is not necessarily structured or institutionalized. Instead, it develops dynamically through continuous interaction between financial pressures, environmental awareness, and market expectations. This theoretical insight contributes to expanding sustainability management discussions within small business contexts.

Practically, the findings imply that policymakers, financial institutions, and business development organizations should provide more accessible and contextual sustainability support for MSMEs. Many participants expressed the need for practical sustainability training, affordable green financing schemes, and clearer operational guidance regarding environmentally responsible financial management. Sustainability policies designed for large corporations may not always be suitable for MSMEs because small businesses often operate with limited capital and informal management systems. Therefore, sustainability support programs should focus on practical implementation strategies that align with MSME operational realities. Capacity-building initiatives emphasizing financial literacy, environmental awareness, and sustainability-oriented operational efficiency may strengthen MSME adaptability toward green economy transformation. Financial institutions could also play an important role by expanding accessible green financing opportunities tailored specifically for MSMEs. The findings further suggest that collaborative networks among government agencies, local communities, and business associations may support broader sustainability adoption within small business sectors. Ultimately, sustainable financial management among MSMEs requires collective institutional support alongside internal organizational commitment.

CONCLUSION

This study concludes that sustainable financial management among MSMEs in Indonesia has evolved into an important adaptive strategy within the broader context of green economy transformation. MSME owners increasingly recognize that environmental responsibility and financial management are interconnected aspects of long-term business sustainability. The findings reveal that sustainability-oriented financial practices are primarily implemented through operational efficiency, waste reduction, responsible resource allocation, and gradual environmental adaptation within daily business activities. Sustainability adaptation among MSMEs is strongly influenced by owner-manager values, customer expectations, market pressures, and organizational learning processes. The study also confirms that sustainable financial management contributes positively to organizational resilience, customer trust, and long-term business confidence despite existing operational and financial limitations.

However, the findings indicate that sustainability transformation among MSMEs remains constrained by limited financial resources, inadequate sustainability knowledge, restricted access to green financing, and insufficient institutional support. Most MSMEs continue to implement sustainability informally through incremental operational adjustments rather than structured sustainability frameworks. This condition demonstrates that sustainability adaptation within small businesses is highly contextual and dependent on managerial awareness as well as practical business realities. The study therefore highlights the importance of developing more accessible, practical, and contextual sustainability support systems for MSMEs.

Theoretically, this research strengthens the relevance of Sustainable Financial Management Theory in explaining how financial decision-making within MSMEs becomes increasingly integrated with environmental responsibility and long-term organizational resilience. The study also contributes to the sustainability literature by providing qualitative insights into the lived experiences and adaptive behaviors of MSME actors, which remain underexplored in previous quantitative studies. Practically, the findings provide important implications for policymakers, financial institutions, and business development organizations in designing sustainability programs, green financing initiatives, and environmental management training tailored to MSME conditions. Future studies are recommended to explore sustainability adaptation across different sectors and regional contexts using broader qualitative and mixed-method approaches.

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