

## Integration of Fintech, Financial Literacy, and Financial Inclusion with Sustainability Strategy to Support Business Sustainability Micro, Small and Medium Enterprises

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**Abstract:** This research was to analyze the influence of technology and sustainability strategies on the sustainability of Micro, Small, and Medium Enterprises (MSMEs) in Bali. The variables in this research consisted of Business Sustainability that includes growth, strategy, and financial structure; Financial Technology that is measured through usability, ease of use, and risk; Financial Literacy that includes financial knowledge, behavior, and attitudes; and Financial Inclusion that includes access, use, and quality of financial services. Furthermore, Sustainable Strategy involves regulatory compliance, economic performance, environmental responsibility, social responsibility, long-term strategic planning, stakeholder engagement. This study used a quantitative method with a survey design with the data, collected through questionnaires distributed to 330 MSME owners. Data analysis was conducted using SmartPLS to explore the relationship between variables and the moderating effect of sustainability strategies. The results of the study showed that financial technology, financial literacy, and financial inclusion had a positive effect on the sustainability of MSME businesses. In addition, sustainability strategies had been shown to strengthen the influence of financial technology, financial literacy, and financial inclusion on business sustainability. These findings provided important insights for stakeholders in formulating policies that support the development of sustainable MSMEs that, not only focus on profitability, but also on social and environmental impacts, in line with the Triple Bottom Line (TBL) principle.

**Keywords:** business sustainability, technology, sustainable strategy, MSMEs, triple bottom line

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## INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are sector for national economy, especially in areas with tourist attractions. MSMEs play a role as the main provider of employment, especially in areas that rely on the tourism sector. The existence of MSMEs does not only support the regional economy, but it also supports economic stability (Dasaraju & Tambunan, 2023; Pedraza, 2021). MSMEs play a role in supporting the tourism sector by



providing supporting products and services, such as handicrafts, local cuisine, and small-scale accommodation (Badoc-Gonzales et al., 2022). Furthermore, the functions of MSMEs in the economy include creating jobs, helping marginalized people earn more income, providing services such as education, health, water, and sanitation, and impacting as energy users and producers (Agustina & Augustine, 2024). The contribution of MSMEs to Gross Regional Domestic Product (GRDP) is increasingly significant, because this sector plays a major role in creating economic opportunities and distributing income to local communities (Nursini, 2020; Rosyidiana & Narsa, 2024). Sustainability issues are increasingly becoming a major concern in modern business operations, including SMEs (Setyaningsih et al., 2024). Consumers today are increasingly aware of their environmental impact and are more likely to select products that are produced responsibly. One of the components that describe the human relationship with nature is environmental stewardship that is considered a factor that influences pro-environmental behaviour (Hidayana & Noor, 2024).

Business sustainability is a challenge for SMEs who must adapt their operational processes and supply chains to be more environmentally friendly (Gómez-Garza et al., 2024). The results of a survey conducted by the United Nations Development Programme (UNDP) and the Indonesian Ministry of Cooperatives and MSMEs showed that 95% of MSMEs want to conduct environmentally friendly business (Kusumaningtyas & Kesi, 2024). MSMEs can gain a competitive advantage and attract investors and customers with similar values by adopting sustainable practices (Kallmuenzer et al., 2024). Furthermore, implementing sustainable practices enables MSMEs to generate innovation, reduce costs, and improve their reputation (Queiroz et al., 2022). Although the implementation of sustainability has the potential to provide competitive advantages for MSMEs, the most business actors still experience difficulties in adopting sustainable strategies due to limited funds and knowledge (El Hilali et al., 2020). Previous research also showed that there are barriers in the form of limited financial resources to adopt adequate sustainability practices that, often require large initial investments (Basit et al., 2024; Perez-Alaniz et al., 2023). Another problem is the lack of policy support that specifically supports MSMEs in the use of technology and sustainability (Rosyidiana & Narsa, 2024).

Sustainability reporting standards such as the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Task Force on Climate-related Financial Disclosures (TCFD) play an important role in supporting the sustainable development of MSMEs. GRI provides a reporting framework that helps MSMEs disclose their economic, environmental, and social impacts transparently that, can increase stakeholder trust and market competitiveness (GRI, 2021). SASB emphasizes reporting sustainability metrics relevant to specific industries such as energy efficiency and waste management, which are relevant to MSMEs in the tourism sector (SASB, 2022). Meanwhile, TCFD helps MSMEs identify and manage climate-related risks and opportunities, thereby supporting long-term sustainability (TCFD, 2021).

One of the technological innovations that supports the sustainability of MSMEs is financial technology (fin-tech) that, plays an important role in accelerating the implementation of sustainability principles (Hasan et al., 2024), especially in Bali. Fin-tech provides wider access to financial services, allowing MSMEs to take advantage of digital payments, online loans, and automated accounting that can reduce operational costs and speed up business transactions. Furthermore, financial technology can be integrated into a company sustainability reporting system to improve transparency and accuracy of reporting, in line with standards such as GRI, SASB, and TCFD. Research Singh et al. (2024) showed that fin-tech can improve the competitiveness and operational efficiency of MSMEs that, has a direct impact on their ability to survive in the long term. Fin-tech also plays an important role in reducing MSMEs' dependence on conventional financial systems (Murinde et al., 2022). Pranata et al. (2024) stated that fin-tech opens up new opportunities for MSMEs to obtain working capital

through a more flexible online loan platform. With fin-tech, MSMEs in Bali, especially in the tourism sector can more easily meet tourist demand for non-cash payments, thereby expanding market access both nationally and internationally. Through the Triple Bottom Line (TBL), namely the balance of economy, social, and environment, the application of fin-tech can increase profitability aspects, expand access for local communities (people), and encourage environmentally friendly businesses (planet) (Elkington, 1997).

Financial literacy is also an important foundation for the sustainability of MSME businesses. A good understanding of financial literacy can improve the ability to make better financial decisions, such as cash flow planning, investment, and effective debt management (Ye & Kulathunga, 2019). Financial literacy enables MSMEs to manage capital wisely, reduce risks, and maximize sustainable profits (Hidayat-ur-Rehman, 2024). Study Rosyidiana & Narsa (2024) showed that financial literacy helps MSMEs in making more appropriate decisions to increase business stability in facing various economic challenges.

Furthermore, financial inclusion plays an important role in ensuring MSMEs' accessibility to formal financial products and services, such as bank loans, insurance, and digital payment services (Sun & Zhang, 2024). Financial inclusion is to give Small and Medium Enterprises (SMEs) more opportunities to participate in the local economy (Kurniasari, 2023). In Bali, financial inclusion contributes to the sustainability of MSMEs by providing wider access to financing needed for business development. Effective financial inclusion will help MSMEs overcome capital constraints, increase competitiveness, and optimize sustainable operations (Boachie & Adu-Darko, 2024; Fomum & Opperman, 2023).

Sustainable strategy, as an integrated approach that encompasses environmental, social, and economic sustainability also has the potential to strengthen fin-tech's influence on MSME sustainability. This strategy ensures that financial technology not only drives profitability but also maintains social and environmental impacts (Grimstad et al., 2020). Through the implementation of TBL, fin-tech supported by a sustainability strategy will be more effective in supporting the long-term stability of MSMEs in Bali, because it increases financial efficiency, employee welfare, and reduces negative environmental impacts. Furthermore, financial literacy implemented through a sustainability strategy can strengthen MSMEs' ability to manage finances by considering economic, social, and environmental impacts. With a more comprehensive approach, financial literacy combined with a sustainability strategy can help MSMEs make business decisions that not only generate profits but also contribute to community welfare and environmental sustainability (Hidayat-ur-Rehman, 2024). Sustainability strategies may also strengthen financial inclusion in supporting the sustainability of MSMEs by providing access to sustainable and inclusive financial products (Yap et al., 2023). TBL's approach to financial inclusion ensures that financial services provided not only support economic development, but also take into account long-term social and environmental impacts (Boachie & Adu-Darko, 2024). Thus, sustainability strategies can increase MSMEs' access to capital that supports environmentally friendly and community-based business practices (Astuty et al., 2024; Hernández et al., 2024).

The urgency of this research is the important role of MSMEs in the economy in Bali as a tourist area that faces challenges in maintaining sustainability. The integration of financial technology (fin-tech), financial literacy, and financial inclusion with a sustainability strategy based on the Triple Bottom Line (TBL) offers great opportunities to support the sustainability of MSMEs holistically. However, there are still gaps in the understanding and application of these three aspects, especially in the local context. This research is needed to identify how fin-tech, financial literacy, and financial inclusion can strengthen each other in encouraging the sustainability of MSMEs. Furthermore, this research also was to provide strategic recommendations that can be implemented by stakeholders, including the government, MSME actors, and financial service providers, to support the long-term growth and stability of MSMEs in Bali.

## METHODS

This research method used a quantitative approach with a survey design to explore the influence of technology and sustainability strategies on the sustainability of Micro, Small, and Medium Enterprises (MSMEs) in Bali Regency. The variables studied consisted of Business Sustainability (Y) that includes growth, strategy, and financial structure; Financial Technology (X1) that includes usability, ease of use, and risk; Financial Literacy (X2) that includes knowledge, behavior, and financial attitudes; Financial Inclusion (X3) that consists of access, use, and quality of financial services; and Sustainable Strategy (Z) that includes regulation, economic performance, and economic reports. The questionnaire was designed using a Likert scale and distributed to 330 MSME owners. The sample selection represented the population of the tourism, trade, and service sectors in Bali. Data analysis was carried out using SmartPLS to answer the formulation of the problem, namely how each variable affects business sustainability and the moderating role of sustainability strategies. The research instrument was tested using validity and reliability tests. The results of the study are expected to provide insight into the factors that influence MSME sustainability as well as recommendations for the development of more effective policies.

## RESULTS AND DISCUSSION

Outer Model used to measure the relationship between indicators and constructs. The following are the results of the analysis for each variable.

**Table 1 Results of Validity and Reliability Tests**

Variables	Indicator	Loading Factor	AVE	Composite Reliability	Cronbach's Alpha	Information
Sustainability Business (Y)	SB1	0.8	0.65	0.86	0.78	Valid & Reliable
	SB2	0.85				
	SB3	0.75				
Financial Technology (X1)	FT1	0.88	0.7	0.88	0.81	Valid & Reliable
	FT2	0.82				
	FT3	0.76				
Financial Literacy (X2)	LK1	0.84	0.72	0.87	0.8	Valid & Reliable
	LK2	0.79				
	LK3	0.81				
Financial Inclusion (X3)	IK1	0.83	0.67	0.85	0.78	Valid & Reliable
	IK2	0.78				
	IK3	0.75				
Sustainable Strategy (Z)	SS1	0.8	0.66	0.9	0.84	Valid & Reliable
	SS2	0.82				
	SS3	0.77				
	SS4	0.84				
	SS5	0.75				
	SS6	0.83				
	SS7	0.81				

Source: processed data, 2024

Validity and reliability tests were conducted to ensure that the instruments used could measure the constructs accurately and consistently. Based on Table 1, the variables Sustainability Business (Y), Financial Technology (X1), Financial Literacy (X2), Financial Inclusion (X3), and Sustainable Strategy (Z) have loading factor values above 0.70 for each indicator, indicating a strong relationship between the indicator and the latent variable. The Average Variance Extracted (AVE) value for all variables was above 0.50 that met, the convergent validity criteria, so that the variable is able to explain more than 50% of the variance of its indicators. Furthermore, the Composite Reliability and Cronbach's Alpha values for each variable also exceed the threshold of 0.70 as, an indicator of good internal reliability. The results of this test showed that the research instrument had adequate validity and reliability, so it is worthy of being used for further analysis.

**Table 2 Structural Relationships**

No.	Hypothesis	Regression Coefficient	R <sup>2</sup>	T-Statistics	P-Value	Information
1	Financial Technology (X1) → Business Sustainability (Y)	0.32	0.42	3.87	0.0001	Accepted
2	Financial Literacy (X2) → Business Sustainability (Y)	0.35	0.45	4.05	0.0001	Accepted
3	Financial Inclusion (X3) → Business Sustainability (Y)	0.28	0.37	3.21	0.001	Accepted
4	Sustainable Strategy (Z) * Financial Technology (X1) → Business Sustainability (Y)	0.24	0.50	2.75	0.005	Accepted
5	Sustainable Strategy (Z) * Financial Literacy (X2) → Business Sustainability (Y)	0.22	0.48	2.65	0.008	Accepted
6	Sustainable Strategy (Z) * Financial Inclusion (X3) → Business Sustainability (Y)	0.18	0.40	2.45	0.015	Accepted

Source: processed data, 2024

Table 2 showed that Financial Technology (X1), Financial Literacy (X2), and Financial Inclusion (X3) had a significant positive influence on Business Sustainability (Y) in MSMEs in Bali. The regression coefficients of 0.32, 0.35, and 0.28 respectively showed the contribution of these three variables in improving business sustainability. The highest R<sup>2</sup> value was in financial literacy (0.45), followed by financial technology (0.42) and financial inclusion (0.37), indicating that financial literacy was the strongest in explaining variations in business sustainability. The high T-statistic value and low P-value for all relationships (all <0.05) indicate that the influence of the three variables is significant and accepted. In addition, Sustainable strategy (Z) was proven to strengthen the influence of each variable on Business Sustainability. The regression coefficient for the interaction between sustainable strategy and the three main variables varies from 0.24 for financial technology, 0.22 for financial literacy and 0.18 for financial inclusion. This moderation had the highest R<sup>2</sup> in the interaction with financial technology (0.50) that means that sustainable strategies make an important contribution in strengthening the influence of financial technology on business sustainability. This showed that the moderation of sustainability strategies is stronger in financial technology (fin-tech) compared to financial literacy and inclusion because fin-tech had the ability to directly change MSME business processes to be more efficient, innovative, and sustainable. Fin-tech provides technological solutions that enable MSMEs to manage finances better and the implementation of sustainability strategies, fin-tech can be directed to achieve environmental, social, and governance (ESG) goals more effectively. Furthermore, fin-tech supports reduced transaction costs, increased transparency, and better risk management. Overall, these results confirmed that the implementation of sustainable strategies



can maximize the benefits of financial technology, financial literacy, and financial inclusion in supporting the sustainability of MSME businesses.

The results of the study showed that financial technology positive impact on the sustainability of MSME businesses. Fin-tech that included digital payment technology, online loans, and technology-based accounting, thereby increasing operational efficiency and market access for MSMEs (Pranata et al., 2024). Financial technology (fin-tech) is an important component in increasing the competitiveness and sustainability of micro, small, and medium enterprises (MSMEs), especially in Bali Regency, Bali. The results of the study showed that fin-tech that includes services such as digital payments, online loans, and technology-based accounting may improve the operational efficiency of MSMEs while expanding market access. With fin-tech, MSMEs may reduce transaction costs, speed up the payment process, and manage their finances more regularly, all of which has a positive impact on long-term business sustainability. In Bali Regency, the adoption of fin-tech is expected to help MSMEs survive amidst increasingly tight global competition. This study confirmed that the use of this financial technology allows MSMEs to reduce their dependence on conventional financial systems that may require high costs and complicated procedures (Kurniawan et al., 2023). Furthermore, this study also showed that easy access to online loans can help MSMEs obtain the capital needed to operate and increase business growth. Fin-tech also allowed MSMEs in Bali, especially those engaged in the tourism industry, to meet the transaction needs of domestic and international tourists who wanted the convenience of non-cash payments. Thus, fin-tech becomes a catalyst in increasing the competitiveness of MSMEs in the wider market.

The results of this study were consistent with previous findings showing the positive impact of financial technology on the sustainability of MSME businesses. This study is in line with the findings of Hasan et al. (2024), that showed that fin-tech plays an important role in accelerating the implementation of sustainability principles. Singh et al. (2024) showed that fin-tech can increase the competitiveness and operational efficiency of MSMEs with direct impact on the ability to survive in the long term. Fin-tech also plays an important role in reducing MSME dependence on conventional financial systems (Murinde et al., 2022). Pranata et al. (2024) emphasized that fin-tech, including digital payment technology, online loans, and technology-based accounting, can improve operational efficiency and market access for MSMEs. This study is also in line with Kurniawan et al. (2023), who found that the adoption of fin-tech helps MSMEs in Bali Regency reduced dependence on expensive and complicated conventional financial systems. However, there are differences in the emphasis on sustainability aspects. Pranata et al. (2024) research focused on operational efficiency and financial management aspects, while this study emphasized fin-tech's contribution to the Triple Bottom Line (TBL) principle. Furthermore, the positive impact of fin-tech on the environment, such as reducing paper use and carbon footprint, is an additional focus in this study. In terms of financial inclusion, the findings of this study showed that its influence on sustainability was still limited that was different from the research of Kurniawan et al. (2023) that was more optimistic about the role of financial inclusion in expanding access to capital for MSMEs.

The positive impact of fin-tech on the sustainability of MSMEs supports the Triple Bottom Line concept (Elkington, 1997). TBL emphasizes three main aspects of business sustainability, namely profit (economic benefits), people (social benefits), and planet (environmental impact). The adoption of fin-tech has the potential to significantly increase the profitability of MSMEs because of the ease of market access and efficiency offered. In terms of social benefits, fin-tech expands financial inclusion, allowing local communities to access financial services that were previously difficult to reach. This helps empower local communities and reduce economic disparities. Fin-tech had a positive impact on the environment. Fin-tech minimizes cash transactions, thereby reducing the use of paper, plastic, and logistical resources required in conventional transactions. It can help reduce the carbon footprint of a business. Therefore, fin-tech not only provided economic benefits to MSMEs in

Bali but also plays a role in building environmentally friendly business practices. In the long term, the application of fin-tech to MSMEs in Bali may improve business sustainability that is more comprehensive and consistent with the principles of TBL.

The results of the study showed that financial literacy had a positive effect on the sustainability of MSME businesses in Bali Regency. It is in line with previous studies that stated that good financial literacy can provide MSME owners with a deeper understanding of financial management, planning, and risk management (Rosyidiana & Narsa, 2024). Business owners with adequate financial knowledge will be better able to plan and manage their finances effectively that contributes to the sustainability and growth of their business.

This research was in line with research Liu et al. (2020) revealed that business actors with have good financial literacy tend to be able to make wiser and more effective financial decisions. The right decisions in financial management, such as investment selection, cost control, and budget planning had a positive impact on the profitability and financial stability of MSMEs. In Bali Regency, where MSMEs are the backbone of the regional economy, increasing financial literacy can help business actors optimize profits while minimizing financial risks. This study strengthens the results of research by Reddy et al. (2024) that good financial literacy also allowed MSMEs to understand and utilize available financial products, so that they may utilize financial services optimally. This will support long-term business stability, in accordance with the Triple Bottom Line (TBL) principle that emphasizes the importance of economic, social, and environmental performance. By having good financial literacy, MSMEs can be more responsible in managing resources, contributing to regional economic development, and paying attention to the social and environmental impacts of their business operations.

Overall, the results of this study showed that improving financial literacy in MSMEs in Bali Regency was very important to support business sustainability. Therefore, initiatives that focused on improving financial literacy, such as training and counseling, need to be implemented so that MSME actors can make better and more sustainable decisions for their businesses. This will not only improve individual financial performance but also contribute to overall regional economic growth.

The results of the study showed that financial inclusion had a positive effect on MSME businesses. The results of this study support the social and environmental aspects of TBL. By increasing the competitiveness and sustainability of MSMEs, financial inclusion contributes to job creation and increased income for local communities. This in turn supports social welfare and community development. When MSMEs grow and are able to absorb more workers, this positive domino effect will be seen in improving the quality of community life.

The results of this study also supported research by Boachie & Adu-Darko (2024) that financial inclusion provides a strong foundation for strengthening the position of MSMEs in the market. Financial inclusion played significant role in providing opportunities for MSMEs to access capital and banking services needed to increase competitiveness and expand their business networks. This is essential, considering that access to capital is one of the main factors in driving the growth and sustainability of small businesses. This study also strengthens research Damane & Ho (2024) that showed that MSMEs that have wider access to financial products tend to be more economically stable. With this access, MSMEs can make the necessary investments for business development, product diversification, and adaptation to market changes. It is also in line with the Triple Bottom Line (TBL) principle which emphasizes the importance of economic, social, and environmental performance in achieving sustainability. When MSMEs gain better access to financial services, MSMEs will not only strengthen the economic base, but also have a positive impact on the surrounding community.

Financial inclusion is an important aspect in supporting the sustainability of MSMEs, especially for business actors with the difficulty accessing formal financial services in Bali. Better financial access allows MSMEs to

manage liquidity more effectively, reduce the risk of uncertainty, and increase resilience to economic shocks. Furthermore, the availability of financial products such as loans and insurance helps MSMEs face business risks, so they can operate more calmly and focus on growth. Furthermore, MSMEs that operate with good financial inclusion are more likely to engage in sustainable business practices. MSMEs can adopt more environmentally friendly production methods and contribute to inclusive and sustainable economic development. Financial inclusion not only improves the stability and competitiveness of MSMEs in Bali Regency, but also contributes to economic, social, and environmental sustainability. Therefore, it is important to encourage policies and programs to improve access to financial services for MSMEs, so that they can continue to grow and have a positive impact on the local economy and society as a whole.

The results of the study showed that sustainable strategies moderate financial technology on MSME business sustainability with quasi-moderation. These results revealed that sustainability strategies can be seen as a factor that strengthens the influence between fin-tech and MSME business sustainability. By adopting a more holistic approach to growth, MSMEs can use fin-tech not only to achieve financial goals but also to create social and environmental value. This is in line with previous studies showing that the integration of social and environmental factors in business strategy can improve overall company performance (Kapoor et al., 2024).

This study also supports the Triple Bottom Line (TBL) concept, namely a sustainable strategy to increase the use of financial technology (fin-tech) so that it can maintain the sustainability of MSME businesses. TBL emphasizes the importance of three aspects, namely economic, social, and environmental that are interrelated and must be considered in every business activity. Thus, the implementation of this sustainability strategy can increase the effectiveness of the use of fin-tech by MSMEs, so that it has a wider and more sustainable impact. Fin-tech provides solutions that enable easy access to financial services, efficiency in the transaction process, and reduction of operational costs. However, the use of fin-tech must be balanced with a sustainability strategy to ensure that this technology does not only pursue financial gain, but also supports community welfare and environmental preservation. This study strengthens the findings of Singh & Rahman (2021) which shows that a TBL-focused approach enables MSMEs to leverage fin-tech more wisely, by integrating social and environmental considerations into business models.

MSMEs can be more responsive to the needs of society and the environment. Implementing sustainable business practices does not only increases the attractiveness of MSMEs to enhancing environmentally conscious consumers but can also strengthen their reputation in the market. Moreover, a strong sustainability strategy encourages MSMEs to invest in cleaner and greener technologies that can reduce negative impacts on the environment, while increasing efficiency and reducing long-term costs. A sustainability strategy that involves fin-tech can help MSMEs better plan and manage financial risks. By integrating data and analytics obtained from fin-tech solutions, MSMEs can better understand market trends, consumer behavior, and the environmental impact of their operations. It allows for more informed and strategic decisions, and drives more inclusive and sustainable growth. A sustainability strategy that includes TBL has the potential to transform and strengthen the influence of fin-tech on MSME business sustainability. With this approach, MSMEs can not only achieve their desired economic growth but also contribute to social development and environmental protection. The successful implementation of a sustainability strategy will not only benefit MSMEs individually but also support economic stability and growth at the local and global levels.

The results of the study showed that sustainable strategy moderates financial literacy in the sustainability of MSME businesses by quasi-moderation. Sustainable strategies integrated with financial literacy had a significant impact on the sustainability of micro, small, and medium enterprises (MSMEs) in Bali. The results of this study strengthen research Rosyidiana & Narsa (2024) that MSMEs face complex challenges, financial



literacy is an important tool for making wiser and more sustainable decisions. In line with Reddy et al. (2024), good financial literacy allows MSME owners to understand basic financial concepts, such as budget planning, cash management, and smart investment. With sustainability strategies underlying financial literacy, MSMEs in Bali can adopt business practices that are not only financially profitable, but also beneficial to society and the environment. Research Mpaata et al. (2023) showed that business owners with have good financial literacy tend to make more effective and efficient decisions. They are better able to plan for long-term financial needs and deal with uncertainties that arise in the market. In the context of TBL, these decisions contribute to the economic stability of MSMEs, as well as providing social benefits by creating jobs and contributing to community development.

This approach does not only focuses on profitability, but also considers the social and environmental impacts that are at the core of the Triple Bottom Line (TBL) principle. TBL emphasizes three main pillars, namely economic, social, and environmental that are interrelated and influence each other in the context of business sustainability. These results are in line with research Winarsih et al. (2024) that confirms that MSMEs that implement financial literacy supported by sustainability strategies tend to be more responsive to environmental and social changes. By understanding the importance of sustainability, MSME owners do not only focus on financial profits, but it considers the social impact of every business decision taken. It is in line with TBL's objectives that prioritize corporate social responsibility in all its activities.

The increase of financial literacy supported by sustainability strategies, MSMEs have the potential to be more adaptive and innovative. MSMEs may identify opportunities to increase positive impacts on the environment, such as reducing waste and using resources efficiently. Thus, a sustainability strategy that integrates financial literacy becomes a strong foundation to ensure the sustainability of MSME businesses in the long term. Integrating sustainability strategies with financial literacy does not only strengthens the position of MSMEs in the market but also increases the contribution of MSMEs to social and environmental development in Bali. Therefore, it is important for stakeholders, including the government and financial institutions, to continue to encourage financial literacy programs that are oriented towards sustainability, in order to create a more resilient and responsible business ecosystem.

The results of the study showed that sustainable strategy moderates financial inclusion in the sustainability of MSME businesses by quasi-moderation. Sustainable strategies play a role in strengthening financial inclusion that improves the sustainability of micro, small, and medium enterprises (MSMEs). Financial inclusion is based on fair access to financial services and products, so that MSMEs can survive and thrive in a competitive market. The results of this study strengthen the statement of the World Bank (2020) that financial inclusion can help MSMEs access the capital needed for expansion and innovation.

The results of this study also support the Triple Bottom Line (TBL) approach. MSMEs that integrate this approach, sustainability strategies not only focus on economic benefits, but also pay attention to the social and environmental impacts of financial decisions. Sustainability strategies that prioritize TBL create an environment that supports access to financial services. It helps MSMEs not only to obtain financial resources but also to understand how to manage and utilize these resources efficiently. Thus, MSMEs can maximize their potential in creating jobs, increasing income, and contributing to local economic growth. The TBL approach also encourages MSMEs to consider the social and environmental impacts of their activities. These results were in line with research Coelho et al. (2023) that MSMEs that operate with social awareness tend to have better access to financial resources because they are seen as responsible entities that contribute positively to society. This strengthens the position of MSMEs in the financial ecosystem, where financial institutions are more willing to provide support to MSMEs that demonstrate a commitment to social and environmental sustainability.

Financial inclusion supported by sustainability strategies also creates opportunities for MSMEs to innovate and adapt to change. The results of this study strengthen the study conducted by Mushtaq et al. (2022) that showed that greater access to financial services enables MSMEs to adopt new technologies and better business practices. Thus, it may improve operational efficiency and, in turn, reduce the environmental impact of MSME activities. TBL approach for sustainability strategies to help MSMEs understand the importance of sustainability in decision making. With this understanding, MSME owners can identify opportunities to invest the practices that are not only economically profitable but also environmentally friendly. It creates a positive cycle that strengthens financial inclusion, as financial institutions are more likely to support businesses that demonstrate awareness of social and environmental impact.

Integration of sustainability strategies with financial inclusion is essential to support the sustainability of MSMEs in Bali Regency. By prioritizing access to fair and sustainable financial services, MSMEs can contribute to more inclusive economic development, while still considering social and environmental responsibilities. Therefore, it is important for stakeholders, including the government and financial institutions, to continue to encourage policies and programs that support financial inclusion in the context of sustainability strategies.

## CONCLUSION

This study analyzes the impact of financial technology, financial literacy, and financial inclusion on the sustainability of MSME businesses in Bali Regenc, with the moderating role of sustainability strategies. The results of the study showed that the three main variables (financial technology, financial literacy, and financial inclusion) had a positive and significant influence on business sustainability. Financial technology had a significant impact on increasing operational efficiency, ease of transactions, and reducing risk through usability that is easily accessible to MSME actors. Good financial literacy supports effective decision-making and improves the ability of MSME actors to manage finances wisely. Increasing financial inclusion also played a role in providing more equitable access to formal financial services, which ultimately strengthens the stability of MSME businesses and supports their economic growth. Furthermore, sustainability strategies were found to be moderating variables that strengthen the influence of the three variables on business sustainability. Sustainability strategies that involve aspects of regulation, economic performance, and economic reports provide a framework for MSMEs to develop business practices that are not only oriented towards profitability, but also socially and environmentally responsible. This is in line with the Triple Bottom Line (TBL) approach that emphasizes the balance between economic, social, and environmental aspects in running a business. Thus, the implementation of this sustainability strategy provides significant added value in ensuring the sustainability of MSME businesses in the long term and provides a positive impact on the surrounding community. The findings of this study have important implications for stakeholders such as the government, financial institutions, business associations, and MSMEs. For the government, the results of the study can be the basis for designing policies that encourage the use of financial technology and financial inclusion for MSMEs, through literacy training and technical support. Collaboration with the banking and fin-tech sectors can help MSMEs who have difficulty accessing formal financial services. For financial institutions and fin-tech, this study provides insight into the needs of MSMEs in adopting financial technology and services. Easily accessible and relevant products can improve MSME performance. Business associations can provide training and mentoring on sustainability strategies and financial literacy, helping MSMEs focus on social and environmental aspects in addition to the economy. For MSMEs, this study emphasizes the importance of sustainability strategies as a basis for the use of technology and the utilization of financial inclusion, which will support long-term business sustainability

and provide benefits for the welfare of the surrounding community. The results of the study are expected to provide recommendations for regulators and financial institutions that develop financial products that support the sustainability of MSMEs by considering environmental, social, and governance (ESG) aspects. Strategic steps that can be taken include creating green financing products among others business loans with low interest incentives for investment in environmentally friendly technologies, as well as results-based financing programs that provide incentives to MSMEs that achieve sustainability targets. Furthermore, regulators can establish simple ESG reporting guidelines to increase transparency and enable MSMEs to access sustainability-based financing that may increase credibility and competitiveness in the global market. The results of this study can also be applied in the context of ESG reporting and Sustainability Accounting with the aim of helping MSMEs identify cost efficiencies, reduce waste and energy consumption, and evaluate social impacts through community programs. However, this study has limitations, such as potential respondent bias and limited access to MSMEs that can affect the representativeness of the data. Further research is recommended to expand the geographic scope and use a qualitative approach to explore the challenges faced by MSMEs in implementing sustainability practices. Research can also explore the influence of government policies on the adoption of sustainability strategies and their impact on MSMEs business performance.

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