
MSME Financial Performance: The Role of Green Accounting, Green Intellectual Capital, and Fintech in the Sustainability of MSMEs

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Abstract:

This study examines and tests personality-mediated management behaviour in MSMEs in Semarang City in relation to financial attitudes and financial experience. Version 25 of SPSS was used to process the data. In Semarang City, 88 MSME business actors made up the sample. The study findings indicate that there is a substantial relationship between personality and financial views as well as experience. There is a considerable impact of financial attitudes on management conduct. Regarding how management conduct is impacted by financial experience, personality has a major impact on how managers behave. Not only does financial experience have a substantial impact on management behaviour mediated by personality, but financial views also have a big influence. Thus, each of the seven current hypotheses has a noteworthy and beneficial impact.

Keywords: *Financial Attitudes, Financial Experience, Management Behaviour*

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1. Introduction

Sustainable performance (SP) has become a key indicator of business success in increasingly competitive environments. It reflects how companies integrate economic, environmental, and social goals to achieve long-term resilience (Agarwal, 2023; Mah, 2023). In Indonesia, Micro, Small, and Medium Enterprises (MSMEs) play a vital role in economic growth, contributing 60.51% (Rp 9,580 trillion) to the national Gross Domestic Product (GDP) and employing 96.9% of the total workforce in 2022 (Hadi, 2024). Despite their strategic contribution, many MSMEs still struggle to integrate sustainability practices into their operations, particularly in environmental management and financial innovation (Astuti et al., 2023; Dela, 2024). This situation

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demonstrates that sustainable performance among MSMEs remains suboptimal and requires stronger integration of environmental and technological aspects.

Green accounting (GA) is one crucial mechanism for enhancing sustainability by systematically incorporating environmental costs and benefits into business decisions (Dutta, 2020; Selpiyanti & Fakhroni, 2020). GA enables MSMEs to measure and report their environmental impact transparently, fostering accountability and improving financial performance (Appiah-Kubi et al., 2024). However, the adoption of GA remains limited in developing economies due to a lack of awareness, expertise, and financial capability (Astuti et al., 2023). Studies have revealed that although GA offers long-term benefits, MSMEs often perceive it as costly and complex, leading to a low level of implementation (Dutta, 2020). This gap indicates that the potential of GA to enhance both environmental and financial outcomes among MSMEs is far from being realized.

In addition to GA, the concept of Green Intellectual Capital (GIC) has emerged as a strategic intangible asset that can enhance competitiveness and sustainability (Asiaei, 2022, 2023). GIC represents the integration of knowledge, innovation, and environmental awareness embedded in human, structural, and relational capital (Fitri et al., 2022; Mulatsih, 2025). It promotes eco-innovation and efficient resource management, supporting both financial and environmental performance (Kusuma et al., 2023). Nevertheless, empirical evidence on how GIC contributes to MSME sustainability in Indonesia is still limited, especially regarding its interaction with financial and technological factors (Purnomo, 2022; Muafi, 2022). This indicates a research gap in understanding how knowledge-based green capabilities translate into sustainable outcomes.

Financial technology (FinTech) is another emerging factor that can bridge resource and financing limitations faced by MSMEs (Bani Atta et al., 2025; Li, 2024). The integration of digital platforms in business operations enhances access to finance, operational efficiency, and market reach (Ristati, 2024; Harnida, 2024). Studies have demonstrated that FinTech supports financial inclusion and performance, which are essential for MSMEs to survive in the digital economy (Malesios, 2018; Kurniawan et al., 2023). However, few studies have examined the combined influence of FinTech, GA, and GIC on sustainable performance, particularly in the Indonesian context. This gap highlights the need for empirical evidence on how these three dimensions—environmental, intellectual, and technological—synergistically affect MSME sustainability.

The sustainability challenges of MSMEs are particularly evident in Medan City, where the number of MSMEs fluctuated significantly between 2018 and 2022. The Medan City MSME and Cooperative Agency reported a 36% decline in 2019, followed by gradual growth of 23%, 17%, and 16% in the subsequent years. These variations reflect underlying structural and capability issues that affect business resilience and sustainability (Munandar, 2025). Despite government efforts to provide financial and training support, many MSMEs still struggle to integrate sustainability

principles into their business practices (Rosyidiana, 2024). Hence, Medan City represents a relevant locus to investigate how environmental and technological practices affect MSME performance and sustainability.

Several scholars have emphasized the growing need for integrating sustainability principles with digital transformation and green innovation (Wuen, 2022; Vásquez, 2021; Harnida, 2024). While previous studies have explored either GA (Selpiyanti & Fakhroni, 2020; Dutta, 2020) or GIC (Asiaei, 2023; Fitri et al., 2022) independently, very few have examined the combined role of these variables alongside FinTech adoption. As MSMEs operate in increasingly digital and environmentally sensitive markets, understanding the joint impact of these factors is crucial to achieving sustainable competitive advantage (Pizzi, 2021; Dela, 2024). Therefore, this study addresses an important research gap by simultaneously analyzing GA, GIC, and FinTech in the context of MSME sustainable performance.

The urgency of this research lies in the pressing need for MSMEs to enhance both financial and environmental sustainability amid rapid technological disruption (Akinwale, 2020; Hadi, 2024). Without proper integration of environmental accounting, intellectual capital, and digital financing, MSMEs risk losing competitiveness and long-term viability (Kurniawan et al., 2023). Moreover, as global supply chains increasingly emphasize sustainability compliance, MSMEs must align their operations with green standards to remain relevant (Mah, 2023; Agarwal, 2023). Policymakers and practitioners thus require evidence-based insights into how MSMEs can leverage green and digital innovations to build sustainable performance.

The novelty of this research lies in its holistic approach that integrates **Green Accounting, Green Intellectual Capital, and FinTech** as multidimensional determinants of sustainable performance. Unlike previous studies that investigated these variables separately, this study proposes a synergistic framework combining environmental, knowledge-based, and technological perspectives (Asiaei, 2022; Mulatsih, 2025; Li, 2024). It contributes to sustainability theory by examining how these factors interact to improve financial and environmental outcomes for MSMEs. The findings are expected to advance the understanding of MSME sustainability mechanisms in developing economies, particularly within Indonesia's evolving digital landscape.

Accordingly, this study aims to analyze the effect of **Green Accounting, Green Intellectual Capital, and FinTech on the Sustainable Performance of MSMEs in Medan City**. It seeks to provide empirical evidence on how these three constructs influence MSMEs' ability to achieve long-term economic and environmental objectives. The results are expected to enrich sustainability literature and offer practical recommendations for MSME owners, policymakers, and stakeholders to promote sustainable growth and competitiveness in the post-pandemic era (Muafi, 2022; Agarwal, 2023; Dela, 2024).

2. Theoretical Background

Micro, Small, and Medium Enterprises (MSMEs) and Sustainability

Micro, Small, and Medium Enterprises (MSMEs) are strategic economic actors that play a crucial role in local economic development, job creation, and poverty reduction (Mah, 2023; Agarwal, 2023). MSMEs are characterized by flexibility, innovation, and adaptability to dynamic market changes. However, they often face challenges related to limited access to capital, technology, and markets (Kurniawan et al., 2023; Harnida, 2024). The sustainability of MSMEs depends largely on their ability to manage resources effectively, maintain financial stability, and adopt sustainability-oriented business practices (Muafi, 2022; Munandar, 2025). Therefore, improving MSMEs' capacity for innovation, environmental responsibility, and digital transformation is essential to achieving long-term competitiveness and sustainable performance.

Financial Performance of MSMEs

Financial performance represents an organization's ability to achieve its financial objectives, including revenue growth, cost efficiency, profitability, and liquidity (Hanggraeni, 2021; Li, 2024). Strong financial performance not only ensures business continuity but also serves as a foundation for adopting sustainability-oriented strategies (Akinwale, 2020; Dela, 2024). Several studies have shown that MSMEs with sound financial management are better able to invest in innovation, technology, and environmental responsibility (Kurniawan et al., 2023; Mah, 2023). According to Rosyidiana (2024), financial resilience significantly influences the sustainability of MSMEs in the post-pandemic recovery era. Hence, enhancing financial performance is not only a financial necessity but also a key driver of sustainable business practices.

Green Accounting (GA)

Green Accounting (GA) is an accounting approach that incorporates environmental aspects—such as resource use, pollution, waste management, and energy efficiency—into financial reporting (Dutta, 2020; Selpiyanti & Fakhroni, 2020). GA helps MSMEs assess the environmental costs and benefits of their operations, providing a comprehensive view of business performance that integrates ecological responsibility (Appiah-Kubi et al., 2024; Astuti et al., 2023). Implementing GA enables MSMEs to monitor their resource efficiency, improve cost control, and strengthen their environmental image (Dutta, 2020; Fitri et al., 2022). However, empirical studies indicate that many MSMEs in developing countries have yet to adopt GA due to financial limitations and lack of technical knowledge (Astuti et al., 2023; Muafi, 2022). The successful application of GA can enhance operational efficiency and sustainability performance, creating value both economically and environmentally.

Green Intellectual Capital (GIC)

Green Intellectual Capital (GIC) refers to the collective knowledge, innovation, and skills that support environmentally responsible business practices (Asiaei, 2022, 2023). GIC consists of three dimensions: **Green Human Capital (GHC)**, which includes employees' environmental awareness and competencies; **Green Structural Capital (GSC)**, which reflects organizational systems supporting sustainability;

and **Green Relational Capital (GRC)**, which emphasizes relationships with environmentally conscious stakeholders (Fitri et al., 2022; Mulatsih, 2025). GIC plays a vital role in developing green innovation, improving eco-efficiency, and promoting sustainable product design (Kusuma et al., 2023). However, its effect on financial and sustainability performance has shown inconsistent results, depending on the level of managerial commitment and the integration of green strategies (Purnomo, 2022; Muafi, 2022). Thus, enhancing GIC is essential for MSMEs seeking to balance profitability with environmental stewardship.

Financial Technology (FinTech)

Financial Technology (FinTech) refers to the application of digital technologies to improve the accessibility, efficiency, and effectiveness of financial services (Bani Atta et al., 2025; Li, 2024). FinTech enables MSMEs to expand access to financing, streamline transactions, and strengthen financial decision-making (Ristati, 2024; Harnida, 2024). According to Pizzi (2021), the adoption of FinTech contributes to more inclusive and sustainable business models, especially for MSMEs facing capital constraints. Nevertheless, its contribution to sustainability outcomes depends on entrepreneurs' digital literacy and their awareness of green business practices (Malesios, 2018; Kurniawan et al., 2023). FinTech integration, when combined with sustainability-oriented management, can enhance MSME competitiveness and accelerate sustainable transformation.

Sustainable Performance of MSMEs

Sustainable performance (SP) is defined as a firm's ability to balance economic growth, social responsibility, and environmental preservation in the long term (Mah, 2023; Dela, 2024). For MSMEs, SP involves maintaining profitability while minimizing negative environmental impacts and contributing to social welfare (Agarwal, 2023; Muafi, 2022). Prior studies highlight that integrating GA and GIC enhances MSMEs' ability to achieve sustainable outcomes by improving efficiency, reputation, and stakeholder trust (Asiaei, 2022; Appiah-Kubi et al., 2024). Furthermore, FinTech adoption strengthens the financial capacity necessary to support green investment and innovation (Bani Atta et al., 2025; Li, 2024). Therefore, combining GA, GIC, and FinTech provides a comprehensive foundation for achieving sustainable MSME performance.

3. Methodology

This study employs a mixed-method approach, which integrates both quantitative and qualitative research to provide a comprehensive understanding of the research problem. A mixed-method design involves the process of collecting, analysing, and integrating data from both approaches within a single study to gain a deeper and more holistic perspective. According to Creswell and Plano Clark (2018), mixed methods research combines the strengths of quantitative precision and qualitative depth to produce more valid, reliable, and objective findings. This approach enables the researcher to obtain both statistical evidence and contextual insights relevant to the sustainability performance of MSMEs in Medan City.

The respondents in this study are MSME actors located in Medan City, while the informants include representatives from the Cooperative and SME Agency who provide institutional perspectives and supporting information. The sampling technique used is *purposive sampling*, which involves selecting respondents based on specific criteria aligned with the research objectives. The criteria include MSMEs that have operated for at least two years, possess either formal or simplified financial reports, and have implemented at least one of the three sustainability-related approaches: Green Accounting (GA), Green Intellectual Capital (GIC), or Financial Technology (FinTech). This selection ensures that the sample accurately represents MSMEs with relevant experience in sustainability-oriented business practices.

Data collection in this study follows a mixed-method design using an explanatory sequential approach. In this design, quantitative methods are conducted first to identify patterns, relationships, and statistical results, followed by qualitative methods to explore and interpret these findings in greater depth. The quantitative phase involves the distribution of structured questionnaires to MSME respondents to collect measurable data related to GA, GIC, FinTech, and sustainable performance. The subsequent qualitative phase involves semi-structured interviews with selected MSME owners and officials from the Cooperative and SME Agency to gain deeper insights into the factors influencing MSME sustainability.

The quantitative data analysis is performed using Structural Equation Modelling–Partial Least Squares (SEM-PLS), a statistical technique commonly applied in social science research. SEM allows for simultaneous testing of complex relationships among latent variables. The PLS approach, which is variance-based, is chosen because it is more predictive and flexible than covariance-based SEM, making it suitable for exploratory models (Hair et al., 2021). PLS-SEM analysis consists of two sub-models: the outer model (measurement model), which tests the validity and reliability of the indicators, and the inner model (structural model), which examines the hypothesized relationships between variables. PLS is also advantageous as it can handle small sample sizes and does not require strict assumptions of normality.

The qualitative data analysis in this research follows an iterative process that continues until data saturation is reached. The analysis involves three main stages: data reduction, data display, and conclusion drawing or verification (Miles, Huberman, & Saldaña, 2014). Data reduction involves selecting and simplifying relevant information obtained from interviews. Data display presents the information systematically through tables, summaries, or thematic matrices. Finally, conclusion drawing and verification ensure that the interpretations accurately reflect the participants' perspectives and align with the quantitative findings. Through this approach, qualitative analysis enriches and validates the statistical results, creating a more comprehensive understanding of MSME sustainable performance in Medan City.

4. Empirical Findings/Results

Outer Model Test

Convergent Validity

According to (1), predictors or items are considered valid if the factor loading value is > 0.7 . From the analysis results using the calculate-PLS algorithm, it was found that several indicators had a factor loading value < 0.7 , so they were eliminated (see Figure 1). Having an Outer Loadings value < 0.7 means that the convergent validity requirement has not been met, so cleaning must be carried out by removing the indicator. After deleting the indicators with a loading factor < 0.7 , retesting was carried out. After testing until all indicator Outer Loadings values were > 0.7 .

Average Variance Extracted (AVE)

A construct can be considered valid if it has an AVE value > 0.5 .

Table 1. Composite Reliability

	Cronbach's alpha	Composite reliability (rho_c)	Composite reliability (rho_c)	Average Variance Extracted (AVE)
Fintech	0.807	0.812	0.862	0.514
Green Accounting	0.874	0.891	0.904	0.613
Green Intellectual Capital	0.830	0.848	0.876	0.543
Sustainability	0.911	0.913	0.931	0.694
Financial Performance	0.882	0.895	0.910	0.627

Cronbach Alpha, Average Variance Extracted (AVE) Based on Table 1 above, it can be seen that all constructs have an AVE value > 0.5 , which means that each indicator has a valid construct.

Discriminant Validity

Discriminant validity is a stage conducted to determine whether the variables or indicators in the study have unique values and are only related to their own variables or indicators, and not to variables or indicators outside of those expected. A study is said to have good discriminant validity if the Fornell-Larcker criterion value, which is the root of the AVE in the construct, is higher than the correlation of the construct with other latent variables.

Table 2. Fornell-Larcker Criterion Values

	Fintech	Green Accounting	Green Intellectual Capital	Sustainability	Financial Performance
Fintech	0.717				
Green Accounting	0.307	0.783			

Green Intellectual Capital	0.716	0.560	0.737		
Sustainability	0.537	0.494	0.559	0.833	
Financial Performance	0.558	0.405	0.474	0.536	0.792

From Table 2, it can be seen that the AVE root for all variables is greater than its correlation with other variables. Therefore, it can be concluded that this study has good discriminant validity.

Composite Reliability

Composite Reliability is used to test the reliability of each indicator in the study. A variable can be said to be reliable if it has a composite reliability value > 0.7 . From Table 1, it can be seen that all indicators in this study have good reliability because the Composite Reliability value is > 0.7 .

Cronbach's Alpha

In addition to Composite Reliability, another way to determine the reliability of research indicators is by looking at the Cronbach Alpha value. An instrument or questionnaire is said to be reliable if the Cronbach's Alpha value is greater than 0.6. From Table 1, it can be seen that each construct has good reliability because the Cronbach's Alpha value is greater than 0.6.

Inner Model Test

R-Square

The R-Square value is used to determine how much the independent variable can explain the dependent variable. Based on Table 10, it can be seen that the R-Square value for sustainability is 0.452 or 45.2% and the R-Square value for financial performance is 0.373 or 37.3%. From these figures, it can be categorised that the dependent variable can be explained by the independent variable on a moderate scale.

Table 3. R-Square

	R-square	Adjusted R-square
Sustainability	0.452	0.429
Financial Performance	0.373	0.353

F-Square

The F-Square value indicates the strength of the influence of exogenous latent variables on endogenous latent variables, where an F-Square value < 0.02 indicates no influence, a value between 0.02 and 0.15 indicates a small influence, a value between 0.15 and 0.35 indicates a medium influence, and a value > 0.35 indicates a large influence.

Table 4. F-Square

	f-square
Fintech → Sustainability	0.034
Fintech → Financial Performance	0.191
Green Accounting → Sustainability	0.067
Green Accounting → Financial Performance	0.079
Green Intellectual Capital → Sustainability	0.015
Green Intellectual Capital → Financial Performance	0.001
Financial Performance → Sustainability	0.068

That the F-Square value:

1. The Fintech variable has a small effect on Sustainability, with a value of 0.034.
2. The Fintech variable on Financial Performance is 0.191, indicating a medium effect.
3. The Green Accounting variable has a small effect on Sustainability, with a value of 0.067.
4. The Green Accounting variable on Financial Performance is 0.079, indicating a small effect.
5. The Green Intellectual Capital variable on Sustainability is 0.015, indicating a small effect.
6. The Green Intellectual Capital variable has a coefficient of 0.001 for Financial Performance, indicating no effect.
7. The variable of Financial Performance on Sustainability is 0.068, indicating a small effect.

Hypothesis Testing

Hypothesis testing was conducted by examining the path coefficient results and p-values obtained through the bootstrapping process with an alpha of 0.05 (see Table 5).

Table 5. Path Coefficient

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T-statistic (O/STDEV)	P-values
Fintech > Sustainability	0.217	0.232	0.127	1.712	0.087
Fintech > Financial Performance	0.502	0.504	0.122	4.095	0.000
Green Accounting > Sustainability	0.243	0.245	0.089	2.732	0.006
Green Accounting > Financial Performance	0.272	0.275	0.098	2.773	0.006
Green Intellectual Capital > Sustainability	0.153	0.141	0.132	1.158	0.247
Green Intellectual Capital > Financial Performance	-0.037	-0.036	0.144	0.258	0.797

Financial Performance > Sustainability	0.244	0.241	0.099	2.475	0.013
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From Table 5, it can be seen that:

1. The Fintech variable has a p-value of $0.087 > 0.05$, so H_0 is accepted, meaning that the Fintech variable affects sustainability.
2. The Fintech variable has a p-value of $0.000 < 0.05$, so H_0 is rejected, meaning that the Fintech variable affects Financial Performance.
3. The Green Accounting variable has a p-value of $0.006 < 0.05$, so H_0 is rejected, meaning that the Green Accounting variable affects Sustainability.
4. The Green Accounting variable has a p-value of $0.006 < 0.05$, so H_0 is rejected, meaning that the Green Accounting variable affects Financial Performance.
5. The Green Intellectual Capital variable has a p-value of $0.247 > 0.05$, so H_0 is accepted, meaning that the Green Intellectual Capital variable affects Sustainability.
6. The Green Intellectual Capital variable has a p-value of $0.797 > 0.05$, so H_0 is accepted, meaning that the Green Intellectual Capital variable affects Financial Performance.
7. The Financial Performance variable has a p-value of $0.013 < 0.05$, so H_0 is rejected, meaning that the Financial Performance variable affects Sustainability.

5. Discussion

The results reveal that Financial Technology (FinTech) has a significant effect on the financial performance of MSMEs but does not influence their sustainability in Medan City. This finding suggests that FinTech adoption primarily strengthens short-term operational and financial outcomes rather than fostering long-term sustainability. FinTech facilitates access to financing, accelerates transactions, and improves financial record-keeping efficiency, thereby enhancing business profitability and liquidity (Bani Atta et al., 2025; Li, 2024). Similar evidence from previous research shows that FinTech significantly improves MSME performance by increasing access to digital payments, loans, and financial inclusion (Ristati, 2024; Malesios, 2018). However, its contribution to sustainability remains limited because most MSMEs use FinTech for transactional convenience rather than for strategic planning or green financial reporting (Pizzi, 2021). The qualitative data support this view—interviewed MSME actors reported that FinTech tools, such as digital payment apps and online loan platforms, are valuable for cash flow management but have not yet encouraged environmentally conscious innovation. These findings align with Kurniawan et al. (2023), who argued that digitalisation enhances MSME financial efficiency but does not automatically embed sustainability values.

In contrast, Green Accounting exhibits a significant positive effect on both financial performance and sustainability of MSMEs. Implementing green accounting enables businesses to identify environmental costs, allocate resources more efficiently, and improve transparency in financial reporting. These results align with prior studies emphasizing that green accounting promotes waste reduction, energy optimisation,

and corporate image enhancement (Selpiyanti & Fakhroni, 2020; Dutta, 2020). By systematically recording environmental-related expenditures, MSMEs can identify inefficiencies and redirect investments toward energy-saving technologies, thus improving profitability and supporting long-term survival (Astuti et al., 2023; Appiah-Kubi et al., 2024). Qualitative findings reinforce this relationship—several respondents highlighted that tracking environmental costs helped reduce unnecessary spending, build consumer trust through transparent reporting, and strengthen competitiveness. This supports Dela (2024) and Mah (2023), who found that sustainability accounting contributes both to financial efficiency and to the development of environmentally responsible business strategies.

Meanwhile, Green Intellectual Capital (GIC) does not show a significant effect on either financial performance or MSME sustainability. This suggests that, while MSMEs may possess environmental knowledge, they face difficulties translating it into practice. The gap between knowledge and implementation arises from limited resources, managerial capacity, and technological support. The interview results confirm that MSME owners are aware of the need for eco-friendly innovation but lack the infrastructure to execute such initiatives consistently. These findings are consistent with Asiaei (2022, 2023) and Mulatsih (2025), who emphasised that GIC positively affects performance only when integrated into organisational systems, employee training, and innovation strategies. Similarly, Fitri et al. (2022) observed that without managerial commitment and technical capacity, green intellectual capital remains underutilised and fails to produce tangible performance gains. Hence, knowledge alone is insufficient; it must be systematically supported by leadership, resources, and collaboration to drive sustainable transformation.

Furthermore, financial performance has a significant positive impact on the sustainability of MSMEs. This supports the Resource-Based View (RBV) theory, which posits that firms with superior financial resources are better positioned to sustain operations, invest in innovation, and implement sustainability initiatives (Agarwal, 2023; Munandar, 2025). MSMEs with stable financial structures are more capable of expanding markets, improving resource efficiency, and responding to environmental regulations (Harnida, 2024; Muafi, 2022). Qualitative insights corroborate this—respondents emphasised that when finances are strong, they can allocate budgets for green product development and production system improvements. Conversely, financial instability shifts focus toward short-term liquidity management rather than long-term sustainability goals.

Overall, the integration of Green Accounting and financial performance emerges as the key driver of MSME sustainability, while FinTech primarily enhances operational efficiency and profitability. Green Intellectual Capital, on the other hand, requires stronger institutional and managerial support to translate knowledge into impactful sustainability practices. These findings echo those of Mah (2023) and Vásquez (2021), who highlight that achieving sustainability among MSMEs demands a holistic approach combining environmental management, financial literacy, and digital capability. In-depth interviews further show that the synergy between green

accounting implementation and sound financial management practices enhances both economic and environmental outcomes. MSMEs that manage to integrate these components demonstrate greater resilience and adaptability to changing market demands and sustainability pressures.

Taken together, this research underscores that effective MSME development strategies must focus on (1) strengthening environmental accounting systems, (2) enhancing financial capabilities through FinTech and training, and (3) fostering green intellectual competencies through knowledge management and innovation ecosystems. Such a holistic framework aligns with the sustainability maturity model proposed by Vásquez (2021), in which economic, social, and environmental dimensions are mutually reinforcing. By adopting these integrated strategies, MSMEs in Medan City can not only maintain financial stability but also actively contribute to long-term sustainable development and competitiveness in the green economy era.

6. Conclusions

The results of the study indicate that the use of Financial Technology (Fintech) has a significant effect on Financial Performance but no effect on Sustainability, while Green Accounting has a significant effect on both Financial Performance and Sustainability, and Green Intellectual Capital does not show a significant effect on either variable. Furthermore, Financial Performance is proven to affect Sustainability, confirming that improving financial performance is a key factor in supporting sustainable business practices. Based on these findings, MSME actors are advised to focus more on implementing Green Accounting and optimising financial performance as key strategies for achieving business sustainability, as well as utilising financial technology appropriately to improve business results. The government and supporting institutions should provide training, assistance, and digital facilities to support the implementation of green accounting and financial technology in MSMEs. In addition, the development of Green Intellectual Capital needs to be supported by concrete managerial practices, innovation, and education in order to have a real impact on business performance and sustainability. These findings also serve as a reference for further research to explore other factors that can improve MSME sustainability through the integration of financial strategies, digitalisation, and green knowledge management.

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