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The Influence of Green Accounting Implementation and Information and Communication Technology on the Sustainability of Micro and Small Enterprises in Mining and Non-Mining Areas

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A B S T R A C T
The instability of the global environment has led various parties to pay special attention to social responsibility and the sustainability of micro and small enterprises (MSEs) to ensure their continued growth. This study aims to analyze the influence of green accounting implementation and information and communication technology (ICT) on the sustainability of MSEs in mining and non-mining areas. The study adopts a quantitative approach using a survey of MSEs in Palu City, analyzed with multiple regression methods. The results show that the implementation of green accounting and ICT impacts the sustainability of MSEs. Moderated by business location, it was found that green accounting implementation positively affects the sustainability of MSEs in mining areas, whereas ICT has no significant influence on the sustainability of MSEs in these areas. These findings underline the importance of providing new insights into MSE sustainability strategies that address current environmental challenges, particularly for MSEs in mining areas. A proper understanding of the role of the business environment can serve as a crucial strategy for fostering more sustainable MSE development.

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INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) play an important role in sustainable economic development, both globally and locally. Based on the latest report from United Nations Conference on Trade and Development (UNCTAD), MSMEs play a very vital role in the global economy (Romero, 2024). UNCTAD emphasizes the contribution of MSMEs in reducing the environmental impact of economic activities, because with the role of MSMEs globally accounting for up to 70% of employment and around 50% of Gross Domestic Product (GDP), it plays an important role in the adoption of environmentally friendly practices. Therefore, MSMEs that are managed effectively and are oriented towards sustainability, can encourage stable economic growth and development (Pertiwi et al., 2022).

In the face of increasing global environmental instability, attention to sustainability and corporate social responsibility continues to grow. To ensure business sustainability, organizations need to evaluate and manage the environmental impact of their operational activities (Fauzan H, 2024). In this context, the implementation of green accounting is getting more and more attention, especially after its introduction IFRS S2 by the International Financial Reporting Standards (IFRS) Foundation by 2024, which requires disclosure of climate risks and environmental impacts in financial statements (Basit, 2024). Gray (2010) stated that green accounting will continue to play an important role in addressing the fundamental problems caused by human activities that damage the environment. Reports from The Northern Miner (2024) Pressure from investors and global regulations are pushing mining companies to adopt stricter sustainability practices (Rachel Dekker and Elizabeth Freele, 2024).

On the other hand, previous research has shown that market turbulence affects the performance of micro businesses more than technological turbulence (Muliati et al., 2024). Limited technological resources make it difficult for micro businesses to adapt to market changes or invest in new technologies. They face several obstacles such as: development of new products or services, lack of market research, inability to find potential customers, poor communication with domestic and overseas peer groups and improper inventory management (Kumar et al., 2023; Sahoo & Swain, 2020). This is relevant in the context of ICT implementation, where ICT optimization can help MSMEs overcome these limitations, improve efficiency, and encourage business sustainability, especially in regions with dynamic environmental and market challenges. Moreover, in today's competitive business scenario, SME competition is not limited to a specific sector. Instead, they have to compete with industries large and small. Yvonne Lee & WeiLee Lim (2024) suggested that the use of ICT to anticipate a decrease in business costs is a major concern for MSMEs. Therefore, the adoption of ICT has become a strategic necessity for their sustainability and competitiveness (Kumar et al., 2023).

In addition to the application of information technology, at the international level, there is pressure on industries, including MSMEs, to adopt

ESG practices (Environmental, Social, and Governance) continues to increase, especially in areas that is around the mining area. In this regard, Williams & Nikijuluw (2020) conducted a ten-year analysis of socio-economic indicators between the ring and non-ring areas of coal mining in Queensland. Their findings show that although mining areas have higher levels of income and employment opportunities, social disparities persist, mining areas tend to have a larger proportion of low-income households, with many of them experiencing financial stress due to high rental costs. In addition, the impact of mining activities in excavation C also has the potential to cause environmental damage such as landslides and flash floods that can threaten the lives of local residents (Haris et al., 2023).

This condition also occurs in Palu City, mining activities have caused environmental pollution, soil degradation, and threats to local ecosystems, which have an impact on the sustainability of MSMEs. Sand and rock mining activities in the mining ring area have reportedly caused serious environmental damage, such as threats to spring water sources that are the main needs of local communities. In addition, the intensive exploitation of natural resources in this area is suspected to contribute to an increase in air pollution that endangers the quality of life of local residents (Sulteng, 2024). However, the problem of environmental change or damage due to mining cannot be seen only technically, but also involves mental problems and awareness of good environmental management (Haris et al., 2023). This is what causes the issue of environmental sustainability and sustainable business management to get more attention from the community and business organizations, especially for those around the mining area, one of which is marked by pimplementation of green accounting.

Research conducted by Justita Dura & Riyanto Suharsono (2022) shows that the application of green accounting has a direct influence on sustainable development. These green accounting practices have helped companies manage natural resources more efficiently and sustainably, which in turn supports long-term business sustainability. In addition, research Telukdarie et al., (2024) It also shows that the right digital technology can improve operational efficiency and sustainability of MSMEs by optimizing their business processes in the digital era. This, of course, highlights the importance of information and communication technology (ICT) in supporting the digital transformation of MSEs. The results of their research show that the right digital technology can improve operational efficiency and sustainability of MSEs by optimizing their business processes in the digital era.

Some of the previous studies have shown the relationship between the application of green accounting and information and communication technology with the sustainability of MSEs, however, although it is possible that there are differences in the application of green accounting and information technology due to the characteristics of each MSE, research that analyzes the impact of these characteristics, especially business locations on the sustainability of MSEs, is still limited.

Therefore, this study aims to examine the influence of the application of green accounting and Information and Communication Technology on the sustainability of Micro and Small Enterprises, by comparing the mining and non-mining area in Palu City. This research is important to provide new insights into MSE sustainability strategies that are relevant to the environmental challenges faced today, especially for MSEs located in the mining perimeter area, so that an adequate understanding of the environmental role of the business is carried out, can be an important strategy in the development of more sustainable MSEs, especially for MSEs that are located.

LITERATURE REVIEW

Legitimacy Theory

Theory of legitimacy, as explained by Suchman, (1995) focuses on how organizations acquire and maintain legitimacy from society. The ability to gain and maintain recognition from the community is essential for organizations to keep their businesses sustainable. This recognition is obtained when the values, norms, and actions of the organization are considered to be aligned with prevailing social expectations. In the context of micro, small, and medium enterprises (MSMEs), the implementation of practices that reflect social responsibility, such as green accounting and the use of information and communication technology (ICT), is an important strategy to build legitimacy in the eyes of stakeholders.

Through the implementation of green accounting, MSMEs can demonstrate their commitment to responsible business management, both socially and economically. These practices help to increase transparency in the use of resources and ensure adherence to values that society respects. Indriastuti & Mutamimah (2023) noted that MSMEs that implement green accounting can build a positive image in the eyes of the public, thereby creating the trust and legitimacy necessary for their operational continuity. In addition to building a positive image as a business entity that cares about social and environmental impacts, it also strengthens public trust.

In addition, the use of information and communication technology (ICT) also makes a significant contribution in strengthening the legitimacy of MSMEs. MSMEs that use ICT to improve operations and expand market reach show that they meet people's expectations for openness, innovation, and efficiency in doing business (Putra et al., 2023). Thus, ICT is not only a tool to facilitate activities, but also a way for MSMEs to show their commitment to technological developments that are appreciated by the community. The use of ICT allows MSMEs to increase interaction with customers through social media and promote products more efficiently (Gbandi & Iyamu, 2022). This contributes to the creation of a positive image as a modern and responsive business to market needs.

The Effect of the Implementation of Green Accounting on the Sustainability of MSEs

Research Lusiana et al., (2021) shows that green accounting has a significant impact on business sustainability through improving financial, social, and environmental performance. Good corporate social responsibility (CSR) disclosure, backed by green accounting, creates a positive reputation that attracts investors, increases company value, and supports profitability. Research Usada & Pure (2020) shows that environmentally friendly product factors, such as the selection of raw materials, energy sources, packaging materials, and raw material efficiency, play an important role in improving the performance of environmentally-based MSMEs. These strategies support business sustainability by reducing environmental impact and increasing competitiveness. Based on the explanation above, a hypothesis was found

H1: The application of green accounting affects the sustainability of MSEs.

The Influence of the Use of Information and Communication Technology (ICT) Has an Effect on the Sustainability of MSEs

Research Khaidir Ali Fahmi (2019) shows that Information and Communication Technology (ICT) plays an important role in improving the competitive advantage and performance of MSMEs. ICT has a significant influence through improving operational efficiency, expanding market access, and accelerating innovation. The implementation of ICT allows MSMEs to improve operational efficiency, strengthen relationships with vendors and customers, and reduce costs (G.S. et al., 2023). This provides a competitive advantage and creates significant value for all parties involved (Qalati et al., 2021). By utilizing ICT optimally, MSMEs can improve sustainable performance through adaptation to digitalization and strengthening long-term competitiveness. This shows that ICT is a key element in supporting business sustainability in the midst of technological and market changes. Based on the explanation above, a hypothesis was found

H2: The use of information and communication technology (ICT) affects the sustainability of MSMEs.

The Influence of Mining Ring and Non-Circular Areas Affects the Sustainability of MSEs

Research Murjani (2021) related to the community development program (PPM) of PT. Adaro Indonesia in South Kalimantan shows that mining ring areas, such as Balangan and Tabalong Regencies, have significant economic sustainability potential. Factors such as economic institutions, accessibility, farmer exchange rates, and business partnerships have proven to play a role in supporting community welfare and creating business opportunities. These findings indicate that the existence of the mining ring area can have a positive impact on economic sustainability, which is relevant to the influence of location on the sustainability of micro, small, and medium enterprises.

The Influence of Mining Ring and Non-Circular Areas is Able to Moderate the Application of Green Accounting to The Sustainability of MSEs

Business locations play an important role in determining the success and sustainability of MSMEs. The areas in which MSMEs operate not only affect access to resources and markets but also create unique challenges and opportunities related to local social, economic, and environmental conditions (Greenberg et al., 2018). The effectiveness of this step cannot be separated from the influence of the location of the MSMEs themselves. Factors such as the level of community environmental concern, local government regulations, and local economic conditions can strengthen or even weaken the impact of the implementation of Green Accounting on business sustainability. Thus, business location has the potential to be a significant moderation variable in the relationship between Green Accounting and the sustainability of MSMEs. Based on the explanation above, a hypothesis was found.

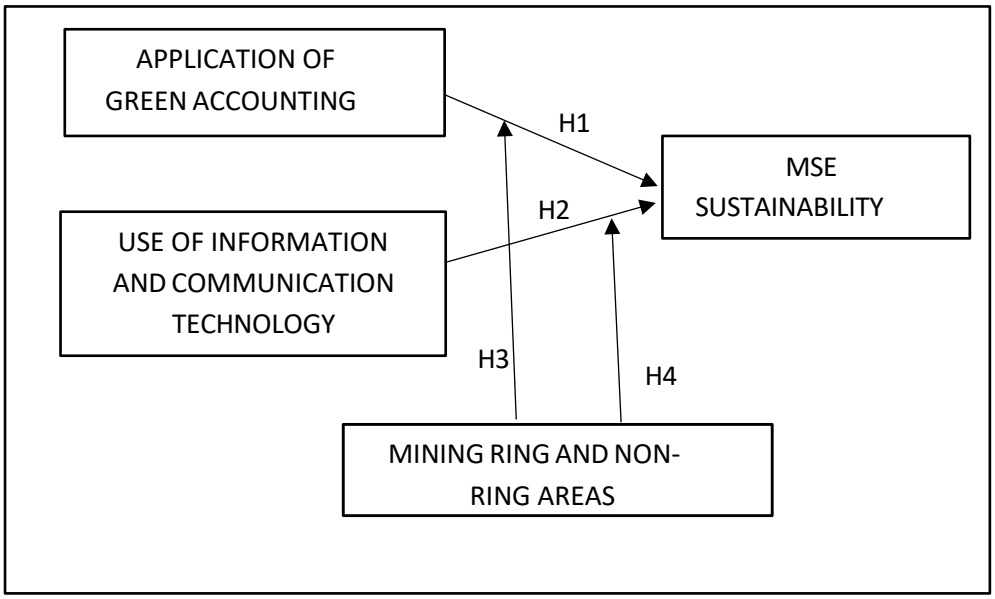
H3: The effect of the application of Green Accounting on the sustainability of MSEs in mining perimeter locations is greater than that of MSEs in non-mining perimeter locations.

***The Influence of Mining Ring and Non-Mining Areas is Able to Moderate the Use of Technology on the Sustainability of* MSEs**

On the other hand, location also plays an important role in influencing the use of Information and Communication Technology (ICT) by MSMEs. MSMEs in non-mining areas, which often have better access to digital infrastructure, tend to be easier to adopt ICT to support operations and increase competitiveness (Agu et al., 2018). On the other hand, in the mining ring area, the use of Information and Communication Technology (ICT) by MSMEs is crucial, especially in facing challenges related to sustainability. However, ICT can help MSMEs reach a wider market, improve production efficiency, better manage information and establish better relationships with stakeholders (Lukonga, 2020; Ladokun, 2019). By utilizing ICT, MSMEs in the mining ring area can show their compliance with modern standards that are increasingly appreciated by the wider community. Based on the explanation above, a hypothesis was found.

H4: The effect of ICT use on the sustainability of MSEs in mining perimeter locations is greater than that of MSEs in non-mining perimeter locations.

The conceptual framework in this study can be seen as follows:



METHODOLOGY

The variables used in this study consist of independent variables, dependent variables and moderation variables. There are 2 independent variables in this study, namely the Application of Green Accounting and ICT (Information and Communication Technology). The bound variable in this study is the Sustainability of Micro and Small Enterprises. Meanwhile, the Moderation Variables in this study are the perimeter and non-perimeter areas of mining.

Business Sustainability Variable Indicators were developed from research Latifah & Soewarno (2023) with using 3 indicators: namely the economic dimension, the social dimension, and the environmental dimension. The research instrument of Green Accounting variables was developed based on Lako, (2018) which defines green accounting as a process of recognition, value measurement, recording, summarizing, reporting and disclosure of information related to transactions, events, and/or financial, social, and environmental objects in an integrated manner in the accounting process in order to produce integrated, complete, and relevant information that is useful for users in assessing and making economic and environmental decisions. non-economic. The implementation of green accounting uses 5 indicators, namely sustainable management of natural resources, environmental impact reporting, environmental costs and revenues, environmental compliance and involvement in social responsibility programs. Meanwhile, ICT research indicators use 2 indicators that are developed referring to Berlilana et al., (2020) namely Social Media and Technology.

Measurement of Sustainability Variables, Green Accounting variables and ICT using a likert scale with a range of 1-5, (i.e., strongly disagree, strongly agree). Meanwhile, the measurement of the MSE location variable as a moderation variable in this study uses a dummy variable.

Theslovin method was used with a margin of error of 0.01% from the data of the Cooperatives and MSMEs Office with a population of 46.165, so the number of samples in this study was determined at 100 respondents.

The data collection in this study uses a survey method carried out in October – November 2024. In addition to filling out the questionnaire, the researcher also conducted interviews with respondents.

Based on the final results of the questionnaire, there were 38 respondents from the mining area and 62 respondents from the non-mining area. The researcher distributed the questionnaire to MSMEs through a Google Form link and conducted a direct survey. The survey will take place from October to mid-November 2024. A total of 5 questionnaires were collected through Google Forms, while 95 questionnaires were obtained from direct surveys, resulting in a total of 100 questionnaires.

The data that has been collected is analyzed using SPSS 25 by conducting validity tests and reliability tests, to ensure data quality. In addition, classical assumption tests are carried out, such as normality tests, multicollinearity tests, and heteroscedasticity tests. Data analysis was followed by multiple linear regression and hypothesis testing which included t-test, F-test, and determination coefficient test. The analysis technique used in this study is multiple linear analysis with a regression model, including interaction tests to identify the role of moderation variables in the relationship between independent variables and dependent variables.

RESEARCH RESULTS AND DISCUSSION

Validity Test

Table 1. Results of the Validity Test of Research Instruments

Statement Items	r-Calculate	r-Table	Status
1	0,399	0,196	VALID
2	0,543	0,196	VALID
3	0,299	0,196	VALID
4	0,276	0,196	VALID
5	0,773	0,196	VALID
6	0,293	0,196	VALID
7	0,770	0,196	VALID
8	0,568	0,196	VALID
9	0,718	0,196	VALID
10	0,748	0,196	VALID
11	0,717	0,196	VALID

Source: SPSS 25 Results

All variable statement items Application of Green Accounting (X1) that was measured was declared valid because the r-count value was greater than the r-table value with a value of 0.196.

Table 2. Results of the Objectivity Validity Test

Statement Items	r-Calculate	r-Table	Status
1	0,643	0,196	VALID
2	0,703	0,196	VALID
3	0,821	0,196	VALID
4	0,902	0,196	VALID
5	0,897	0,196	VALID

Source: SPSS 25 Results

All items of the Information and Communication Technology (X2) variable statement that were measured, were declared valid because the r- calculated value was greater than the r-table value with a value of 0.196.

Table 3. Results of the Objectivity Validity Test

Statement Items	r-Calculate	r-Table	Status
1	0,599	0,196	VALID
2	0,585	0,196	VALID
3	0,508	0,196	VALID
4	0,579	0,196	VALID
5	0,599	0,196	VALID
6	0,508	0,196	VALID
7	0,547	0,196	VALID

Source: SPSS 25 Results

All business sustainability (Y) variable statement items measured were declared valid because the value of r-calculated was greater than the value of r-table with a value of 0.196.

Reliability Test

An instrument can be said to be reliable if it has a reliability coefficient of 0.6 or more. If the alpha is less than 0.6, it is declared unreliable.

Table 4. Reliability Test Results

Variable	Alpha Croncbach	Information
Implementation of Green Accounting (X1)	0.744>0.6	Reliable

Information and Communication Technology (X2)	0.855>0.6	Reliable
Sustainability of Micro Small Enterprises (Y)	0.600>0.6	Reliable

Source: SPSS 25 Results

Based on the reliability test above, it can be concluded that all variables in the proposed study are reliable because they have a Cronbach Alpha value greater than 0.6.

Classical Assumption Test

a. Normality Test

Table 5. Normality Test Results

Normality Test Results	
N	100
Asymp. Sig. (2-tailed)	0,000

Source: SPSS 25 Results

Based on the results of the Kolmogorov-Smirnov test (K-S Test), the value of Asymp. Sig. by 0.000 (< α = 0.05), which indicates that the initial data distribution is abnormal.

To overcome this, an outlier screening was carried out, where out of the initial 100 respondents, there were 2 respondents who were identified as outliers and excluded from the analysis. After screening, the normality test was re-conducted using the Monte Carlo Exact Test approach at a confidence level of 95% for the remaining 98 respondents.

According to Ghozali, (2018) The decision-making process for the Monte Carlo exact test normality test is as follows, If the probability with its significance is greater than 0.05 then the data is normally distributed. The results of the normality test are as follows:

Table 6. Normality Test Results

Normality Test Results	
N	98
Monte Carlo Sig. (2-tailed)	0.094

Source: SPSS 25 Results

After being outliered, the results of the normality test showed the Monte Carlo sig. (2-tailed) of 0.094. Thus, it can be concluded that the residual data in the regression model is normally distributed, due to the Monte Carlo value sig. (2-tailed) greater than 0.05.

b. Multicollinearity Test

Table 7. Multiclinearity Test Results

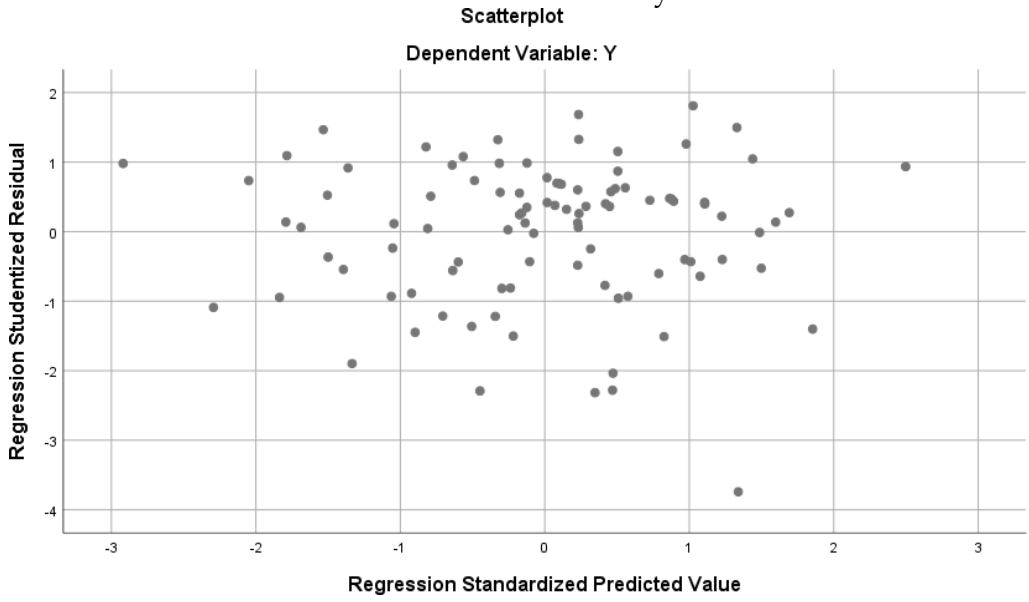
Colllinearity Statistics		
Variable	Tolerance	VIF
Constant		
Application of Green Accounting	.831	1.204
Information and Communication Technology	.831	1.204

Source: SPSS 25 Results

The data are declared free of multicollinearity if the tolerance value for each independent variable > 0.1 and the VIF value < 10. Based on the table above, all independent variables have a tolerance value of > 0.1 and a VIF value of < 10. Therefore, it can be concluded that the data in this study do not experience multicollinearity problems.

c. Heteroscedasticity Test

Table 8. Heteroscedasticity Test Results



Based on the figure above, the SPSS scatterplot output shows that the dots spread randomly, do not form a specific clear pattern, and spread both above and below around 0 on the Y-axis.

Multiple Linear Regression Analysis Results

This study uses Moderate Regression Analysis (MRA) which is processed using the Statistical Program for Social Science (SPSS) version 25. MRA is a regression analysis method used to explain the influence of independent variables on dependent variables by involving moderation variables. Before proceeding to the analysis of the pathway in the study, the researcher first conducted a descriptive analysis as follows:

Table 9. Results of Descriptive Analysis

Variable	N	Minimum	Maximum	Mean	Std.Dev
Application of Green Accounting	100	27,00	54,00	42,4500	4,81659
Information and Communication Technology	100	5,00	25,00	14,5500	4,51569
Sustainability of Micro and Small Enterprises	100	13,00	32,00	24,3300	3,61270
Circular and Non- Circular Areas	100	0	1	0,3800	0,48783

Source: SPSS 25 Results

The application of Green Accounting (X1) from the data is described as a minimum value of 27 while the maximum value is 54 and the average application of green accounting is 42.4500. The standard division of green accounting application data is 4.81659 Information and Communication Technology (X2) from the data is described as a minimum value of 5 while the maximum value is 25 and the average ICT is 14.5500. The standard standard of ICT data division is 4.51569.

The Sustainability of Micro and Small Enterprises (Y) from the data is described as a minimum value of 13 while the maximum value is 32 and the average Sustainability of Micro and Small Enterprises is 24.3300. The standard division of green accounting application data is 3.61270. The Ring and Non-Ring Areas of this study are measured by dummy, namely the location of the business location. A value of "1" for the Mine Perimeter and a value of "0" for the non-Mine

Perimeter Area. From the data, it is described that the minimum value is 0 while the maximum value of 1 and the average are smaller than the std value. The deviation is 0.3800<0.48783.

Coefficient of Determination Test

The results of the determination coefficient test are explained by two structures, including:

Table 10. Coefficient of Determination Test

Type	Adjusted R Square
Sustainability of Micro and Small Enterprises	0.344

Source: SPSS 25 Results

The results of the determination coefficient test showed an adjusted R-square value of 0.344. This means that this study explains the contribution of the application of green accounting and information communication technology to the sustainability of micro and small enterprises, with the circular and non-circular areas of mining as moderation variables, amounting to 34.4%.

F-Test (Silmutant Test)

F-test (Simultaneous Test) The f-test (simultaneous) is carried out to determine the effect of independent variables simultaneously on bound variables.

Table 11. Test Results -F Silmutan

Type	Sum of Squares	Df	Mean Square	F	Sig
Regression	429,788	5	85,958	11,190	000b
Residual	706,738	92			
Total	11136,526	97			

Source: SPSS 25 Results

Based on the table above, it is known that the Sig. Value is 0.00<0.05, so it is concluded that the independent variables have a significant effect simultaneously (together) on the Independent Variables.

Table 12. Test T

Variable	B	Beta	t	Sig
Constant	8,887		4,246	0,00
Application of Green Accounting	0,210	0,320	2,714	0,008
Information and Communication Technology	0,316	0,347	3,001	0,003
Ring and Non-Ring Areas of	-9,904	-1,417	-1,351	0,180

Mines				
Application of Green Accounting* in the Ring and Non-Ring Areas of Mines	0,413	2,224	2,118	0,037
Information and Communication Technology*Ring and Non-Ring Areas of Mines	-0,361	-0,743	-1,695	0,093

Source: SPSS 25 Results

The value of this Constant (a) shows that there is an increase in the application of green accounting and information technology, so the sustainability value of micro and small businesses is 8.887. The value of the regression coefficient of green accounting application is known to have a value of 0.210, meaning that if each unit of green accounting implementation increases, followed by an increase in the sustainability of micro and small businesses by 0.210. The value of the regression coefficient of Information and Communication Technology (ICT) is known to have a value of 0.316, meaning that if each unit of ICT decreases, followed by an increase in the value of micro and small business sustainability by 0.316.

The value of the regression coefficient of the ring and non-circular areas of the mine is known to have a value of -9.904, meaning that if each unit of the circular and non-circular areas of the mine decreases, followed by a decrease in the sustainability value of micro and small businesses by 9.904.

The value of the regression coefficient of the application of green accounting with the mining perimeter area as moderation is known to have a value of 0.413, meaning that if each unit of green accounting application with the surrounding and non-mining areas as moderation increases, followed by an increase in the value of business sustainability by 0.413. The value of the ICT regression coefficient through the mining perimeter area as moderation is known to have a value of -0.361, meaning that if the decrease of each ICT unit with the mining perimeter area as moderation, followed by a decrease in the MSE sustainability value of 0.361.

The Application of Green Accounting Affects the Sustainability of Micro and Small Enterprises (H1)

The application of green accounting helps MSMEs that integrate environmentally friendly practices tend to get better social acceptance from stakeholders. This can contribute to getting a positive image from the community (Rangkuti et al., 2023). It also supports the legitimacy of the business because by meeting the expectations of society and regulations, it can maintain the sustainability of their business. The results of the partial test show that the significance value of the implementation of green accounting is 0.008<0.05, then

(H1) is accepted, which means that the implementation of green accounting has an effect on the sustainability of micro and small businesses.

Information and Communication Technology Affects the Sustainability of Micro and Small Enterprises (H2)

The application of ICT to market products helps MSMEs adjust by using digital platforms such as social media or marketplaces, MSMEs can expand the market, increase visibility, and build consumer trust (Oluwafemi, 2015; Asunka, 2016). This increases their legitimacy, as the public tends to support businesses that are transparent and innovative in meeting market needs. The results of the partial test show that the ICT significance value is 0.003<0.05, then (H2) is accepted, which means that ICT has an effect on the sustainability of micro and small businesses.

Ring and Non-Ring Mining Areas Affect the Sustainability of Micro and Small Enterprises

The ring or non-mining area does not significantly affect the sustainability of MSMEs. The results of the tests carried out showed the significance value of the surrounding and non-circular areas of the mine, which was 0.180>0.05. Which means that the circular and non-circular areas have no influence on the sustainability of micro and small businesses.

The influence of mining perimeter and non-circular areas is able to moderate the application of Green Accounting to the sustainability of MSEs (H3). Areas such as mine perimeters have higher social and regulatory pressure to minimize environmental impacts, as mining activities, such as the extraction of natural resources, often cause environmental damage, including soil, water, and air pollution (Haris et al., 2023; Hendryx et al., 2019). By implementing the implementation of green accounting, MSMEs in this region are better able to maintain their legitimacy in the eyes of the community and stakeholders. The results of the t-test analysis (partial) of the application of green accounting to sustainability with the surrounding and non-circular areas of the mine as moderation showed a significance value of 0.037<0.05, so it was concluded that the application of green accounting had an effect on the sustainability of micro and small businesses through the surrounding and non-circular areas of the mine as a moderation variable.

The Influence of Mining Ring and Non-Circular Areas is Able to Moderate the Use of Information and Communication Technology on the Sustainability of MSEs (H4)

ICT provides MSMEs with the means to build an image as a modern, responsible, and relevant business entity in the digital era, thereby strengthening their social legitimacy (Puspitasari et al., 2023; Ausat et al., 2023). The results of the analysis of the ICT t (partial) test on the sustainability of micro and small businesses with the surrounding and non-circular areas of the mine as a moderation obtained a significance value of 0.093>0.05, so it can be concluded

that ICT has no influence on the sustainability of micro and small businesses with the surrounding and non- circular areas of the mine as a moderation variable.

CONCLUSION AND RECOMMENDATION

Based on the results of data analysis regarding the influence of the application of green accounting and information and communication technology on the sustainability of micro and small enterprises through the ring and non-mining areas as moderation variables, case studies on MSMEs in two areas in the city of Palu, it can be concluded that the application of green accounting affects the sustainability of micro and small enterprises, information and communication technology affects business sustainability, The surrounding and non-circular areas of the mine have no effect on the sustainability of micro and small enterprises, the application of Green accounting has an effect on the sustainability of the business with the moderation of the surrounding and non-circular areas of the mine projected with dummy, ICT has no effect on the sustainability of the business with the moderation of the Ring and non-circular areas of the mine, which are projected with Dummy 1 and 0.

ADVANCED RESEARCH

This research has limitations because it is only focused on Palu City, especially mining and non-mining areas as sample locations, so the results obtained may not fully reflect the condition of MSMEs in other areas. Therefore, the authors suggest that further research add new variables, such as government policies or access to financing, that can affect the sustainability of MSMEs in implementing green accounting and information technology. In addition, expanding the research population to include more MSME regions or sectors will increase the relevance and generalization of research findings.

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