

Analysis of Accounting Students' Understanding of Green Accounting Concepts and Implementation in the Context of Environmental Sustainability: A Case Study at Muhammadiyah University Palopo

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Abstract:

This research aims to investigate accounting students' understanding of the concept and application of green accounting, an aspect that is very important considering the urgency for companies to include environmental sustainability in their operations and reporting. This study applies quantitative methods to analyze the relationship between independent variables and dependent variables. The sample selection technique used is purposive sampling, which involves selection based on certain criteria to obtain more representative data. Data collection was carried out by distributing questionnaires directly to respondents, using a Likert scale for measurement. Data analysis in this research was carried out using IBM SPSS 25 software. Therefore, the first hypothesis (H2) can be accepted or there is a positive influence between the implementation of green accounting on environmental awareness.

Keywords: *Green Accounting Concept, Implementation of Green Accounting, Environmental sustainability*

INTRODUCTION

This research aims to investigate accounting students' understanding of the concept and application of green accounting, an aspect that is very important considering the urgency for companies to include environmental sustainability in their operations and reporting. This need is reinforced by increasing pressure from stakeholders who expect companies to not only prioritize profitability, but also take into account the impact of their operations on the environment. Research by Fernández & Feijóo Souto, (2019) shows that despite increasing global awareness of sustainability, many accounting professionals do not yet fully understand or implement green accounting in their practice. This indicates that there are gaps in accounting education that need to be addressed, especially in teaching and integrating effective green accounting concepts into the curriculum (Fernández & Feijóo Souto, 2019). Therefore, it is important for researchers to explore the extent to which the current curriculum supports accounting students' understanding and readiness to apply green accounting in their careers.

In responding to the challenges of environmental sustainability, the concept of green accounting has received significant attention in the world of accounting education.

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This concept aims to incorporate environmental factors into a company's financial and operational decision making, taking into account the associated environmental and social costs. In this context, accounting students' understanding of the concept and implementation of green accounting is very important, considering that they are prospective professionals who will play a key role in implementing these sustainable practices in the future. Research by Dumitru, M., & Guşe, (2021) shows that accounting education that includes sustainability aspects can significantly increase students' awareness and skills in identifying and applying green accounting principles in their professional practice (Dumitru, M., & Guşe, 2021) Therefore, analysis of accounting students' understanding of the concepts and applications of green accounting in the context of environmental sustainability is an important and relevant research area.

Furthermore, a deep understanding of green accounting by accounting students is not only important for their professional careers, but also for the development of effective sustainability policies in the companies where they will work. For example, the ability to measure and report carbon footprints and integrate them into financial accounting systems is a key aspect of green accounting that can support more environmentally responsible corporate decision making. Research by Cho, CH, & Chun, (2020) highlights that adequate accounting education regarding green accounting can strengthen companies' capacity to comply with strict environmental regulations and increase their transparency to environmentally concerned investors and consumers (Cho, CH, & Chun , 2020). Thus, identifying and understanding gaps in accounting students' knowledge and readiness to apply green accounting principles is an important step in supporting corporate sustainability transformation globally.

LITERATURE REVIEW

1. Green Accounting Concept

Understanding green accounting is essential in the modern accounting era which increasingly considers environmental sustainability. Green accounting is a practice that combines management and environmental protection principles into reporting, including cost and benefit analysis Nurafika, (2019) . According to the Environmental Protection Agency (EPA), environmental accounting, known as green accounting, is a branch of accounting science that recognizes, calculates, and discloses avoidance costs and costs that arise as a result of the operations of an organization or company that have the potential to has a negative impact on the environment (Haryati et al., 2023) . In the context of sustainable development, green accounting is influenced by various external variables, including the level of awareness of company managers, institutional and regulatory barriers, the scale of company operations, and other factors that may influence the process (Risdayanti et al., 2024). The study of green accounting has been widely adopted by various types of companies, especially public companies in Indonesia, as a form of transparency and concern for society and the surrounding environment (Haryati et al., 2023).

The concept of green accounting focuses on incorporating environmental considerations into accounting practices to support sustainable decision making. According to research by Joseph, C., & Taplin, (2020) green accounting involves reporting and analyzing

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environmental costs associated with company operations. Understanding green accounting allows companies to identify and reduce negative impacts on the environment and increase efficiency in resource use (Joseph, C., & Taplin, 2020). The aim of green accounting, according to Rahman et al., (2019) , is to increase the availability of relevant information for parties who need or use it (Rahman et al., 2019)

2. Implementation of Green Accounting

According to research by (Ienciu, I. A., Matis, D., & Pop, 2021)it is stated that effective education in the field of green accounting is able to increase students' ability to apply this knowledge in various business and environmental situations. This research highlights the importance of a curriculum designed to provide the knowledge and skills needed to implement green accounting (Ienciu, IA, Matis, D., & Pop, 2021) .

Based on the Green Accounting concept described above, Green Accounting is a form of accounting that identifies, measures, assesses and reports costs related to company activities that affect the environment. The success of Green Accounting not only depends on accuracy in categorizing all costs generated by the company, but also on the ability and accuracy of the company's accounting data in reducing the environmental impact of their activities (Rahman et al., 2019). The process of interpreting phenomena carried out by the subject, which is then recorded in the research, involves several aspects contained in the environment of the speaker, respondent, or whatever term is used to describe the individual who provides information about the phenomenon (et al., 2021).

3. Environmental Sustainability

The application of green accounting practices in the context of environmental sustainability involves the use of responsible methods in resource management and environmental impact reporting. Research by Graves, SB, Waddock, SA, & Kelly, (2019) examines how companies use green accounting to not only comply with environmental regulations but also to improve their public image and competitive advantage. Study results show that companies that implement green accounting tend to be more successful in managing environmental risks and strengthening relationships with stakeholders (Graves, SB, Waddock, SA, & Kelly, 2019)

Concern for the environment is reflected in respect for nature. The importance of respecting nature is the awareness that humans are part of the natural ecosystem, and therefore, having a responsibility to protect it also means loving human life (Rahman et al., 2019) . Concern for the environment involves taking actions to preserve the surrounding environment, such as not cutting down or looting plants along the road, not vandalizing plants or infrastructure, and always throwing rubbish in the right place. This includes activities for cleaning the environment, managing used goods, and cleaning up rubbish that can clog waterways (Wardinarsih, 2020). The application of green accounting and environmental performance assessment is an important part of sustainability reports, which provides a basis for further research (Nurfaidah et al. , 2024)

conceptual framework

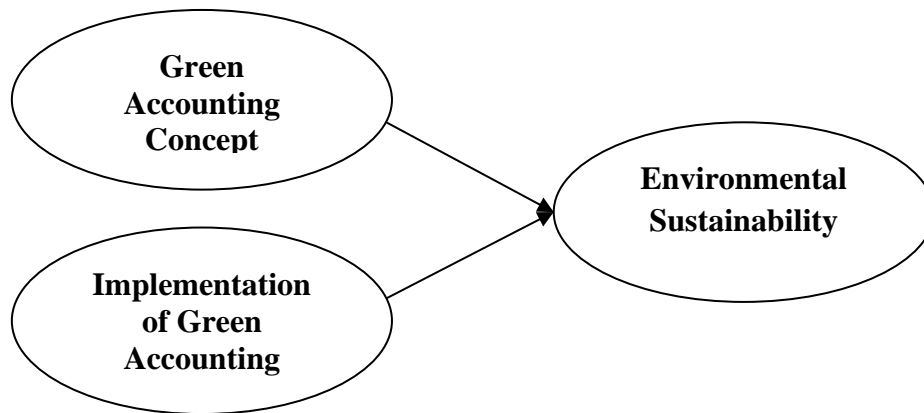


Figure 1 Framework of Thought

RESEARCH METHODS

This study applies quantitative methods to analyze the relationship between independent variables and dependent variables. The sample selection technique used is purposive sampling, which involves selection based on certain criteria to obtain more representative data. The research population consisted of students in the final semester of the Accounting Study Program at Muhammadiyah University of Palopo, with a total of around 200 people, but only 112 students met the criteria to be used as respondents. Data was collected from class A students at the PDPT Campus of Muhammadiyah University, Palopo.

Data collection was carried out by distributing questionnaires directly to respondents, using a Likert scale for measurement. Data analysis in this research was carried out using IBM SPSS 25 software. The use of SPSS was chosen because of its informative ability to help users interpret the results with a better level of accuracy. . This research also includes various statistical tests such as:

Descriptive Data Analysis

Descriptive data analysis aims to provide a clear and easy to understand picture of the data used in research. Descriptive statistics include measures such as average (mean), median, mode (value that occurs most frequently), standard deviation, and maximum and minimum values (Wardiningsih, 2020)

Data Quality Test

Data quality testing includes several steps, namely:

- a) Descriptive Statistical Test
- b) Validity test
- c) Reliability Test

Classic assumption test

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In classical assumption testing, several tests are performed to check whether the data meets certain requirements, such as:

- a) Normality test
- b) Multicollinearity Test
- c) Heteroscedasticity Test

Hypothesis test

Hypothesis testing is a statistical procedure used to make decisions regarding the truth of a hypothesis statement based on data obtained from a population sample (Risdayanti et al., 2024). Hypothesis testing includes:

- a) Simultaneous Test (F Test)
- b) Individual Test (T-Test)

RESULTS AND DISCUSSION

The questionnaires were distributed over a two-week period. Data describing the characteristics of respondents, including gender, is shown in table 1. From this data, it is noted that the majority of respondents were women, with 70 people or 63.6%, while there were 40 male respondents or 36.4%.

Table 1. Characteristics of Respondents

Characteristics	Description	Amount	Percentage (%)
Gender	Number of Respondents	110	100
	Male	40	36.4
	Female	70	63.6
	Number of Respondents	110	100

Source: Primary data processed with SPSS 25

Based on the data collected, the author provides a summary of descriptive statistics to illustrate the characteristics of the respondents in this study. Table 2 shows these descriptive statistics.

Table 2. Descriptive Statistics

	N	Min	Max	Mean	Std. Dev
Green Accounting Concept (X1)	110	12	18	15.02	1,478
Implementation of Green Accounting (X2)	110	11	19	14.88	1,584
Sustainability (Y)	110	8	20	15.26	1,457

Source: Primary data processed with SPSS 25

Student participation (X1) has a minimum value range of 12 to a maximum value of 18 with an average of around 15.02 and a standard deviation of 1.478. The average of 13.83 reflects the fairly high participation of student respondents.

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The Green Accounting Society (X2) has a value range between 11 and 19 with an average of around 14.88 and a standard deviation of 1.584. An average of 14.88 indicates that the Green Accounting Society has a relatively high number of respondents.

Environmental awareness (Y) also has a minimum and maximum value in the range from 8 to 20. The average is 15.26 with a standard deviation of 1.457, which describes quite high environmental awareness.

Then, this research continued by conducting validity and reliability tests. The validity test is used to test the reliability of the measurement instrument. Meanwhile, the reliability test is intended to verify that the instrument accurately collects relevant data regarding the variables being studied.

Table 3. Validity Test

No.	Variables	Code	Pearson Score	Description
InstrumentsCorrelation				
1	Green Accounting Concept	X1.1	0 .421	Valid
		X1.2	0 .546	Valid
		X1.3	0 .729	Valid
		X1.4	0 .655	Valid
2	Implementation of Green Accounting	X2.1	0 .016	Valid
		X2.2	0 .014	Valid
		X2.3	0 .315	Valid
		X2.4	0 .293	Valid
3	Environmental Sustainability	Y .1	0 .047	Valid
		Y .2	0 .035	Valid
		Y .3	0 .066	Valid
		Y .4	0 .010	Valid

Source: Primary data processed with SPSS 25

Based on Table 3, the conclusion that can be drawn is that all data is proven to be valid and reliable, with each question item showing Pearson Correlation and Cronbach's Alpha values greater than 0.6. Next, classical assumption tests were carried out, which included normality tests, heteroscedasticity tests, and multicollinearity tests. The results show that the regression model has a normal distribution, and there are no multicollinearity or heteroscedasticity problems.

Table 5. Normality Test Results

Kolmogorov-Smirnov	<i>Unstandardized Residual</i>
N	110

Asymp.Sig.(2-tailed)

0.026

Source: Primary data processed with SPSS 25

The Asymptotic Significance (2-tailed) value of the equation model analyzed is 0.004, exceeding the significance level of 0.05. These results indicate that the data used in this study follows a normal distribution. The next step continues with the classic assumption test regarding multicollinearity.

Table 6. Multicollinearity Test Results

Variable	Tolerance	VIF
Green Accounting Concept	0.918	1,090
Implementation of Green Accounting	0.918	1,090

Source: Primary data processed with SPSS 25

Based on the analysis carried out, all variables in the research dataset show a tolerance value of more than 10% and a Variance Inflation Factor (VIF) value that is below 10. These results indicate that the research dataset does not experience multicollinearity problems.

Next, the heteroscedasticity test is the final stage in checking classical assumptions, which aims to test whether the residual variance is inconsistent between observations in the regression model. The Glejser method is applied to identify heteroscedasticity, where the absolute residual value is used as the dependent variable which is regressed against the independent variable.

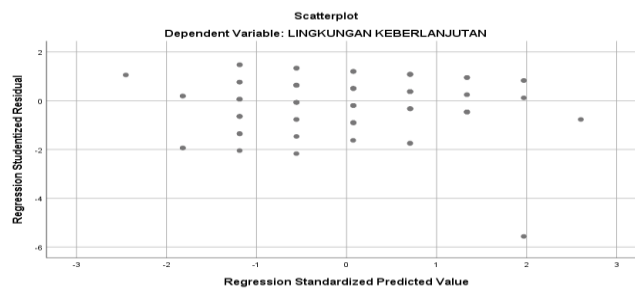


Figure 2. Heteroscedasticity Test Results

Based on Figure 2, it can be seen that the data is spread evenly above and below the horizontal line which is at the zero point on the Y axis. This indicates that the regression model does not experience heteroscedasticity problems and therefore, the model can be operated effectively.

The F test is a statistical technique used to compare variability between two or more groups or treatments in statistical analysis. The function of the F Test is to determine whether there are significant differences between two or more groups or treatments in an analysis.

Table 7. f test

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	42,692	2	21,346	7,136	.0001 b

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Remainder	320,080	1 07	2,991
Total	1832,090	1 09	

Source: Primary data processed with SPSS, 25

The F Test results recorded in Table 7 show the calculated F value is 7.136 and the F table is 3.07. The calculated F value is higher than the F table, coupled with a significance value of 0.000 which is below 5% or 0.05, indicating that the F Test results are significant. Based on these findings, the model used in this research is considered feasible and suitable for use.

The T-test is applied to carry out comparisons between two groups of data or samples, with the aim of assessing whether there are statistically significant differences between them.

Table 8. t test

	TestValue = 0		
	Q	df	Sig. (2 – tailed)
Green Accounting Concept	0.835	110	0, 0 0 1
Implementation of Green Accounting	2,850	1 10	0.00 0

Source: Primary data processed with SPSS 25

This test is carried out to measure the impact of the independent variable on the dependent variable individually. This process involves evaluating statistical significance and comparing t-calculated values with t-table values. The t-table value can be found in the statistical table for a significance level of 5%, or 0.05, and is calculated using the formula degrees of freedom (df) = nk-1, where n is the number of samples and k the number of independent variables. In this case, df = 110-2-1, which means df is 107. So, based on the statistical table, the t-table value at the 5% or 0.05 significance level is around 1.659.

The test results show that the green accounting concept variable has a tcount value of 5.303 while the corresponding ttable value is 1.659. Thus it can be concluded that tcount > ttable with a significance level of 0.304 > 0.05. Therefore, the first hypothesis (H1) cannot be accepted or there is no positive influence between the green accounting concept on environmental sustainability. The concept of green accounting, although designed to measure and report the environmental impact of economic activities, sometimes does not have the expected positive impact on environmental sustainability. This can be caused by imperfections in measurement methods, possible manipulation or greenwashing, as well as non-compliance or neglect of the concept. Additionally, information resulting from green accounting may not be used effectively in decision making, and the complexity of environmental challenges may make the concept difficult to fully implement. Therefore, it is necessary to continue to develop more effective green accounting methods and practices, as well as increase awareness and commitment to environmental sustainability as a whole.

The test results show that the accounting village implementation variable has a tcount value of 2.850, while the corresponding ttable value is 1.659. Thus it can be concluded that tcount > ttable with a significance level of 0.000 < 0.05. Therefore, the first hypothesis (H2) can be accepted or there is a positive influence between the implementation of green accounting on environmental awareness. Implementing green

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accounting can increase environmental awareness because it provides more accurate information about the environmental impact of company activities and encourages more sustainable decision making. By considering environmental factors in business decision making, companies can choose a more environmentally friendly path, as well as build transparency and accountability regarding environmental issues, which in turn can increase stakeholder trust and encourage more responsible actions.

CLOSING

Conclusion

This study succeeded in showing that accounting program students at Palopo Muhammadiyah University have a theoretical understanding of green accounting concepts, but they face difficulties in applying these concepts in a professional context. These findings highlight the gap between theoretical knowledge and practice, indicating the need for re-evaluation of curricula and teaching methods. The implications of these findings are very important for the development of theory and practice in the field of accounting, especially in the context of continuing accounting education.

This research makes an important contribution to understanding the urgency of integrating green accounting practices in the accounting curriculum, with the aim of increasing students' awareness and skills in applying these concepts in practice. These implications have significance for educational institutions in preparing prospective accountants who not only have a deep understanding of sustainability issues, but are also able to apply them in professional practice to create a positive impact.

However, this research has several limitations, including limitations in the scope of the research which only covers one educational institution, so the results may not be fully representative of all accounting educational institutions in Indonesia. Therefore, in the future, similar studies with larger and more diverse samples could be conducted to verify these findings and increase the validity of their generalizability. Further research is also needed to explore innovative teaching methods to more effectively increase the implementation of green accounting in professional practice.

BIBLIOGRAPHY

Reference :

- Antong, A., & Riyanti, R. (2021). How Does Local Wisdom Become Value in Selling-Price Setting? *Jurnal Akuntansi Multiparadigma*, 12(3), 672–688. <https://doi.org/10.21776/ub.jamal.2021.12.3.38>
- Cho, C. H., & Chun, R. (2020). Corporate environmental responsibility and accounting. *Journal of Business Ethics*, 163(2), 221–235.
- Dumitru, M., & Guşe, R. G. (2021). The impact of sustainability education on accounting students' attitudes towards green accounting. *Journal of Cleaner Production*, 279(123712).
- Fernández, & Feijóo Souto, B. (2019). Crisis and green accounting professionalism. *Journal of Business Ethics*, 152(221–235), 4.
- Graves, S. B., Waddock, S. A., & Kelly, M. P. (2019). The Institutionalization of Corporate Sustainability Reporting. *Journal of Business Ethics*, 162(801–828), 4.
- Haryati, T., Kirana, N. W. I., Wilasittha, A. A., & Putri, S. Y. (2023). The Effect of Green Accounting Implementation on Islamic University Social Responsibility. *Journal of Accounting Science*, 7(1), 1–14. <https://doi.org/10.21070/jas.v7i1.1654>
- Ienciu, I. A., Matis, D., & Pop, S. (2021). Integrating Sustainability into Accounting Curricula: Evidence from an Exploratory Study on the Chartered Accountants. *Accounting Education*, 30(495–517), 5.
- Joseph, C., & Taplin, R. (2020). The development of accounting and reporting practices for sustainability: A review. *Journal of Cleaner Production*, 251(119784).
- Nurafika, P. (2019). Analisis Penerapan Green Accounting di PTPN III Kebun Rambutan dan Kebun Gunung Para. *Jurnal Akuntansi Dan Keuangan Kontemporer*, 2(1), 69–80.
- Nurfaidah, N., Syarifuddin, A., Bunyamin, B., & Hadidu, A. (2024). The Impact of Green Accounting Implementation and Environmental Performance on Corporate Financial Performance. *East Asian Journal of Multidisciplinary Research*, 2(12), 5135–5152. <https://doi.org/10.55927/eajmr.v2i12.7323>
- Rahman, M. A., Sumarlin, S., & Mus, S. F. (2019). Green Accounting Concept Based on University Social Responsibility as A Form of University Environmental Awareness. *Integrated Journal of Business and Economics*, 3(2), 164. <https://doi.org/10.33019/ijbe.v3i2.156>
- Risdayanti, A., Rismawati, & Supri, Z. (2024). The Impact Of Students' Perceptions Of Green Accounting On Sustainable Career Decisions. *JAK (Jurnal Akuntansi) Kajian Ilmiah Akuntansi*, 11(1), 180–194. <https://doi.org/10.30656/jak.v11i1.7522>
- Wardiningsih, R. (2020). Analisis Pemahaman Mahasiswa Akuntansi terhadap Konsep Dasar Akuntansi. *Manazhim*, 2(2), 143–156. <https://doi.org/10.36088/manazhim.v2i2.852>

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- Antong, A., & Riyanti, R. (2021). How Does Local Wisdom Become Value in Selling-Price Setting? *Jurnal Akuntansi Multiparadigma*, 12(3), 672–688. <https://doi.org/10.21776/ub.jamal.2021.12.3.38>
- Cho, C. H., & Chun, R. (2020). Corporate environmental responsibility and accounting. *Journal of Business Ethics*, 163(2), 221–235.
- Dumitru, M., & Gușe, R. G. (2021). The impact of sustainability education on accounting students' attitudes towards green accounting. *Journal of Cleaner Production*, 279(123712).
- Fernández, & Feijóo Souto, B. (2019). Crisis and green accounting professionalism. *Journal of Business Ethics*, 152(221–235), 4.
- Graves, S. B., Waddock, S. A., & Kelly, M. P. (2019). The Institutionalization of Corporate Sustainability Reporting. *Journal of Business Ethics*, 162(801–828), 4.
- Haryati, T., Kirana, N. W. I., Wilasittha, A. A., & Putri, S. Y. (2023). The Effect of Green Accounting Implementation on Islamic University Social Responsibility. *Journal of Accounting Science*, 7(1), 1–14. <https://doi.org/10.21070/jas.v7i1.1654>
- Ienciu, I. A., Matis, D., & Pop, S. (2021). Integrating Sustainability into Accounting Curricula: Evidence from an Exploratory Study on the Chartered Accountants. *Accounting Education*, 30(495–517), 5.
- Joseph, C., & Taplin, R. (2020). The development of accounting and reporting practices for sustainability: A review. *Journal of Cleaner Production*, 251(119784).
- Nurafika, P. (2019). Analisis Penerapan Green Accounting di PTPN III Kebun Rambutan dan Kebun Gunung Para. *Jurnal Akuntansi Dan Keuangan Kontemporer*, 2(1), 69–80.
- Nurfaidah, N., Syarifuddin, A., Bunyamin, B., & Hadidu, A. (2024). The Impact of Green Accounting Implementation and Environmental Performance on Corporate Financial Performance. *East Asian Journal of Multidisciplinary Research*, 2(12), 5135–5152. <https://doi.org/10.55927/eajmr.v2i12.7323>
- Rahman, M. A., Sumarlin, S., & Mus, S. F. (2019). Green Accounting Concept Based on University Social Responsibility as A Form of University Environmental Awareness. *Integrated Journal of Business and Economics*, 3(2), 164. <https://doi.org/10.33019/ijbe.v3i2.156>
- Risdayanti, A., Rismawati, & Supri, Z. (2024). The Impact Of Students' Perceptions Of Green Accounting On Sustainable Career Decisions. *JAK (Jurnal Akuntansi) Kajian Ilmiah Akuntansi*, 11(1), 180–194. <https://doi.org/10.30656/jak.v11i1.7522>
- Wardiningsih, R. (2020). Analisis Pemahaman Mahasiswa Akuntansi terhadap Konsep Dasar Akuntansi. *Manazhim*, 2(2), 143–156. <https://doi.org/10.36088/manazhim.v2i2.852>

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