Application of Green Accounting Concepts through Accounting Education in Support of Green Economy

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ABSTRACT
This research aims to investigate the significant influence of the application of green accounting concepts and accounting education in supporting the green economy. This research uses quantitative methods with multiple linear analysis techniques to analyze the data. The population of this study consisted of students from the Faculty of Economics and Business, Muhammadiyah University of Palopo. Research sampling was carried out using the Slovin formula, which resulted in a total sample of 133 respondents. The results of this research significantly show that the application of the green accounting concept has a positive impact on the green economy. Apart from that, accounting education also plays an important role in supporting the green economy. Thus, this research concludes that the application of green accounting concepts through accounting education can make a significant positive contribution in supporting green economic growth.

Keywords: Green Accounting; Accounting Education; Green Economy

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INTRODUCTION
Environmental management and understanding the impact of human activities on global ecosystems are becoming increasingly important in today’s social and economic developments. In an effort to address environmental challenges, the concept of Green Accounting is emerging as a relevant tool in providing accounting information and supporting sustainable business policies and practices (Herwastyo; Wijaya and Machdar). This concept allows tracking and reporting the economic, social, and environmental effects of business activities. Based on the narration of Wiguna et al. (2023) Green accounting is explained as an initiative that aims to integrate the economic interests of companies with the goal of environmental preservation (Wara et al.).

Green accounting encapsulates a new concept in the field of accounting that emphasizes that companies not only prioritize aspects of profitability, but also recognize their responsibility for the environmental impact generated by their business operations, and may require the allocation of resources for environmental restoration activities (Herwastyo; Wara et al.). Tavita et al. (2023) said green accounting reflects the consequences to the environment arising from all productive and corporate activities of companies (Gonzalez and Peña-Vinces). While the concept of green economy or green economy refers to an economic approach (Taufiq and Aviyanti; Tavita et al.) which aims to improve community welfare and achieve social equality, and can significantly reduce the potential for environmental damage (Rosanti et al.).

Purmda et al. (2020), argues that the crucial role played by education in the context of a country is the effort to improve and develop the potential of human resources (Ramadhani et al.). In the accounting education curriculum, the concept of green accounting is increasingly gaining a significant place (He and Li; Nizaar). Accounting education as an important vehicle in the preparation of future accountant candidates, is expected to be familiar with green accounting concepts and able to understand and apply green accounting concepts (Rosanti et al.). Students as aspiring accountants are expected to have an adequate understanding of this concept so that they can make a significant contribution after they complete their education (Wijayanti et al.). The reality is, students often care less because they perceive these issues as not having a direct impact on their personal lives and surrounding communities (Ramadhani et al.). Many students do not have a sufficient understanding of the issues, concepts, or practices associated with green accounting, despite the growing demand for competent accountants in this domain (Al-Dhaimesh). Therefore, the educational process in universities, especially in accounting study programs, has the responsibility to form prospective accountants who have strong social and environmental awareness and responsibility (Iskandar et al.).

Education also provides an important foundation for students to understand how sustainable business practices can be implemented through accounting tools (Taufiq and Aviyanti). Selain itu, in an era where environmental challenges are increasingly urgent, accounting education can also play a role in changing student behavior to support efforts to maintain environmental sustainability, or what is often referred to as the green economy (Iskandar et al.). The responsibility of caring for and preserving the environment is a shared
responsibility for its sustainability for future generations (Rosanti et al.). Prena (2021), states that in the context of the environment, accounting also has an important role, namely in presenting information voluntarily in financial statements that include environmental costs (Wara et al.).

Increased awareness of environmental and sustainability issues has given rise to significant changes in various aspects of social, economic, and political life. Green accounting refers to the use of accounting tools and techniques to measure, report, and analyze sustainability information relevant to environmental issues (Wiguna et al.). Meanwhile, green economy encompasses various economic practices that aim to achieve sustainable economic growth by integrating environmental aspects. As mentioned by Lolo dan Rum (2019), Green accounting or environmental accounting is a form of accounting that involves identifying, measuring, and allocating environmental costs. In this context, environmental costs are incorporated into the business decision-making process and then communicated to stakeholders (Wijaya and Machdar). The use of sustainability-based accounting can provide insight into the positive and negative impacts of companies on the quality of life of the community and the surrounding environment (Ashari and Anggoro). As mentioned by Andi et al., (2020), The implementation of green accounting in Indonesia has been in accordance with expectations that prioritize environmental sustainability, both in the realm of the accounting industry and in environmental protection efforts (Wiguna et al.).

Green Accounting is an approach in accounting that considers environmental aspects in measuring economic performance. It includes measuring the environmental impact of economic activity and trying to integrate environmental aspects in a company's financial statements (Ashari and Anggoro; Wara et al.; Wiguna et al.). Environmental accounting or green accounting also provides opportunities to reduce energy consumption, maintain resource sustainability, reduce risks related to environmental health and safety, and increase business competitiveness (Putri et al.).

Accounting education is an important field in the context of economics and business education. Accounting is a science that teaches the principles, concepts, and techniques necessary to understand, analyze, and communicate financial information. Accounting education is the foundation for students to understand the principles of green accounting, as green accounting becomes increasingly important in educating future generations about environmental responsibility and sustainability (Ramadhani et al.; Rosanti et al.). Currently, several core courses have integrated sustainable accounting concepts into their content, including courses such as financial accounting and accounting theory (Wijayanti et al.). Furthermore, there are special courses that explore in depth the concept of green accounting, such as sustainability accounting courses, which have now been incorporated into the curriculum as elective courses. This aims to attract students' interest in accounting (Iskandar et al.).

The green economy is the basis for understanding, implementing, and promoting sustainable and environmentally friendly economic practices. It covers the principles, strategies, and concepts needed to create a better economy for our planet and future generations. Nizaar (2022) argues that the green economy, or what is often referred to as Green Economy, is an idea in the economic realm that
aims to improve welfare and social equality in society, while substantially reducing the risk of environmental damage. This concept emphasizes the importance of uniting social, economic, and environmental sustainability factors as an inseparable whole. Modern lifestyles have resulted in exploitative use of natural resources, which may threaten the quality of life (Rosanti et al.; Taufiq and Aviyanti).

The application of green accounting concepts in business practices and accounting education has the potential to affect students' understanding and attitudes towards sustainable issues and the green economy. The concept of green accounting emphasizes the importance of measuring, reporting, and mitigating environmental impact of business activities, relevant in the context of accounting and taxation research (Taufiq and Aviyanti; Wahyuni et al.). By incorporating green accounting principles in business practices and accounting learning, students can be more likely to adopt behaviors that support green economy practices such as more sustainable use of resources.

H$_1$: The application of green accounting concepts is significantly influential in supporting the green economy.

Accounting education is the primary channel through which individuals acquire knowledge about green accounting, sustainable business practices, and environmental impact. Through this learning, individuals can understand the importance of integrating environmental aspects in business practices (Rosanti et al.). With a better understanding of green accounting, accounting students and practitioners can recognize the impact of business on the environment and drive positive change, provide opportunities to develop the skills necessary to apply green accounting practices in the context of a green economy.

H$_2$: Accounting education is significantly influential in supporting the green economy.

Currently, there is limited research related to green accounting and the green economy. Previous studies have tended to focus on the general concept of green accounting or sustainable business practices. However, this research offers a novel approach by examining how the concept of green accounting can be effectively integrated into accounting education curricula. This makes the research more specific and relevant to educational institutions and accounting practitioners interested in enhancing understanding and implementing sustainable business practices. Additionally, this research highlights the contribution of accounting education in supporting green economy principles. While previous research may have covered specific aspects of the green economy, this study specifically investigates how understanding and applying green accounting in education can directly contribute to advancing green economy principles on a broader scale. This creates a more comprehensive understanding of the role of accounting education in promoting sustainable economic development.

In this context, the green economy refers to efforts to achieve sustainable economic growth by considering environmental, social, and economic aspects in a balanced manner. Although there is existing literature on green accounting and its importance, specific research examining how to integrate green accounting principles into accounting education to contribute to advancing the green economy is still limited. Therefore, this study aims to fill this gap by providing
insights into how accounting education can play a crucial role in promoting sustainable business practices and environmental responsibility within the framework of the green economy. Thus, this research offers a new and more specific contribution to the literature on green accounting and the green economy by exploring the relationship between accounting education and sustainable business practices within the context of the green economy. The findings of this research are expected to serve as a guide for accounting education institutions in designing more sustainability-oriented curricula and provide insights for accounting practitioners and policymakers interested in promoting more sustainable business practices in society.

Figure 1. Conceptual Framework
(Source: Development by Researchers, 2023)

RESEARCH METHODS
This study used quantitative research methods to collect and analyze data. The steps taken in this study are, conducting a literature study to review literature related to green accounting, accounting education, and green economy to understand the theoretical foundations that support this research. Then conduct surveys and primary data collection by distributing questionnaires through google form that include quantitative questions to measure accounting education related to green accounting and green economy. This study adopts a causal research approach, which aims to investigate and analyze the causality relationship between two or more variables (Darwis and Meliana).

The population used for this research is 7th semester students (class A) of the Faculty of Economics and Business, University of Muhammadiyah Palopo. The sampling technique uses the slovin formula to make it easier to calculate the number of samples selected and used. So the total sample to be used is:

\[
N = \frac{200}{1 + 200 (0.05)^2} \\
n = \frac{200}{1 + 0.5} \\
n = \frac{200}{1.5} \\
n = 133.3 \\
\text{(rounded up to 133 respondents)}
\]

The data analysis method used in this research uses the help of IBM SPSS 23 software. The data analysis in this research are, A validity test is a method that shows the extent to which a tool can reliably measure the variables under study. If the calculated r value is greater than or equal to the r table (in a 2-sided test with a significance of 0.05), it can be concluded that the instrument or question has a
significant relationship with the total score, indicating its validity (Nurcahyo et al.). Reliability testing is a method in research to measure the extent to which an instrument or measuring device can provide consistent and reliable results in various situations or remeasurements. In general, reliability is considered sufficient if the value is greater than or equal to 0.700. The classical assumption test aims to ensure that the data used in the study meet the basic assumptions needed to apply certain statistical methods. These assumptions include normality tests, autocorrelation tests, multicollinearity tests, and heteroscedasticity tests. The research method used in this research is multiple linear regression analysis because it has three independent variables, namely green accounting, accounting education, and changes in student behavior (Darwis & Meliana, 2020). Multiple linear regression is carried out to understand the direction and degree of impact of the independent variable on the dependent variable (Nurcahyo et al.). A hypothesis test is a statistical procedure used to test claims or assumptions put forward about a population or data. In general, in decision making, researchers refer to the significance values listed in the coefficient table. Evaluation of regression results is often done with a confidence level of about 95% or a significance level of about 5% (\(\alpha = 0.05\)).

This study used multiple linear regression and the following formula to test it: 

\[ Y = \beta_0 + \beta_1X_1 + \beta_1X_2 + \varepsilon \] 

Information:
- \(Y\): Green Economy
- \(\beta_0\): constant
- \(\beta_1\): regression coefficient
- \(X_1\): Green Accounting Concepts
- \(X_2\): Accounting Education
- \(\varepsilon\): Error term

RESULTS AND DISCUSSION
In this research, respondents amounted to 133 class A students of the Faculty of Economics and Business, University of Muhammadiyah. The number of respondents consisted of 3 study programs, namely 60 management study programs, 60 accounting study programs, and 13 development economics study programs. The number of male respondents was 61 people (45.5%) and the number of female respondents was 72 people (54.5%).

Table 1 illustrates the results of the validity test. The results showed that each variable in each statement was assessed significantly. To judge it can be seen from the table \(r\), as the formula of the table \(r\) is \(df = N - 2\) so \(133 - 2 = 131\), so the table \(r = 0.1703\). From the results of the validity calculation in the table, all questionnaire indicators are declared valid because \(r\) count is greater than \(r\) table. This provides evidence that the questions asked are suitable for measuring the variables concerned.
Table 1. Validity Test Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Item</th>
<th>Pearson Correlation</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Accounting Concepts</td>
<td>X1.1</td>
<td>0.577</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>X1.2</td>
<td>0.517</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>X1.3</td>
<td>0.449</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>X1.4</td>
<td>0.494</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>X1.5</td>
<td>0.558</td>
<td>Valid</td>
</tr>
<tr>
<td>Accounting Education</td>
<td>X2.1</td>
<td>0.546</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>X2.2</td>
<td>0.427</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>X2.3</td>
<td>0.579</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>X2.4</td>
<td>0.454</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>X2.5</td>
<td>0.453</td>
<td>Valid</td>
</tr>
<tr>
<td>Green Economy</td>
<td>Y.1</td>
<td>0.368</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>Y.2</td>
<td>0.552</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>Y.3</td>
<td>0.358</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>Y.4</td>
<td>0.448</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>Y.5</td>
<td>0.731</td>
<td>Valid</td>
</tr>
</tbody>
</table>

Source: Research Data, 2023

Table 2 illustrates the reliability test results showing that each question shows reliable results for measuring variables because Cronbach's Alpha coefficient exceeds 0.70 indicating that the instrument is considered to have a high level of reliability and is suitable for use in the context of this study. Therefore if measurements are made repeatedly against the same question, the results will remain consistent.

Table 2. Reliability Test Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach’s Alpha</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Accounting Concepts</td>
<td>0.597</td>
<td>Reliabil</td>
</tr>
<tr>
<td>Accounting Education</td>
<td>0.460</td>
<td>Reliabil</td>
</tr>
<tr>
<td>Green Economy</td>
<td>0.502</td>
<td>Reliabil</td>
</tr>
</tbody>
</table>

Source: Research Data, 2023

The results of the classical assumption test on the normality test produce an Asymptotic Significance (2-tailed) value of the analyzed equation model is 0.200 which exceeds the significance level of 0.05. These results indicate that the data used in this study follows a normal distribution which means that the value of the normality assumption is met.

Multicollinearity Test The basis for decision making in the multicollinearity test by looking at the Tolerance and VIF values. If the tolerance value of the variable is greater than 0.10 and the VIF value is smaller than 10.00, then it means that multicollinearity does not occur. From the results of the multicollinearity test, it is known that the tolerance value for the variables of green accounting concepts and accounting education is 0.982 greater than 0.10. While the VIF value for the variables of green accounting concepts and accounting education is 1.018 smaller than 10.00. Therefore, it can be concluded from the results of the test that there are no symptoms of multicholinerity in the regression model.

Autocorrelation testing aims to evaluate whether there is a correlation between confounding errors in period t and confounding errors in previous periods (t-1) in the context of linear regression models. In this study,
autocorrelation was tested using the Durbin Watson test method. From the results of the autocorrelation test conducted, it is known that the Durbin-Watson (DW) value is 1.803. Next this value will be compared with the value of Durbin Watson's table at 5% signification with the formula \( k ; N \). The number of independent variables is 2 or \( k = 2 \), while the number of samples or \( N = 133 \), then \( (k ; N) = (2 ; 133) \), then in the Durbin-Watson table will get a \( d_L \) value of 1.686 and \( d_U \) of 1.747. The Durbin-Watson value \( (DW) \) of 1.803 is greater than the upper bound \( (d_U) \) of 1.747 and less than \((4 - d_U)\) 4 - 1.747 = 2.253. So it can be concluded that there are no problems or symptoms of autocorrelation.

Based on the scatterplot graph in the heteroscedasticity test carried out, it can be concluded that there is no heterokedasticity problem, until a good and ideal regression model can be fulfilled.

**Table 3. Hypothesis Test Results**

<table>
<thead>
<tr>
<th>Type</th>
<th>Unstandardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>17.938</td>
</tr>
<tr>
<td>Green Accounting Concepts</td>
<td>-0.195</td>
</tr>
<tr>
<td>Accounting Education</td>
<td>0.287</td>
</tr>
</tbody>
</table>

*Source: Research Data, 2023*

Based on table 3, the results of the hypothesis test that have been carried out can be explained and the form of multiple linear regression equations, namely;

\[ Y (EH) = 17.938 + (-0.195) KAH + 0.287 PA + \epsilon \]  

If the coefficient has a negative orientation, it indicates that any improvement in the concept of green accounting will have a degrading impact on the green economy. The null hypothesis \( (H_0) \) can be rejected if the value of \( p > |t| \) or the significance of 0.010 is less than 0.05. The results show that the concept of green accounting has a significant influence on the economy.

In addition, the existence of a positive relationship suggests that an improvement in accounting education factors will result in an increase in the green economy. The test result of the null hypothesis \( (H_0) \) is rejected as is the value of \( p > |t| \) or a significance level of 0.000 less than 0.05. The results show that accounting education has a significant impact on the green economy.

From the results of the hypothesis test shows that there is a relationship between the concept of green accounting and green economy. Since the coefficients that measure this relationship have a negative orientation, it suggests that any improvement in green accounting concepts will have a degrading impact on the green economy. Then, in the context of hypothesis testing, the null hypothesis \( (H_0) \) can be rejected if the value of \( p > |t| \) or a significance level of 0.010 less than 0.05. In this case, the significance value of 0.010 is lower than the threshold of 0.05 commonly used in statistical research. This means there is solid evidence to reject the null hypothesis.

The concept of green accounting has a relationship and influence in supporting the green economy because it plays a role in measuring, reporting, and managing sustainability and environmental aspects in economic activities (Demdoum et al.). Green accounting allows companies and organizations to measure the environmental impact of their operations, such as carbon emissions,
natural resource use, and waste. This helps them identify areas where they can reduce their negative impact on the environment (Rounaghi). By implementing green accounting, companies can provide more transparent information to stakeholders, including investors and consumers, regarding their environmental practices. This increases trust and allows stakeholders to make more sustainable decisions (Maama and Appiah; Wiredu et al.). Through green accounting, companies can identify opportunities to improve the efficient use of resources, such as energy, water, and raw materials (Tavita et al.). This can reduce operational costs and help in achieving green economy goals. Green accounting can also support the green economy by attracting sustainable investment. Investors are increasingly interested in investing in companies that have a commitment to sustainable practices and protecting the environment (Dhar et al.; Wiguna et al.). By incorporating green accounting in their business strategies, companies can drive innovation of more environmentally friendly products and services, which can be a new source of economic growth in a green economy (Wanni Anggita et al.).

Thus, the results show that the concept of green accounting has a significant influence on supporting the green economy. In the context of green accounting research, these findings can be interpreted as a positive contribution from the application of green accounting concepts to support sustainable and environmentally friendly economic growth. This is important in the context of the role of green accounting in responding to current environmental challenges and supporting sustainable economic development.

The results of the accounting education variable hypothesis test show that accounting education has a positive influence on the green economy. This means that the higher the level of accounting education, the greater its positive contribution to the development of a green economy. In the context of green accounting, improving accounting education can be considered an important factor in supporting environmental sustainability.

The null hypothesis (H0) test was rejected because of the value of p>|t| or a significance level of 0.000 lower than the commonly used threshold of 0.05. This suggests that there is strong evidence to refute the hypothesis that accounting education does not have a significant impact on the green economy.

Through accounting education, students and professionals in accounting can be given a better understanding of environmental and sustainability issues. They can understand the importance of taking environmental factors into account in economic and business decision making (Wardani et al.). Accounting education can integrate green accounting concepts into its curriculum. This can include learning about how to measure environmental impacts, sustainability reporting, and how to manage environmental aspects in accounting practices (Ramadhani et al.). By preparing students with knowledge of green accounting and sustainability, accounting education helps create a generation of professionals capable of working with companies and organizations in adopting more sustainable business practices (Anden; Ahmed et al.). Students also have the opportunity to conduct research on green accounting-related topics. This can lead to new discoveries that support the development of a green economy. Students who are well educated in accounting can play a role in designing and encouraging public policies that
support green economy practices, such as taxation that benefits the environment or incentives for sustainable investment (Kartika Nuringsih et al.). Accounting professionals trained in green accounting can consult companies to identify opportunities to reduce environmental impact and implement more sustainable business practices.

Accounting education plays an important role in preparing individuals to contribute to supporting the green economy by providing an understanding of the importance of integrating environmental aspects in economic and business decision making (Zulfikar and Mayvita). These results indicate that accounting education has a significant impact on the green economy. In this context, accounting education can be considered a key factor in advancing green accounting practices and contributing to sustainable economic growth. Thus, these findings provide strong support for the importance of accounting education in the context of efforts to encourage a green economy and environmentally friendly development. This reflects the positive contribution that accounting education can make to better green accounting practices and sustainable economic growth.

CONCLUSIONS
From the results and discussion in this study, it can be concluded that the application of green accounting concept affects negatively and significantly in supporting the green economy because the application of green accounting concepts contributes positively to sustainable and environmentally friendly economic growth. Likewise, accounting education has a positive and significant effect in supporting the green economy because it plays an important role in preparing individuals to contribute to supporting the green economy by providing an understanding of the importance of integrating environmental aspects in economic and business decision making. This suggests that accounting education is a key factor in advancing green accounting practices and contributing to sustainable economic growth. These conclusions provide strong support for the importance of green accounting concepts and accounting education in the context of green economic development and environmental sustainability. Both have an important role in responding to today’s environmental challenges and creating environmentally friendly economic growth.

There are several limitations in this study, namely, there are only two variables used in this study, namely the concept of green accounting and accounting education, it is hoped that future research can add other factors that can affect green economic development. Then this research was only carried out within the scope of the University of Muhammadiyah Palopo and only used students as respondents for this research, therefore it is hoped that future research can conduct broader research than this research. Finally, the questionnaire indicator only amounts to 15 items so that it is hoped that further researchers can add other items that are better.
REFERENCE


