

Amelioration of Environmental Sustainability: Green Accounting as Management and Control in the Green Swan Era



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ABSTRACT: This study investigates the impact of green accounting and green swan on the business performance of star hotels in Bali. Employing a multiple linear regression analysis on a sample of 137 star hotels acquired through a Slovin sampling technique, the study finds that green accounting has a positive and significant effect on business performance, whereas green swan has no effect. These findings imply that implementing green accounting can enhance the business performance of star hotels in Bali, highlighting the need for hotels to consider adopting green accounting practices. This study contributes to the existing literature by examining the underexplored effects of green accounting and green swan on hotel business performance in Bali, providing empirical evidence for the benefits of green accounting.

KEYWORDS: Economy; Environment; Green Accounting; Green Swan; Business Performance

I. INTRODUCTION

Green accounting, also known as environmental accounting, has emerged as a crucial tool in promoting sustainability and environmental responsibility within businesses. It involves integrating environmental factors into accounting practices to assess the impact of business activities on the environment and society. Green accounting goes beyond traditional financial reporting by considering the costs and benefits associated with environmental management and conservation (Purwohawati et al., 2020). By incorporating principles of environmental management, green accounting aims to support business continuity and sustainable development (Yoga & Sastri, 2020). Studies have shown that the implementation of green accounting practices can have a positive effect on financial performance, particularly in industries like pharmaceuticals and chemicals (Rahman & Islam, 2023). By mediating the effects of energy efficiency, green accounting can contribute to enhancing environmental performance and promoting. Furthermore, green accounting has been linked to improved environmental performance and increased profitability by allocating environmental costs consistently, thereby aligning economic and environmental objectives (Ardiana et al., 2023). The concept of green accounting serves as a bridge between environmental benefits and costs in economic decision-making processes. It not only provides valuable environmental information to stakeholders but also facilitates environmental management and communication with the community regarding a company's operational activities (Pardomuan Siregar & Satria M, 2023). Green accounting practices are defined by the comprehensive reporting of financial, social, and environmental activities, which offer integrated and relevant accounting information to aid in decision-making related to economic, social, and environmental factors (Ashari & Anggoro, 2021)). In the context of the green swan era, where environmental sustainability is paramount, green accounting plays a crucial role in promoting eco-efficiency, competitive advantage, and sustainable business practices (Pertama et al., 2022). It enables businesses to manage environmental costs effectively, improve environmental performance, and enhance overall organizational sustainability. By aligning green accounting with organizational strategies and green technology innovation, businesses can drive environmental sustainability and contribute to a more sustainable future (Vargas-Hernandez et al., 2023).

In the contemporary business landscape, the imperative of environmental sustainability has become a focal point for organizations across various industries. The hospitality and tourism sector, particularly in destinations like Bali, faces increasing

Amelioration of Environmental Sustainability: Green Accounting as Management and Control in the Green Swan Era

pressure to adopt green practices to mitigate environmental impacts and enhance competitiveness. Green accounting, as a management and control tool, has emerged as a strategic approach for businesses to navigate the challenges posed by the urgent need for sustainable development (Saputra et al., 2021). The theoretical underpinning of this study draws on the intersection of green accounting, green business strategies, and sustainable development. Green accounting principles guide organizations in integrating environmental considerations into their financial decisions, thereby fostering sustainable practices. The alignment of green motives with business strategies is crucial for achieving sustainable development in the hospitality and tourism industry (Yousaf et al., 2021). Moreover, the adoption of green human resource management practices contributes to environmental performance, creating a win-win situation for organizations and stakeholders (Yusoff et al., 2020). Previous research has highlighted the significant impact of green practices on hotel performance. Studies have shown that implementing green supply chain management positively influences economic and operational performance in the hospitality sector (Masa'deh et al., 2017). Certification and documentation of green hotel practices, as evidenced in The Apurva Kempinski Bali, demonstrate a commitment to sustainable development across various operational aspects (Widiana et al., 2022). Additionally, green hotel promotion strategies, such as those analyzed through SWOT analysis, play a pivotal role in enhancing environmental sustainability and competitive positioning (Astawa et al., 2022). This study aims to investigate the influence of green accounting on the business performance of star-rated hotels in Bali, as well as the impact of the Green Swan phenomenon on their operations. By focusing on the unique context of Bali's hospitality industry, this research seeks to contribute to the existing literature by examining the specific implications of green accounting practices and the Green Swan concept on hotel performance in a renowned tourist destination. Building on the theoretical foundations and prior research, the following hypotheses are proposed:

1. H1: Green accounting practices positively influence the business performance of star-rated hotels in Bali.
2. H2: The Green Swan phenomenon significantly affects the business performance of star-rated hotels in Bali.

II. METHOD

The research design that the author will use is descriptive research. In descriptive design, the author seeks to find a phenomenon under study. This research method will provide detailed results of the research object. At this stage, the author prepares everything, such as identifying and formulating problems, collecting literature data, making a list of questions, determining objects and samples, preparing questionnaires as quantitative data (Imam Ghazali, 2011). Furthermore, the author will conduct data collection and data processing. The data collection stage will be carried out as follows:

1. Distributing questionnaires at star hotels in Bali
2. Recording survey results through questionnaires
3. Recording the results of the questionnaire

At this stage the author compiles a report of the results of the research that has been done. The author prepares the data that has been recorded, attaches the results of the questionnaire and describes the results of the analysis and lists the results. In this research, the author takes the title "Amelioration of Environment Sustainability: Green Accounting as Management and Control in the Green Swan Era". To facilitate understanding of the status of the variables studied, the variable identifications in this research are:

1. Independent Variables: Green Accounting (X1), Green Swan (X2);
2. Dependent Variable: Business Performance (Y)

The data collection technique in this research is to use a questionnaire. In order to gather information for this study, a questionnaire was used. To protect participants' anonymity and privacy, this study's questionnaire makes use of pre-designed, pre-distributed questions sent via email. Multiple regression analysis, implemented using the SPSS software, will be the analytical approach used in this study, in accordance with the issues to be researched. Several factors led to the decision to utilize the SPSS software, including the following: the ability to do marketing research; proper representation of statistical data gathered; and correct data processing and documentation. The author used multiple regression analysis, a popular statistical method that greatly aids in decision-making (Imam Ghazali, 2011), in this study. Assuming the dependent variable follows a probabilistic distribution, one of the two variables used in regression analysis will be this assumption. In repeated sampling, the independent variable is assumed to have a constant value. The writers respond to the study goals by outlining the research findings in this part. Since the information is presented as statements and does not invite further interpretations, it is essential that it adheres to the study goals and makes use of simple, straightforward language to ensure easy comprehension.

Amelioration of Environmental Sustainability: Green Accounting as Management and Control in the Green Swan Era

III. RESULT AND DISCUSSION

Model Feasibility Test / Godness of fit (Test - F)

The - F test aims to show whether all the independent variables included in the model have a joint influence on the dependent or dependent variable (Ghozali, 2018). The basis for decision making is by comparing the significance level of 0.05. If the probability value ≤ 0.05 , it can be said that there is a Fit model with data. Based on table 1 above, it is obtained that the F-count value is 135.511 with a significance value of 0.000 which is smaller than 0.05. This means that overall the variables X1 and X2 have an effect on the variable; Y. Then the regression model is said to be Fit or feasible to test further data. The goodness-of-fit test, also known as the F-test, is a statistical method used to determine whether the independent variables included in a regression model jointly have a significant influence on the dependent variable. In this case, the dependent variable is labeled as "TOTAL Y," and the independent variables are denoted as "TOTAL X1" and "TOTAL X2." The results of the goodness-of-fit test are presented in Table 1. The table includes the sum of squares, degrees of freedom (df), mean square, F-value, and significance level (Sig.). The F-value, which represents the ratio of the variance explained by the model to the unexplained variance, is used to determine the significance of the model. Interpreting the results: The F-value is 135.511; The significance level (Sig.) is 0.000, which is smaller than the conventional threshold of 0.05. Based on these results, the following conclusions can be drawn:

1. Significance of the F-test: The F-value of 135.511 indicates that the regression model's explanatory power is significant. This means that there is strong evidence to suggest that at least one of the independent variables (TOTAL X1 and TOTAL X2) has a significant effect on the dependent variable (TOTAL Y).
2. Joint Influence of Independent Variables: Since the significance level (Sig.) is less than 0.05, we reject the null hypothesis that none of the independent variables have an effect on the dependent variable. Instead, we accept the alternative hypothesis that there is a joint influence of the independent variables on the dependent variable.
3. Model Fit: Therefore, the regression model is deemed fit or feasible for further testing and analysis with additional data. The variables TOTAL X1 and TOTAL X2 collectively contribute significantly to explaining the variation in the dependent variable TOTAL Y.

In summary, the F-test results indicate that the regression model is statistically significant, suggesting that the independent variables (TOTAL X1 and TOTAL X2) have a joint influence on the dependent variable (TOTAL Y). This finding provides support for further analysis and interpretation of the relationship between the variables in the model.

Table 1. Godness of Fit Test Results (F-test)

ANOVA ^a					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2574.438	2	1287.219	135.511	.000 ^b
Residual	959.399	101	9.499		
Total	3533.837	103			

a. Dependent Variable: TOTAL Y

b. Predictors: (Constant), TOTAL X2, TOTAL X1

Source: Data Analysis with SPSS, 2024

Significance Test of Partial Regression Coefficient (Test - t)

The - t test aims to show how far the influence of an independent variable individually in explaining the variation in the independent variable (Ghozali, 2018). If the significant level is smaller than 0.05, this means that the independent variable has a partial effect on the dependent variable. The significance test of partial regression coefficients, often denoted as the t-test, is used to assess the individual influence of each independent variable in explaining the variation in the dependent variable. In this context, the independent variables are denoted as TOTAL X1 and TOTAL X2, while the dependent variable is labeled as TOTAL Y. The results of the significance test of partial regression coefficients are presented in Table 2, which includes the unstandardized coefficients, standard errors, standardized coefficients (Beta), t-values, and significance levels (p-values) for each independent variable. Interpreting the results:

1. TOTAL X1: With an unstandardized coefficient (B) = 0.463, we may deduce that the dependent variable, TOTAL Y, is predicted to rise by 0.463 units for every one-unit increase in TOTAL X1. Even after accounting for confounding factors, TOTAL X1's standardized coefficient (Beta) of 0.864 indicates a robust positive effect on TOTAL Y. There is a statistical

Amelioration of Environmental Sustainability: Green Accounting as Management and Control in the Green Swan Era

significance (p-value = 0.000) that is less than 0.05, and a t-value of 16.338 linked to TOTAL X1. There is a statistically significant relationship between TOTAL X1 and TOTAL Y, as shown by the fact that the p-value is less than 0.05.

- TOTAL X2: The dependent variable, TOTAL Y, is predicted to drop by 0.028 units for every one-unit rise in TOTAL X2, according to the unstandardized coefficient (B) of -0.028. After accounting for all other factors, TOTAL X2 has a small negative effect on TOTAL Y, as shown by its standardized coefficient (Beta) of -0.068. With a t-value of -1.281 and a p-value of 0.203, both more than 0.05, TOTAL X2 is statistically significant.

Table 2 Significance Results of Partial Regression Coefficients (Test - t)

Coefficients ^a						
Unstandardized Coefficients				Standardized Coefficients		
B		Std. Error	Beta			
	(Constant)	3.231	3.435		.941	.349
	TOTAL X1	.463	.028	.864	16.338	.000
	TOTAL X2	-.028	.022	-.068	-1.281	.203

a. Dependent Variable: TOTAL Y

Source: Data Analysis with SPSS, 2024

TOTAL X2 does not have a statistically significant partial influence on total Y as the p-value is bigger than 0.05, which means that it is not statistically significant. In conclusion, the t-test findings show that TOTAL X1 has a considerable positive impact on TOTAL Y and that TOTAL X2 has no meaningful influence on TOTAL Y since its effect is not statistically significant. These findings provide insights into the individual contributions of TOTAL X1 and TOTAL X2 in explaining the variation in TOTAL Y, guiding further interpretation and analysis of the regression model.

Based on table 2, it can be explained as follows:

- The Green Accounting variable (X1) has a t value of 16,338 with a significance value of 0.000 where the value is smaller than 0.05 so that H1 is accepted.
- The Green Swan variable (X2) has a t value of -1.281 with a significance value of 0.203 where the value is greater than 0.05 so that H2 is rejected.

The results in this study indicate that the application of green accounting has a positive and significant effect on business performance. The results of this research are in line with research (Setiadi, 2021) which states that the business performance of a company is directly proportional to the calculation of environmental costs carried out by a company. The results in this study found that environmental damage marked by the presence of green swan does not have a significant impact on the business performance of a company.

IV. CONCLUSION

Based on the objectives in the introduction, the purpose of this research is to test whether green accounting affects the business performance of an industry, and of course test the effect of green swan on business performance. From these objectives, of course we started to conduct research by visiting and distributing questionnaires as many as 100 stars in Bali. Of course this research is not easy, but here we are assisted by PHRI Bali in managing and recording all hotels in Bali. From the research objectives, we can also conduct research whether all the hotels we visited have implemented green accounting or do not understand what green accounting is. From this we indirectly carry out education regarding the importance of implementing green accounting in this green swan era. as we all know that currently there are many unexpected climate changes that can have a negative impact on the industry. So it can be concluded that the research objectives get the following results: The Green Accounting variable (X1) has a t value of 16,338 with a significance value of 0.000 where the value is smaller than 0.05 so that H1 is accepted; The Green Swan variable (X2) has a t value of -1.281 with a significance value of 0.203 where the value is greater than 0.05 so that H2 is rejected.

REFERENCES

- 1) Ardiana, M., Agustina, R., & Pertiwi, D. A. (2023). Increasing Business Eco-Efficiency and Competitive Advantage through the Application of Green Accounting. *Buletin Penelitian Sosial Ekonomi Pertanian Fakultas Pertanian Universitas Haluoleo*, 25(1), 1–8. <https://doi.org/10.37149/bpsosek.v25i1.363>
- 2) Ashari, M. H., & Anggoro, Y. (2021). The Effect of Green Accounting Practices and Organizational Size in Business Sustainability if Public Hospitals. *Jurnal Akuntansi*, 11(1), 1–15. <https://doi.org/10.33369/j.akuntansi.11.1.1-15>
- 3) Astawa, I. K., Widhari, C. I. S., Budarma, I. K., & Mudana, I. G. (2022). *Green Hotel Promotion Strategy in Bali: A Study Using SWOT Analysis*. <https://doi.org/10.2991/assehr.k.220301.075>
- 4) Imam Ghozali. (2011). *Aplikasi Analisis Multivariate Dengan Program SPSS*. Badan Penerbit Universitas Diponegoro.
- 5) Masa'deh, R., Alananzeh, O., Algiatheen, N., Ryati, R., Albayyari, R., & Tarhini, A. (2017). The Impact of Employee's Perception of Implementing Green Supply Chain Management on Hotel's Economic and Operational Performance. *Journal of Hospitality and Tourism Technology*, 8(3), 395–416. <https://doi.org/10.1108/JHTT-02-2017-0011>
- 6) Pardomuan Siregar, E. T., & Satria M, B. N. (2023). The Effect of Green Finance on Stock Price Volatility. *Eduvest - Journal of Universal Studies*, 3(1), 83–95. <https://doi.org/10.36418/eduvest.v3i1.734>
- 7) Pertama, S. P. E., Astawa, I. P., & Mudana, I. G. (2022). The Implementation of Environmental Management Accounting and Sustainable Tourism in Tourism Villages in Bali. *International Journal of Glocal Tourism*, 3(1), 28–37. <https://doi.org/10.58982/injogt.v3i1.172>
- 8) Purwuhawati, Y., Robiani, B., & Meutia, I. (2020). Green Accounting Practice on Corporate Performances. *Modern Economics*, 22(1), 84–89. [https://doi.org/10.31521/modecon.V22\(2020\)-13](https://doi.org/10.31521/modecon.V22(2020)-13)
- 9) Rahman, M. M., & Islam, M. E. (2023). The Impact of Green Accounting on Environmental Performance: Mediating Effects of Energy Efficiency. *Environmental Science and Pollution Research*, 30(26), 69431–69452. <https://doi.org/10.1007/s11356-023-27356-9>
- 10) Saputra, K. A. K., Manurung, D. T. H., Rachmawati, L., Siskawati, E., & Genta, F. K. (2021). Combining The Concept of Green Accounting with The Regulation of Prohibition of Disposable Plastic Use. *International Journal of Energy Economics and Policy*, 11(4), 84–90. <https://doi.org/10.32479/ijeep.10087>
- 11) Vargas-Hernandez, J. G., Vargas-González, O. C., & Rodríguez-Maillard, C. (2023). Organizational Environmental Sustainability Business Model in Green Technology Innovation. *Journal of Business Ecosystems*, 4(1), 1–16. <https://doi.org/10.4018/JBE.320483>
- 12) Widiana, I. K. A., Astawa, I. K., Triyuni, N. N., & Chaerunnisah, I. U. (2022). Documenting Green Hotel Practices at The Apurva Kempinski Bali. *International Journal of Green Tourism Research and Applications*, 4(2), 58–67. <https://doi.org/10.31940/ijogtra.v4i2.58-67>
- 13) Yoga, I. G. A. P., & Sastri, I. I. D. A. M. (2020). Green Accounting: An Environmental Pollution Prevention Effort to Support Business Continuity. *Jurnal Ekonomi & Bisnis JAGADITHA*, 7(2), 128–137. <https://doi.org/10.22225/jj.7.2.2488.128-137>
- 14) Yousaf, Z., Radulescu, M., Sinisi, C. I., Serbanescu, L., & Paunescu, L. M. (2021). Harmonization of Green Motives and Green Business Strategies towards Sustainable Development of Hospitality and Tourism Industry: Green Environmental Policies. *Sustainability*, 13(12), 6592. <https://doi.org/10.3390/su13126592>
- 15) Yusoff, Y. M., Nejati, M., Kee, D. M. H., & Amran, A. (2020). Linking Green Human Resource Management Practices to Environmental Performance in Hotel Industry. *Global Business Review*, 21(3), 663–680. <https://doi.org/10.1177/0972150918779294>



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