

METRICS FOR GREEN ACCOUNTING PRACTICES IN RURAL GHANAIAN BANKS

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ABSTRACT

The study developed metrics to assess green accounting practices in Ghana's rural and community banks. The study used a cross-sectional design as the research design, based on the legitimacy, stakeholder, and intergenerational equity theories. The survey purposely selected ten rural and community banks from three different geographical regions of Ghana. Data was collected from 30 individuals using self-constructed questionnaires, involving 3 management personnel from each bank. The data passed through validation and reliability testing. The study concludes that measuring green accounting through primary data obtained from questionnaires centered on the construct of environmental reporting and disclosure is both valid and reliable. Three evaluated elements utilizing this scale include disclosure of information regarding measures taken to mitigate environmental impact; disclosure of details about spending on environmental protection; and reporting environmental activities in annual reports directed at stakeholders. This research contributes to methods for measuring green accounting.

KEYWORDS: - Green Accounting; Environmental Reporting and Disclosure; Environmental Impact; Environmental Protection; Reporting Environmental Activities.

1.0 INTRODUCTION

Green accounting has gathered various proxies in literature, such as 'environmental accounting,' 'sustainable accounting,' and 'natural resource accounting.' Affum et al. 2025 utilized these terms to source information from peer-reviewed literature via academic databases in their research on green accounting in mining communities in Ghana. Research conducted by Maama (2021) considered green accounting to be a form of environmental reporting in relation to ESG. Green accounting is defined as that aspect of accounting that incorporates environmental factors into financial reporting in order to enrich information for use by stakeholders (Dhar et al. ,2022;Gonzalez & Peña-Vinces, 2023; Latifah & Soewarno, 2023; Pratiwi et al., 2020; Rahman & Islam, 2023; Sukmadilaga et al. 2023). Rural and Community Banks (RCBs) in Ghana have adopted green accounting due to their corporate social responsibility activities (Asiedu et al.,

2020). However, the methods for measuring green accounting have not been standardized and do not align with the consistency principles of accounting. Until the recent introduction of *IFRS S1 - General Requirements for Disclosure of Sustainability-Related Information* and *IFRS S2 - Climate Related Disclosures*, which provided a green light for green accounting, the measurement of green accounting had been based on tangible but unstandardized assumptions. Even though efforts have been made to address this issue through content analysis of financial statements aimed at assessing environmental reporting quality based on how well the information aligns with the qualitative characteristics outlined in the guiding principles of the Integrated Reporting Framework (as demonstrated in studies by Maama, 2021, and Maama & Appiah, 2019), the measurement metrics of green accounting are still entirely unresolved.

This research endeavors to reduce the disparity in green accounting measurement by exploring tested constructs related to environmental reporting and disclosures, using empirical evidence from Ghana's rural banking sector. This empirical perspective introduces two dynamics from the emerging literature into the Ghanaian context. Initially, it highlights the essential function of environmental reporting within banking, as Dutta (2025) stated that the sector affects the environment via its operations and financial choices. Secondly, it raises the idea of green banking, and green accounting is impliedly following its spread in banking practice. Dutta (2025) proposed that green banking encompasses the implementation of environmentally friendly practices, policies, and strategies by financial institutions to foster sustainability and reduce environmental risks.

The research backs IFRS regarding sustainability and environmental awareness, aligning it with the United Nations agenda represented by the Sustainable Development Goals. The study highlights the Ghanaian contexts of environmental issues in ESG from a global perspective, intended for researchers, academia, and the scholarly community. Globally, businesses are increasingly acknowledging the significance of environmental, social, and corporate governance (ESG) factors in fostering sustainable and ethical corporate practices (Sarpong et al., 2023).

2.0 THEORETICAL FOUNDATION

2.1 Legitimacy Theory

The core tenets of legitimacy are based on the premise that an entity's actions align with certain socially established norms, values, beliefs, and definitions (L'Abate et al., 2023). According to the theory's developers, Dowling & Pfeffer (1975), a company is deemed legitimate when the community views it as just and deserving of support. This theory forms the basis for explaining practices of green accounting. Green accounting efforts aim to bolster corporate sustainability. In order to exist over the long term, companies must ensure that their activities continue to be seen

as legitimate by the community. Community support is essential for companies' sustainability, survival, growth, and reputation (Maama & Appiah, 2019).

2.2 Stakeholder Theory

The concept of stakeholder, highlighting the necessity for companies to have the backing of both shareholders and stakeholders to survive and thrive, was first introduced by the Stanford Research Institute in the 19th century (Ozdemir et al., 2023). This is one of the theories used to elucidate green accounting. Information is the essential element in developing and growing dialogue between stakeholders and companies. Stakeholders' interests are endangered by information asymmetry. Green accounting provides stakeholders with enhanced information.

2.3 Theory of Inter Generational Equity

The inter generational equity principle acknowledges that both the current generation and future generations have a right to a healthy environment (Quising, 2023). Maama and Appiah (2019) used the theory of inter generational equity to explain green accounting practices in Ghana. This theory has a strong bearing on sustainable development which has been endorsed by the United Nations and implemented through Sustainable Development Goals (SDGs).

3.0 METHODOLOGY

A cross-sectional study was employed as the research design. The survey purposefully selected ten rural and community banks across three geographical regions of Ghana. With 3 management personnel from each bank, the total number of respondents was 30. The tool for the survey was made up of self-constructed questionnaires.

The development of the questionnaires involved collaboration with four specialists in accounting. The experts guaranteed that the constructs of the questionnaires were completely representative of what they intended to measure, that the content of the constructs was appropriate for their aims, and that the results accurately measured the specific outcome they were meant to measure. Upon fulfilling the ethical consideration, the questionnaires were distributed personally to the Banks. The researcher personally collected the completed questionnaires from the banks. Respondents' perceptions of two proxies for green accounting—environmental activities and environmental reporting and disclosures—were measured using a 5-point Likert scale.

The average variance extracted (AVE) method was employed to evaluate the construct validity of the questionnaires concerning the interval data. Initially, the interval data in the dataset concerning green accounting proxies—namely environmental activities, reporting, and disclosure—were analyzed for factor loading in a factor analysis. Subsequently, the convergent

validity tests were conducted along with reliability assessments using Cronbach's Alpha and composite reliability estimates.

4.0 RESULTS AND DISCUSSIONS

4.1 Findings

The study's questionnaire response rate was 100%. Table 1 below shows the results of the AVE. Every construct of environmental activities as a proxy for green accounting was eliminated because its factor loading did not exceed the threshold of > 0.5. Environmental reporting and disclosure served as the proxy of green accounting derived from the test results. The AVE of 0.673 (calculated as the average of the square of their associated factor loading) for all three constructs in the questionnaires (ERD1, ERD2, and ERD3) measuring environmental reporting and disclosure is above the threshold of > 0.5, indicating their validity. The specifics of the constructs were as follows:

1. ERD1: My Bank discloses information on environmental impact mitigation measures.
2. ERD2: My Bank discloses information on environmental protection expenditures.
3. ERD 3: My Bank reports on environmental activities in annual reports to stakeholders.

Table 1: Factor Analysis

Variable	Factor Loading	Square of Factor Loading	Average Variance Extracted (AVE)
Green Accounting			
ERD1	0.881	0.776	
ERD2	0.796	0.634	
ERD3	0.78	0.608	0.673

Source: Author's Own Work(2024)

Table 2 below presents the results of the convergent validity test of the survey, which assesses construct validity. The KMO measure of sampling adequacy and Bartlett's test of sphericity for the chosen variables were also shown in Table 2. Both the KMO measure of sampling adequacy and Bartlett's test of sphericity met the accepted threshold. The findings showed that the questionnaire variables for assessing green accounting were valid and acceptable.

Table 2: Convergent Validity

Variable/Construct	KMO Measure of Sampling Adequacy	Bartlett's Test of Sphericity	Average Variance Extracted	Remarks
Green Accounting				
Environmental Reporting and Disclosure	0.767	73.251(0.001)	0.673	Accepted
ERD1				
ERD2				
ERD3				

Author's Own Work (2024)

To assess the internal consistency of the scale items, the Cronbach's Alpha and composite reliability estimates were calculated using the survey data set. The reliability output presented in Table 3 below demonstrates that all items in the study-selected scale achieved the necessary Cronbach's Alpha threshold of ≥ 0.7 and the minimum composite reliability threshold of 0.7. Thus, the items measured on the study's scale were dependable.

Table 3 : Reliability Output

Variables	Number of Items	Cronbach's Alpha	Composite Reliability	Remarks
ERD	3	0.938	0.86	Accepted

Author's Own Work (2024)**4.2 Discussions**

The findings demonstrated that green accounting can be measured validly and reliably through questionnaire administration focused on the construct of environmental reporting and disclosure. This involves seeking respondents' perceptions on a Likert scale regarding three items: the disclosure of information on environmental impact mitigation measures, the disclosure of information on environmental protection expenditures, and the reporting of environmental activities in annual reports to stakeholders.

These findings are consistent with Maama's (2021) research, which regarded green accounting as a type of environmental reporting. The results also align with IFRS S1 - General Requirements for Disclosure of Sustainability-Related Information and IFRS S2 - Climate Related Disclosures. Additionally, the results endorse the method of evaluating green accounting via content analysis of financial statements to gauge environmental reporting quality based on the degree of

alignment with the qualitative characteristics specified in the guiding principles of the Integrated Reporting Framework (as shown in research by Maama, 2021, and Maama & Appiah, 2019)

5.0 CONCLUSIONS

The study concludes that it is valid and reliable to measure green accounting through primary data obtained from questionnaires focused on the construct of environmental reporting and disclosure. Three evaluated elements using this scale are: disclosure of information regarding measures taken to mitigate environmental impact; disclosure of details about spending on environmental protection; and reporting environmental activities in annual reports directed at stakeholders. As a result, the study offers a new approach to measuring green accounting.

6.0 RECOMMENDATIONS FOR FURTHER STUDIES

The developed metrics should be applied in the banking sector and replicated in other sectors for comparative studies.

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