



## The role and perception of accountants on environmental management accounting in an emerging market: Study on South Africa's companies

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**Abstract.** *This research explores the role and views of accountants in environmental management accounting (EMA) and environmental performance. The study relied on a survey of 86 chief finance officers, accountants, and finance managers from the top 40 listed South African companies. The chief finance officers, accountants, and finance managers confess that they lack understanding on in what way environmental issues can be incorporated into EMA. In addition, the professionals disclose that EMA has not had ample consideration by their companies. This suggests that a limited involvement by the accountants in EMA in South Africa exists. Hence, the sampled chief finance officers, accountants, and finance managers indicated that they were not sure of their potential responsibility. This shows that South African accountants are noticeably absent from participating in EMA. This has been ascribed to EMA being a new branch of accounting, their little aptitude in environmental issues, and also the voluntary nature bestowed on EMA practices. Therefore, this paper will increase the literature on the views of accountants on EMA from a developing country's perspective.*

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## INTRODUCTION

The global community is facing sustainability challenges such as ecological impairment, increased waste, climate change, and excessive resource consumption. For that reason, many organizations are facing mounting pressure to take corrective action to reduce the negative impacts of operational activities on the natural environment. One such approach to improving environmental performance is the involvement of accountants to provide accurate environmental information for corporate decision-makers. However, the conventional accounting system fails to provide the information pertaining to environmental costs and therefore is unable to recognize environmental effects. Hence, professional accounting bodies such as CIMA (2019) and IFAC (2005) have for a long time encouraged accountants should play a leading role in applying environmental accounting within organizations. But, in contrast, current literature on environmental accounting research has repeatedly ignored this subject area. A new branch of accounting called Environmental Management Accounting (EMA) emerged to address the limitation of the conventional accounting system.

EMA has been defined as “the environmental performance and economic performance through the development and implementation of appropriate environmental-related accounting systems and practices” (Burritt, 2002). EMA has specifically been introduced to help companies manage natural resources, energy,

and pollution. Literature is awash with the proposition that EMA plays a significant role in improving sustainability. In these circumstances, the role and perception of accountants on EMA are imperative to ensure that weaknesses, strengths, and recommendations are identified to improve the EMA application from the perspective of accountants. Therefore, this study provides a basis for identifying areas of improvement to improve EMA usage from an accountant standpoint.

Academic literature on EMA suggests that accountants have to play a fundamental role in conserving the environment in the corporate sector. However, the extant literature on EMA states otherwise. Currently, there is limited participation by accountants in environmental management in the corporate sector (Gibassier and Alcouffe, 2018; Lodhia, 2000). This implies that accountants are not actively partaking in creating changes in organizational practices through using their expertise in environmental management. Instead, accountants have been highly focused on profit maximization. Gibassier and Alcouffe (2018) posit that accountants have so far poorly collected data on environmental issues.

Lodhia (2000) defended this premise by stating that “accountants are not environmentalists”. This then raises the question of why accountants have not placed additional importance on financial aspects of environmental issues. Hence, Phan *et al.* (2017) and Çaliskan (2014) argue that accountants, more importantly in developing countries, are unaware of their contribution to environmental performance and management. This implies that the accountant is expected to be trailing behind on environmental management if they remain on this trajectory of not being proactive in reacting to varying expectations.

Accountants’ perception of EMA remains a research void in contemporary literature. This suggests that accountants’ attitudes or acceptance of environmental accounting remain unknown in emerging markets such as South Africa. This might be explained by the fact EMA is still a new branch of accounting (Chaturangani and Madhusanka, 2019). Understanding accountants’ perceptions of EMA from an emerging market perspective is critical in shaping the course of action or intervention that the corporate sector needs to adopt, such as a form of training.

## **LITERATURE REVIEW**

Contemporary literature suggests that the accountant may play a critical role in the effective and efficient adoption of EMA through getting the conventional roles of accounting to the environmental management process. Gibassier and Alcouffe (2018) referred to accountants as “game-changers,” while Schaltegger (2018) views them as “change agents”. The accountant can help in establishing environmental information related to decision-making and organizing EMA that improves the communication of results in a logical form. Currently, accountants record and hide environmental costs such as waste management expenditure, recycling costs, and environmental training costs in other general overhead accounts in the general ledger. To improve environmental performance, these costs need to be recognized, allocated, and recorded as environmental costs to successfully bring these costs to the attention of management. This is only possible through using EMA. Wilmshurst and Frost (2001) argue that the accountant can play a part in managing environmental sustainability through the environmental audit. In this way, the accountant is able to provide input concerning “verification of financial data, cost-benefit analysis and implementation of EMA to capture the required environmental information” (Wilmshurst and Frost, 2001).

Lodhia (2000) explored the readiness of accountants in Fiji to handle environmental accounting within the conventional accounting framework. The research study found that Fiji accountants are noticeably lacking from participating in EMA in their organizations. The study attributed the results to the absence of capability in environmental matters and the voluntary nature surrounding the current EMA practice. Hence, Lodhia (2000) recommended a proactive reaction from the accounting profession and academics in Fiji. This was opined to increase the limited academic literature on EMA in emerging markets and provide a valuable framework for further studies.

Wilmshurst and Frost (2001) used 500 top listed Australian companies to carry out a survey on chief financial officers and chief executive officers to investigate the role of the accountant in environmental management systems (EMS). The study identifies that there is limited involvement of accountants in EMS. This might imply an absence of understanding of the likely role an accountant could execute towards EMA and environmental management. Hence, Wilmshurst and Frost (2001) posit that there is a gap between the summative observations of their findings and the academic literature regarding the role of the accountant in environmental management.

Gibassier and Alcouffe (2018) note that professional accounting bodies have been time immemorial encouraging accountants to be at the forefront of implementing sustainability accounting, but all together, empirical results have demonstrated that they are not involved. In addition, Gibassier and Alcouffe (2018) suggested that future research should attempt to understand the role of accountants or “game-changers” within the corporate sector. The authors further argue that scholars are yet to research how accountants can bring the “accounting profession closer to its potential role in sustainability”. This is vital in unearthing how accountants’ roles can be expanded and ascertaining how future accountants can be educated and developed to fit into the present-day organization. This means that the role of accountants in protecting the environment remains a research void, particularly in emerging markets such as South Africa. This is critical to identify if the future “accountant for sustainability” ought to be “a better-trained accountant, a hybrid accountant or an alien accountant?” (Dixon *et al.*, 2004). Schaltegger (2018) and Bebbington *et al.* (1994) highlight that these are puzzles that are still to be disentangled in the present-day world.

Thus this study answers calls by Wilmshurst and Frost (2001), and Gibassier and Alcouffe (2018) to conduct additional studies on the role and views of accountants on EMA. This is important because accountants have been touted as the lubricants to make EMA operational and functional. This highlights that without understanding the views of accountants on EMA, it is difficult to guarantee the success of EMA implementation within the corporate sector. Hence, this study attempts to understand the role and perceptions of accountants in the top 40 listed companies in South Africa. Despite an ample discussion concerning the possible function of the accountant in EMA there has been little evidence establishing the real role accountants are occupying and the level of participation in EMA. To avail a better understanding of the accountants’ perception on EMA, in the South African context, this study attempts to provide first-hand evidence.

## **EXPERIMENTAL SECTION**

### **Study Design**

The study uses a questionnaire survey of Chief Financial Officers (CFOs), Accountants, and Financial managers of the top 40 companies listed on the Johannesburg Stock Exchange in South Africa. In total, 110 questionnaires were sent, and 86 were returned. The survey concentrated on EMA issues and the participation of the CFOs, accountants, and financial managers in environmental management. The survey content was grounded on reviewing prior literature on EMA.

This study employs a questionnaire survey to collect data from CFOs, Accountants, and Financial managers of the Top 40 listed companies in South Africa. An open-ended questionnaire survey was used so as to permit respondents to answer in the fashion they choose. This evades influencing respondents’ feedback. The main purpose of the questionnaire survey was to collect non-numeric data on South African companies’ environmental management and EMA practices. Therefore, the survey ignored collecting data on companies’ profiles. This provides a chance for future research to avail an assessment of company features that are linked with the implementation of EMA.

**Results**

***Environmental Issues in the Management Accounting***

The initial phase was to probe CFOs, accountants, and financial managers to see if environmental issues were contained within their roles. If included, what roles are they. The findings are summarized in Table 1. The most known role within the accounting profession in environmental accounting is investment appraisal decisions and integrating reporting. This might show the limited involvement of the accounting professionals in recognition of environmental costs in the top 40 listed companies in South Africa. This shows the importance of the necessity to understanding the growing potential effect environmental issues may have emerged from accountants’ roles. Table 1 shows that companies are concentrating on activities that increase corporate profitability and are less inclined to integrate present environmental issues into the existing accounting system.

Table 1 Environmental issues in a management accounting role

Environmental Issues in the Management Accounting	Percentage of Participants (%)
Investment appraisal	71
Integrating reporting	63
Internal reporting	44

***The Implementation of EMA Practices***

The questionnaire also questioned the CFOs, accountants, and financial managers on what specific EMA practices have been developed within their companies. The findings are depicted in Table 2. The major areas established by the participants were production processes, waste elimination, energy efficiency, pollution minimization, and water management. This submits that a variety of particular environmental issues are accounted for in the companies’ accounting system. However, the companies are using traditional management accounting systems to integrate these EMA practices.

Dorweiler and Yakhou (2005) and Homan (2016) argue that the traditional management accounting system is not an efficient system to account for environmental issues because it hides environmental costs in other overhead accounts in the general ledger. This keeps the environmental information away from the key corporate decision-makers. Gray and Babbington (2007), and Qian *et al.* (2018) posit that in this situation, managers have no motivation to reduce the environmental impacts. The adoption of the EMA practices is directly linked to environmental regulations or cost savings. This echoes findings by Sari *et al.* (2020) that companies are compelled to adopt EMA due to potential financial benefits attached to the system.

Table 2 EMA practices

Environmental Issues in The Management Accounting	Percentage of Participants (%)
Wastes elimination	64
Energy efficiency	58
Pollution minimization	54
Water management	49
Production processes	42

***CFOs, Finance Managers, and Accountants’ Views on EMA***

CFOs, accountants, and finance managers were surveyed to acquire an insight into their view regarding EMA and the involvement of the accountant in the company’s strategy to environmental challenges. The CFOs, accountants, and finance managers agree that they are not sure how accounting can be integrated into EMA or

that the matter has not been given adequate attention by the company. The participants' subjective opinions are reflected in Table 3.

Table 3 CFOs, Accountants, and Finance Managers' views on environmental matters

Environmental matters	1	2	3	4	5
Accountant should assist with environmental issues	15	43	21	15	6
Accountant has a critical duty to advocate for environmental protection	13	37	10	31	7
Companies environmental effects both positive and negative, have to be incorporated in the financial statements	8	12	17	29	34
Environmental information is vital to users of annual reports	9	23	44	18	6
Environmental costs have to be reflected as costs or benefits in the financial reports	14	26	46	13	1
Disclosure of environmental information is vital to users of annual financial statements	13	17	19	16	35
Environmental disclosure must be a compulsory element of the annual report	11	24	47	12	6

1= strongly disagree, 3= neutral, 5= strongly agree; results as % of participants

A large number of participants (58%) did not accept as true that accountants should help with environmental issues. 40% of the participants believe that it is not the role of accounting or accountants to protect the environment. This shows that accountants in South Africa do not adequately understand the importance of environmental accounting. Ten percent of the participants did not express an opinion on this theme. There was ample support (63%) that companies environmental impacts do not have to be reflected as such in the annual financial statements. Only 29% of the participants agree that the environmental impacts have to be accounted for and reflected as such in the annual financial statements.

The results indicate that accountants in South Africa are divided on the importance of accounting of environmental costs. This is in line with Ong *et al.* (2020), Wycherley (1997), and Mohamed and Jamil (2018) finding that companies are ignoring environmental costs in their annual financial statements due to limited understanding of the importance of environmental costs on the corporate sustainability. Furthermore, the failure to accurately account for environmental costs has contributed to incorrect pricing due to cross-subsidization (Schaltegger and Zvezdov, 2015). This means product A' costs are spread over to product B's costs. This makes product B more expensive because of costs encroaching from product A.

Most of the participants (46%) are not sure whether environmental costs should be reported as such in the annual reports. This supports a study by Kelsall (2020) that emphasize that a lack of sufficient knowledge on environmental costs leaves managers without vital environmental information for key environmental decision-making. In addition, this finding act as a solid ground of motivation for accounting bodies such South African Institute of Chartered Accountants (SAICA) to include environmental accounting as a major component of its courses. These accounting bodies should act as "revolution agents" to change the mindset and the professional approach of accountants towards environmental issues.

In a nutshell, the behavior of accountants in South Africa shows that the protection of the natural environment from the perspective of accounting is still a mammoth task. This is important because the increase in environmental performance and adoption of EMA within the corporate sector cannot be successful with the conditional behaviour of accountants (Deegan, 2013; Deegan *et al.*, 2011). This highlights that accountants are central to the successful environmental/ecological performance of the companies.

## CONCLUSIONS

The response by CFOs, accountants, and finance managers of top 40 JSE listed companies in South Africa implies that these professionals have a less critical role in environmental conservation. The professionals did not believe that it is not the role of accountants or accounting to help with environmental issues. Despite this,

a number of companies have shown that some form of EMA practice exists, such as in production processes, waste elimination, energy efficiency, pollution minimization, and water management. In addition, the CFOs, accountants, and finance managers agree that accounting for environmental costs is not important. This call for companies to take a wider perception of accountants' role and the nature of environmental issues that can be integrated into the accounting system. But, this will ultimately require adequate time and skill to attain it.

The bottom-line conclusion of this research study still shows that accountants in many South African companies are overwhelmingly not actively participating in the environmental management of their companies. This can be attributed to little impetus from accountants to participate in environmental management. This is because accountants assume environmental management to be external to their responsibilities. To overcome this limited participation by CFOs, accountants, and finance managers, there is a need for better recognition by the senior finance staff of the duty of accounting and accountants can and ought to perform in the environmental management process. In spite of the increasing awareness and discomfort of environmental issues, this discomfort seems not to give the impression that a further step has been advanced and given vital acknowledgment within the accounting process in South Africa. Therefore, the next phase would require exploring the reasons and avail practical understanding as to why companies differ in including accounting in environmental management. In such a background, scholars may be strategically placed to cultivate a greater recognition of the manner in which EMA might benefit environmental management.

Acknowledgement of EMA issues may be cultivated in two key ways, namely, first, through a larger acknowledgement within the accounting education system and, secondly, through a hands-on reaction by accounting regulators. These approaches would assist in establishing for accountants the duty they can perform in environmental management so as to help in in-house decision making and external environmental reporting. Furthermore, this would help in overpowering the actual doubtfulness of some senior management and accountants to participate in environmental management. Therefore, this signifies the importance of management in encouraging the implementation of EMA within corporates' environmental challenges.

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