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Motivations for Adopting Proactive Environmental Management Accounting Practices: Evidence from South African Firms

Thomas Nyahuna[1], Mishelle Doorasamy[1]
[1]School of Accounting, Economics and Finance, University of Kwazulu Natal, South Africa
Corresponding Author: Thomas Nyahuna; Email: thomasnyahuna@yahoo.com

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ABSTRACT

By examining environmental management accounting practices (EMAP) in South African companies, the study assists the company management to better understand their EMAP more broadly and establish effective EMAP to improve environmental management. This paper explores EMAP adopted by South African companies in Gauteng province and understands the motivation for applying the EMAP. Companies from different industrial sectors were used as the study sample. To accomplish the major aim of the study, 202 questionnaires were received as valid from the environmental managers, accountants and production managers. The study establishes that the companies are mostly using environmental management system, environmental reporting, waste management and water conservation activities as the key EMAP. This indicates that South African companies opt for EMAP with little cost involved and EMAP that does not require advanced systems in place. Also, financial gains were identified as the major motivation of EMAP adoption. This is followed by stakeholder pressure, marketing pressure and regulatory pressure. This paper will amplify literature on the EMAP adopted within industrial sectors and the motivation of adopting EMAP from an emerging market standpoint.

INTRODUCTION

As environmental impacts become more evident, corporate decision-makers are compelled to find sustainable long-term solutions both in the interests of the broader stakeholders and the business itself. To achieve this, managers have been forced to incorporate environmental initiatives into their business activities to cater to their environmental impacts. Otherwise, a lack of proactive environmental initiatives will lead to the formation of huge volumes of waste, abuse of natural resources, and the overconsumption of energy (Gunarathne & Lee, 2015; Christ & Burrit, 2013). Given this context, organizations' environmental management accounting practices (EMAP) turn out to be increasingly paramount factors in both their environmental and financial success. Also, in this case, the EMAP appears to address different stakeholders' environmental concerns about the company. However, establishing the actual EMAP implemented by the corporate sector remains one of the biggest problems for contemporary literature (Burritt et al., 2019).

The identification of actual EMAP used by the corporate sector has been problematic due to the absence of a standard definition of environmental management accounting in literature (Jamil et al, 2015; Jalaludin et al., 2011). The issue of EMAP has been an issue of various debates in the extant literature due to inconsistency on what exactly consists of EMAP. Ong et al. (2018) and Azizi et al. (2013) argue that this produced mixed results on the actual EMAP used in the corporate sector and the motivation for EMAP adoption.

Due to various views, it is important to acquire an understanding of what EMAP is adopted, and the motivation for EMAP adoption within South African firms. In addition, Munoz-Villamizar et al. (2018) highlight that a good empirical understanding surrounding actual EMAP used in companies in various countries is needed. Also, Ong et al. (2018) and Famiyeh et al. (2018) indicated that the mainstream studies on this subject

have been done based on data from developed countries. This suggests that very little focus has been dedicated to understanding the actual EMAP and the motivation for EMAP adoption within developing countries such as South Africa. Therefore, this study will act as a source of transforming an environmental management program for South African companies. Such information will also assist companies' managers, the government, and other regulatory bodies to implement and start suitable environmental management programs intended to conserve the environment and in so doing make these companies more internationally competitive. Therefore, the research objective acknowledged for this study is to identify the EMAP currently adopted and the motivation for EMAP adoption among South African companies. Also, the absence of knowledge in the development of EMA among emerging markets has inspired the current study within the context of the South African corporate sector.

In South Africa, the actual EMAP used by the companies, and what motivates companies to apply EMAP is still empirically unknown. Therefore, the study's main objective is to understand EMAP used by the sampled companies within their day-to-day business activities, and the motivation for EMAP adoption.

MATERIALS AND METHODS

The study is based on a qualitative exploratory inquiry. The data has been gathered by a written questionnaire aimed at studying the EMAP in South African firms and the motivation there for adopting the EMAP. The questionnaire centers on specific features linked to companies' characteristics, EMAP, and reasons for adopting EMAP. The key purpose is to increase insights that would permit companies and their institutions like the Gauteng Chamber of Commerce and other regulatory authorities to assess strategies, guidelines, and tools to enhance their EMAP. Several industrial sectors have been selected to identify the motivation for applying proactive EMAP for generalization as opposed to restricting the study to a single industrial sector as surveyed in previous studies (Munoz-Villamizar et al., 2018; Nyide, 2019; Omune et al., 2021).

To upsurge validity, the questionnaire was first established and pilot-tested with various respondents. These respondents characterized a diversity of roles and functions within their companies which are situated in the industrial hub of South Africa namely Gauteng province. To determine content validity, the questionnaire enclosed diverse EMAP, with the purpose to identify motivations to apply proactive EMAP.

The target population consisted of all 1305 South African companies registered as active members of the Gauteng Chamber of Commerce as of 1 June 2022. Therefore, the questionnaire was sent to all 1305 companies listed by the Gauteng Chamber of Commerce. In total, 231 replies were received, where 202 were discovered to be complete and valid making up a response rate of 15.4%, which is in line with prior studies (Azizi et al., 2013; Bananuka et al., 2021). The data gathered was analyzed using Statistical Package for Social Sciences (SPSS).

The sample companies involve respondents from nine various industries merged into three sectors namely manufacturing, service, and chemical according to the Johannesburg Stock Exchange. Manufacturing companies consist of the highest number of respondents (102) followed by the service sector (83), chemical sector (17), and lastly, steel makers (16). The number of respondents from various companies from various sectors is shown in Table 1.

Table 1. Number of respondents per sector

Industry	Number of valid respondents	Sector
Metal and mining	52	Manufacturing
Chemical	17	Chemical
Construction	11	Service
Petroleum	22	Manufacturing
Hotel	21	Service
Banking	14	Service

Steel makers	16	Manufacturing
Health service	9	Service
Education	10	Service
Cement	12	Manufacturing
Retail	19	Service
Total	202	

RESULTS AND DISCUSSION

Figure 1 shows the level of EMAP within the sampled companies in South Africa. Figure 1 shows that 80% of the companies responding adopted EMAP in no less than one of the EMAP, but in an "end-of-pipe" approach that is a passive way. This provides evidence that more companies in South Africa are not at the moment adopting proactive EMAP due to the alleged absence of evidence that the financial gains exceed the costs of adopting these practices. In contrast, a tiny percentage of 5% availed no information concerning their EMAP. These results are in line with the study by Al-Tuwaijri et al. (2014), and Al-Waeli et al. (2021) which establishes that there is limited disclosure of EMAP by companies due to improper environmental management by companies. The remaining 15% of the companies stated that they remain unconcerned regarding their ecological effects. This poses a serious challenge to climate change reduction.

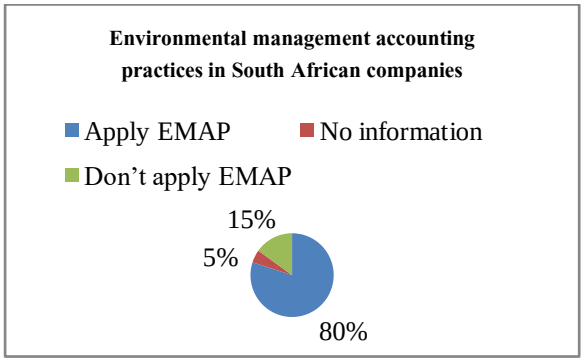

Figure 1. EMAP level in the South African companies analyzed

EMAP adopted in the South African companies

The questionnaire was also centered on identifying EMAP applied by the sampled companies in South Africa. The results are exhibited in Figure 2. Figure 2 depicts the EMAP applied by the sampled companies as collected from the questionnaires. As reflected, 146 companies indicate using EMS. This confirms that most South African companies are resorting to "environmental certification." The best common environmental certification was ISO 14001. Cho and Patten (2007) contend that since its inception in 1996, there has been an extra force on industrial sectors to improve environmental performance through the implementation of EMS. Implementing ISO 14001 allows companies to amalgamate environmental programs into one logical system to administer all environmental activities proficiently (Halis & Halis, 2016; Arago´n-Correa, J.A. & Rubio-Lo´pez, 2007; Mokhtar et al., 2016).

Following EMS is environmental reporting with 112 companies or 55.5% of all companies reporting its use. This is enabled by the operationalization of the King Code III and IV promulgated and mandated that South African listed companies should extensively report on their environmental, social, and economic performance. In addition, non-listed companies have also reported their environmental, social, and economic performance voluntarily. The environmental reporting cited by these companies is based on traditional approaches such as the conventional accounting system. This signifies the absence of performance measurement systems such as environmental management accounting within South African companies. IFAC (2005) argues that this limits the effectiveness of environmental reports as the reports tend to omit and overlook key environmental information in physical terms. This stems from the fact that the conventional accounting system mainly focuses on monetary environmental information (IFAC, 2005).

Concerning environmental initiatives, 52% of the companies, or 105 companies confirm applying various environmental initiatives such as measuring monthly water and energy consumption weekly or monthly. The respondents argue that this helps to monitor their water and energy consumption. Other common EMAP and critical EMAP consist of waste management and water conservation reported by

49% and 37 % respectively. In addition, recycling and environmental training were identified by 23% and 21% of companies as part of EMAP currently being adopted.

The companies in the sample also reported that they conduct an environmental risk analysis. The respondents state that this helps to identify environmental areas that need management attention. However, the literature reveals that the most important approach to analyzing environmental performance is to employ a tool known as the environmental management accounting. Mahomed and Jamil (2018) affirm that environmental management accounting ensures the availability of environmental information in both physical and monetary information for consideration by management in environmental management decisions. Lastly, 29% and 14% of the companies also confirmed applying environmental audits and research and development as EMAP. Therefore, the feedback from the respondents strongly indicates that South African companies are not much using EMAP designed to improve productivity such as cleaner production.

Also, the study explored the determinants of the adoption of EMAP within South African companies. The next section focuses on the major reasons motivating or pushing the companies to implement the selected EMAP. Figure 2 shows the major EMAP adopted by the various sampled companies.

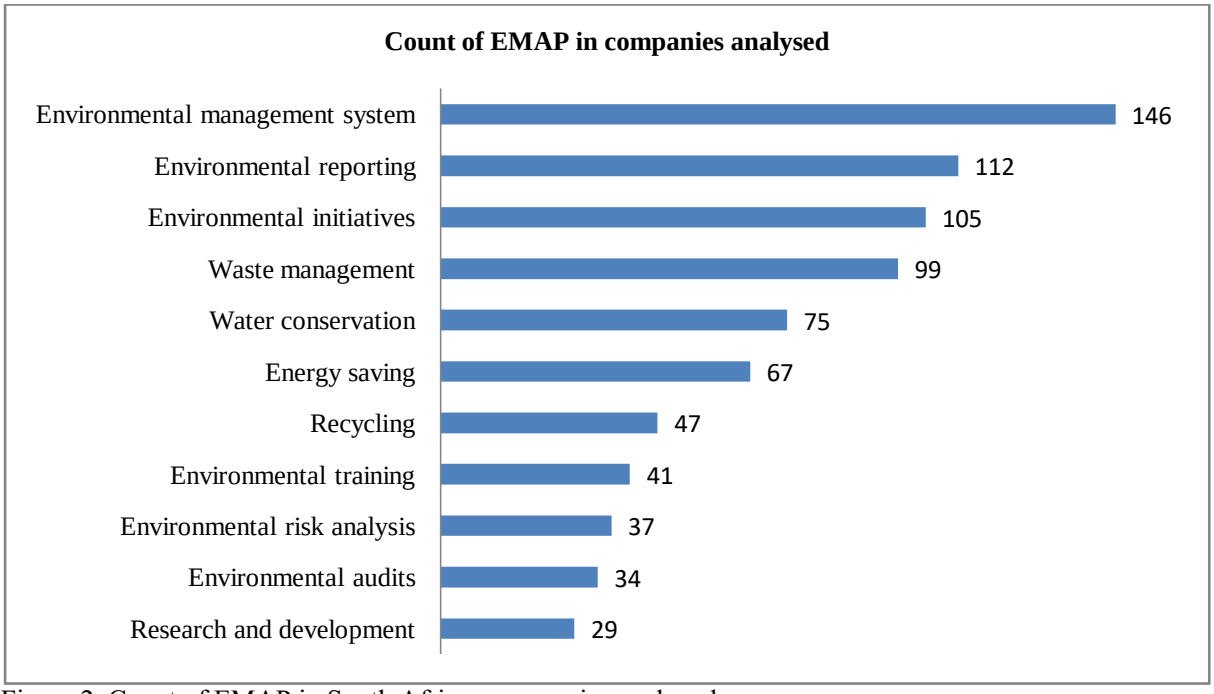

Figure 2. Count of EMAP in South African companies analyzed

Motivation for adopting EMAP

The second phase of the questionnaire probed respondents to disclose the determinants of EMAP adoption within their companies. The major themes of their feedback are graphed in Figure 3. Literature is awash with evidence that companies adopt EMAP to cushion financial performance. In this study, 117 companies, or 58% of the companies indicate that the major motivation for adopting EMAP is a financial benefit. This stems from the fact that the adoption of EMAP assists to ensure that environmental laws are properly followed thereby avoiding environmental fines (Bananuka et al., 2021). In addition, scholars posit that the implementation of EMAP is a source of improved financial benefit through increased marketing and reduced costs (Ekundayo & Odhigu, 2021). The respondents further conceded that the adoption of EMAP is a key marketing strategy as other customers value suppliers with a proven track record of applying EMAP.

Consistent with prior studies, stakeholders tend to pose considerable pressure on organizations to address environmental concerns emanating from business activities. In this study, 46% of the companies show that external stakeholders such as

government, local residents forums, and environmental groups push them to utilize practices that can assist to reduce negative environmental impacts. Similarly, Le et al. (2019) report that environmental bodies have been highly instrumental in piling pressure on the corporate sector to minimize environmental effects from their business activities. In doing so, companies were forced to use different mechanisms to lessen their environmental impacts. This signifies that companies adopt certain EMAP in a bid to legitimate their actions based on established regulations and beliefs (Ong et al., 2018). Thus, companies might be motivated to adopt certain EMAP to enhance their relationship with their stakeholders.

On the other hand, some 78 companies accept that adopting their EMAP was necessitated by the need to meet the marketing needs to improve export opportunities. Li et al. (2017) contend that from a commercial angle if companies heed the call to customers' increasing concern for environmental perfection, they can separate themselves from competitors and accomplish market advantage. A closer analysis of the respondents shows that companies that highly rely on international markets such as metal and mining sectors are implementing various EMAP as a precondition from their international customers. Thus, international export regulations can be an effective motivator of EMAP adoption (Omune et al., 2021; Al-Tuwaijri et al., 2014). So, international trade is a source of EMAP implementation. This increases customer satisfaction. The findings of the study indicate that market pressure linked to the commercial chain is a major factor to decide the company's EMAP. This means that the EMAP can be designed to increase competitiveness. Hart (1996) argues that to increase competitiveness companies need to reduce emissions and cut waste. In this case, companies will be tempted to apply EMAP which decreases both emissions and waste to remain competitive. Also, companies try to match their performance with their counterparts to remain competitive in their business portfolio. To attain this, companies benchmark their performance with the leaders in their segments to upswing their corporate performance. This motivates companies to implement proactive EMAP being applied by similar companies within their sectors to continue being competitive in their business field. The importance of market pressure in influencing the comprehensiveness of a company's proactive EMAP is also examined by numerous scholars (Teles et al., 2015; Yacob et al., 2018).

Environmental laws in South Africa remain lax. This can be empirically confirmed by the study as only 28% of the companies cite regulatory pressure as central to adopting EMAP. This echoes a recent study by Nathaniel and Adedoyin (2020) that environmental laws in developing countries are still inadequate and of no effect on compliance with environmental matters. Therefore, the lax environmental laws and execution in South Africa may have an impact on the implementation and adoption of proactive EMAP (Nyide, 2019). The various motivations for using EMAP within South African companies are depicted below in Figure 3.

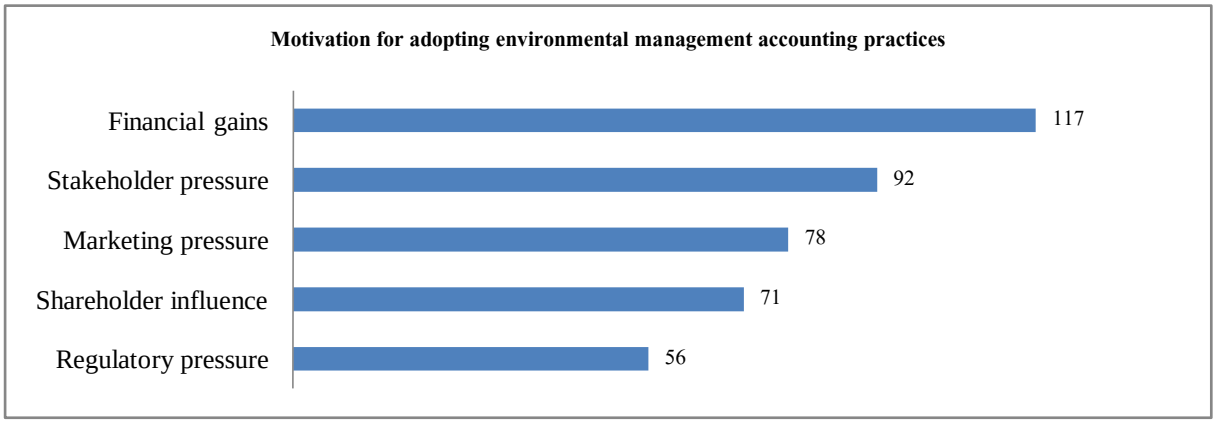

Figure 3. Motivation for adopting EMAP in South African companies

In South Africa, shareholder pressure has been identified as a source of influence on the EMAP to adopt. This forms part of internal stakeholders. A total of 71 companies or 35% of the companies admit that shareholders are influencing the EMAP adoption. This shows that shareholders in emerging markets such as South Africa now clearly understand the importance of proper environmental management to improve financial performance. This is because the main goal of any commercial organization is profit maximization and therefore increasing shareholder value (Pratiwi et al., 2020; Li et al., 2017).

CONCLUSION

The results of the study make available empirical evidence that South African companies are using traditional or end-of-pipe approaches to address their environmental concerns. This suggests that these companies may not be effectively enjoying financial benefits from improved environmental performance. It shows that the companies are short of an integrated system to provide environmental information in both monetary and physical terms that can assist corporate decision-makers to reach informed decisions.

EMAP in South African companies has been disclosed through data collected from questionnaires. Various industrial sectors were used as a sample of the study. This study has been important in identifying the EMAP adopted by South African companies and the motivation for adopting EMAP. The study was based on respondents from Gauteng province's companies thus any variance in the circumstance under evaluation could change the findings. Hence, the current findings need to be analyzed cautiously for application in other contexts. The study contributed to extant literature; the used data from South African companies from across various industrial sectors to understand their EMAP and the motivation for adopting them has so far not been conducted in literature. The consequence of this research lies in South African companies to lessen negative environmental effects through adopting EMAP directly linked to production processes and therefore increase environmental and financial performance. Further studies can look at the factors that can improve regulatory pressure on companies from an emerging market view. Additionally, future studies can examine other methodologies to assist companies to implement proactive EMAP.

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