

The role of environmental management accounting and voluntary self-regulatory initiatives in improving resource efficiency in South African hotels

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Abstract: The hotel sector is linked to the excessive consumption of non-renewable resources, particularly water, energy and non-durable goods. Several hotel groups have developed voluntary self-regulatory initiatives that are aimed at improving the resource. Currently, there is limited research pertaining to the application of EMA and voluntary initiatives, particularly in the hotel sector. As a result, the implementation and application process of these initiatives remains unclear. A qualitative exploratory multiple case study research method was employed in this study. A total of 12 individuals participated in this study, which consisted of 3 general managers, 3 financial managers, 3 maintenance managers, from 4 hotels. The sample size was selected using purposive sampling. The study found that there is a fair amount of awareness, knowledge and experience of the EMA and the use of voluntary self-regulatory initiatives by the hotel sector in South Africa. However, the implementation of EMA and voluntary self-regulatory initiatives in the South African hotel sector is still at an elementary stage.

JEL Classifications: L80, M10, Q50, Q56

Keywords: Environmental management accounting, resource efficiency, South African hotels, voluntary self-regulatory initiatives

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Introduction

It has been ascertained from the literature review that the hotel sector has established the fact that there is a relationship between the environmental performance and scarce resources and thus it recognises the need to address its impact on the environment by introducing strategies that improve its environmental performance (Bohdanowicz, 2006; Janković, Peršić & Zanini-Gavranić, 2011; Fukey & Issac, 2014). These strategies, focus mainly on energy efficiency, water use efficiency and waste management (Chan & Hawkins, 2012; Pirani & Arafat, 2014). Several studies point out that inefficient systems and operational practices used in the hotel sector may result in severe environmental impact (Rogerson & Sims, 2012; Mensah & Blankson, 2013; Wyngaard & de Lange, 2013). It can be maintained, therefore, that attempts geared towards efficiency in operations within the hotel sector have the potential to enhance the optimal resource allocation and, thus, help correct and improve management efforts and strengthen competitive advantages (Luo, Yang & Law, 2014).

Several hotel groups have developed initiatives that are aimed at improving the resource efficiencies (Hoogendoorn, Grant & Fitchett, 2015). These initiatives include the use of environmental management accounting (EMA) tools (Vasile and Man, 2012), however, the majority of these initiatives are voluntary (Font, Walmsley, McCombes, & Häusler, 2012). Rogerson & Sims (2012) stress that the environmental initiatives are without government regulation specifying detailed requirements and thus enterprise compliance regarding environmentally friendly operations is voluntary. Peršić', Janković', & Vlačić' (2005) mention that EMA needs to be integrated with the hotel management systems in all areas of identification, collection, estimation, analysis, internal reporting and use of materials and energy flow information, and preparing of environmental cost and other information for decision making. Sucheran (2013), however, argues that environmental management systems, including EMA, are associated with high costs and complexities. Van der Merwe & Wocke (2007; Leonard & Dlamini, (2014) point out that very few hotels participate in these initiatives because they are voluntary.

Research problem

The hotel sector is linked to the excessive consumption of non-renewable resources, particularly water, energy and non-durable goods (Bohdanowicz, 2006; Chan & Hawkins, 2012; Janković & Krivačić, 2014; Styles, Schoenberger & Galves-Martos, 2015). While it is imperative that this sector implements interventions to improve the efficient use of scarce resources (Phan and Baird, 2015), most studies have focused on a few large corporations (Heidrich & Tiwary, 2013; Fukey& Issac, 2014). Developing economies are reported to be sluggish in implementing systems that improve resource efficiencies owing to sophistication and consumption of more resources (Hilary, 2004; Christ & Burrit, 2013). There is no official South African 'green' (environmental management) rating system which can be applied to the hotel establishment industry in this country (Rogerson & Sims, 2012). This supports the argument by Leonard and Dlamini (2014) that the South African government is yet to assist the tourism and hospitality sector in establishing a greening principle that will serve as a guide in implementing the environmental management initiatives. The available environmental management programmes within the South African hotel sector are voluntary (Rogerson & Sims, 2012), and are at an elementary stage (Hoogendoorn et al., 2015), and extent at which these have been used is unknown (Loenard and Dlamini, 2014).

Aim and objectives

The aim of this paper is to evaluate the role of EMA and voluntary self-regulatory initiatives in improving the resource efficiency in hotels in South Africa. To achieve this objective, the following objectives have been set:

- To identify EMA and voluntary self-regulatory initiatives used by South African hotels to improve the resource efficiency.
- To examine the extent to which EMA and voluntary self-regulatory initiatives are used by South African hotels to improve the resource efficiency.
- To suggest EMA and voluntary self-regulatory initiatives that can be used by South African hotels to improve resource efficiencies.

Literature review

EMA and resource efficiency

Vasile and Man (2012) concede that EMA is employed mainly in order to emphasise environmental protection costs due to the fact that other indicators such as: energy, water and waste do not really show the value that society has to bear. Hence, EMA provides a

pragmatic response to criticism that conventional management accounting has failed in its ability to provide explicit consideration of environmental issues with environmental costs frequently 'hidden' in general overhead accounts and potential environmental benefits often downplayed or ignored (Jasch, 2003; Christ & Burritt, 2013). This term is taken to mean managing environmental and financial performance through the development and implementation of appropriate accounting systems and practices (Christ & Burritt, 2013). The implementation of EMA is capable to provide a series of benefits (either direct or indirect) such as: the decisional process is the beneficiary of an improved informational support: the separate registering of environmental costs (which are hidden by the classical accounting systems) is going to determine the improvement improving price policy; support during the process of data reporting: the identification of environment costs supports the economic entities in collecting data about the environmental impact which are required by internal/external reports; new opportunities are discovered: while the analysis of environmental costs can identify new opportunities, they may be employed for making savings through resources recycling or re-using them for other activities; and increase in competitive advantage: due to the incipient stage of development of EMA, its use and a proper advertising may determine a competitive advantage of a certain economic entity (Vasile & Man, 2012).

EMA, being part of the hotel management system, can contribute in ensuring that financial managers are involved and responsible as part of the hotel management team (Peršić' et al., 2005). EMA for hotels should then define environmental costs depending on hotel level, and answer to the hotel management demand how it intends to use the information for decision making in different activities or business and this information should, therefore, be prepared in the area of reducing hotel operations and environmental costs (Peršić' et al., 2005). Gunarathne and Lee (2015) concede that, to provide useful information for decision-makers, it is important to establish a management system to pursue EMA and environmental management strategy. Therefore, EMA can be viewed as a bridge that connects management accounting and environmental management (Gunarathne & Lee, 2015).

Literature reveals that there is limited research pertaining to the application of EMA tools, particularly in the hotel sector. As a result, the implementation and application process of EMA remains unclear. Schaltegger, Viere, and Zvezdov (2012) point out that the EMA framework, like the multitude of proposed environmental accounting tools, does not explain the processes as to how corporate decision makers design their environmental information management and use processes. Gunarathne and Lee (2015) support this argument by stating that the development stages of EMA have not been empirically investigated well enough. Thus, there is a need to identify and demonstrate how companies have continuously developed and systematically adopted environmental strategies with the support of EMA practices over the years, especially in the tourism sector. Qian, Burritt, and Chen (2015) add that the main focus of EMA studies has been on highly polluting and energy intensive industries. Jamil, Mohamed, Muhammad and Al (2015) add that the importance and benefits of EMA have been reported by empirical studies. However, the level of adoption and implementation of EMA practice is still weak in firms in many countries, especially in developing countries.

Voluntary self-regulatory initiatives within the South African hotel sector

The majority of the initiatives within the South African hotel sector relate to the improvements in energy consumption, water use efficiency and waste management. It is worth noting that hoteliers subscribe to these initiatives voluntarily. Van der Merwe and Wocke (2007) point out that very few hotels participate in these initiatives because they are voluntary. The environmental initiatives are not exerted by the government and

compliance regarding environmentally friendly operations is voluntary (Rogerson and Sims, 2012). Below are the popular initiatives at play within the South African hotel sector:

The Heritage environmental certification programme

According to Sucheran (2013), the Heritage Certification Programme is recognised by the United Nations World Tourism Organisation as a leader in Africa in providing those in the service industry with a globally recognised, professional standard for rating the environmental and sustainability practices of their business. The Heritage Environmental Management Company (HEMC) provided an environmental rating initiative for the hospitality industry since 2001. The company's certification programme caters for hotels, game lodges and resorts, zoos and aquaria, meetings and events, golf courses, residential estates, banking and retail businesses. Standards are based on internationally recognised sustainability and responsible business initiatives, including ISO 14001. The ISO 14000 series standards consist of 20 environmental standards that are voluntary and process-based of which ISO 14001 is the only standard against which an organization can become certified for EMS (Chan & Wong, 2006). Members of the Heritage network have to undergo an on-site review every year, and, if they comply with the standards, they are awarded one of three levels of recognition according to their performance, sustainability and responsible business practices. According to HEMC (2015) the awards are as follows:

- ***SILVER class***

Businesses that are awarded the Heritage SILVER Class have recognised and accepted that they have an environmental impact and have taken practical steps to address them. This will include implementing the Heritage EMS and establishing the necessary operational strategies and structures necessary to ensure sustainable business practice. Each SILVER Class property must achieve a minimum of 50% compliance with the Heritage standard, although the full implementation of the EMS is not required (HEMC, 2015).

- ***GOLD class***

To achieve GOLD Class, businesses must have fully implemented the Heritage EMS and demonstrate that they are managing their activities in compliance with the Heritage standard. These businesses have an established Environmental Committee, published and compliant standards for all operational activities as far as they impact on the environment. A minimum score of 75% compliance with Heritage standards is required for Gold Class properties, and there must be demonstrable effort to ensure continual environmental performance (HEMC, 2015).

- ***PLATINUM class***

Platinum Class businesses are those that have achieved full compliance with the Heritage standard, and which have a fully integrated EMS in operation. These businesses operate their activities with the highest consideration of its environmental performance, community involvement and in a socially responsible manner. To achieve PLATINUM Class, a business must achieve a minimum score of 94% on its annual assessment and clearly demonstrate compliance with the principle of continual improvement (HEMC, 2015).

Fair Trade in Tourism South Africa (FTTSA) certification programme

According to Fair Trade in Tourism South Africa (FTTSA, 2015), FTTSA is a pioneering initiative that promotes equitable and sustainable tourism development in South Africa through a range of activities including awareness raising, capacity building, advocacy and the facilitation of the world's first Fair Trade tourism certification programme. According to FTTSA (2015), this organisation is one of the 10 first certification bodies to be recognized by Global Sustainable Tourism Council (GSTC). GSTC serves as the international body for raising increased knowledge and understanding of sustainable tourism practices, promoting the adoption of universal sustainable tourism principles and building demand for sustainable travel (Lacher, 2012). The process of obtaining a FTTSA certificate can take up to six months and consists of three phases, namely, a self-assessment by the establishment, a site assessment by FTTSA's certification manager and a review of the assessor's report by an independent panel. The FTTSA-certified status is currently awarded to sixty-six tourism businesses in South Africa. These include accommodation of all standards, activities, attractions and volunteer tourism programmes. In KwaZulu-Natal, only two are carrying the Fair Trade label (FTTSA, 2015).

Green leaf eco-standard

According to Green Leaf Eco Standard (GLES, 2015), the initiative is specifically constructed as a sustainability and certification assessment tool for the performance management of any international organisation or property. The Green Leaf™ Eco Standard (GLES) is a series of modules specifically constructed as sustainability and certification assessment tools for the performance management of any international organisation or property. In its name, Green Leaf™ stems from the symbol representing the philosophy of people and place in environmental leadership and conservation of the Wilderness Foundation. Eco Standard is an integrated concept which promotes the synergy of environmental, social and economic systems to facilitate behavioural and material adaptations in a business beyond the triple bottom-line" (GLES, 2015). Wilderness Foundation (WF) is a nature conservation organisation involved in sustainable social intervention programmes (WF, 2015). Organisations wishing to be certified under the GLES undergo a consultation, audit and verification process. According to Sucheran (2013), in particular, GLES standards are based on water management, energy management, waste management, baseline management, green procurement, policy and effectiveness, distribution and transport, enterprise development and carbon emissions reduction.

Lilizela Tourism Awards

The Federated Hospitality Association of Southern Africa (FEDHASA) is the custodian of Lilizela Tourism Awards and is supported by the national Department of Tourism. Until 2012, they were known as 'Imvelo Responsible Tourism Awards'. These awards were initiated to coincide with the World Summit on Sustainable Development that was held in South Africa in 2002. They recognise tourism and hospitality businesses that make a real, measurable and sustained contribution to Responsible Tourism (FEDHASA, 2015). The winner of each category receives the Lilizela Awards trophy and all finalists making it to the finals receive a certificate of excellence.

Hospitality and tourism establishments or businesses, irrespective of size, can enter any of the following Lilizela Award categories:

- **Best Social Involvement (BSI) Programme**

The judging is based the business's efforts made to ascertain the integration of its activities with its local community.

- **Best Practice - Economic Impact (BPEI)**

The economic impacts of tourism and the effect that the business has on its local community are the focus of this category. The judges need to understand the extent to which the business contributes to the economic benefit of the community and the business's ability to quantify the impacts that it has on the community.

- **Best Overall Environmental Management System (BOEMS)**

This category aims to determine the extent to which the establishment is managing its environmental impacts as a business in a sustainable and responsible manner. The judges are looking for a system that encompasses and integrated approach to environmentally sustainable and responsible business practice.

- **Best Single Resource Management (BSRM) Programme**

Three awards are made in this category, one each for water management, energy management and waste management. Each category must be entered separately.

- **Investing in people award**

The need for well trained, educated and developed individuals in the tourism industry is the focus of this award. The judges consider the extent to which the business has taken practical steps to develop the human resource component of the business, specifically the efforts that have been made in excess of any national minimum standards or guidelines.

Research methodology

The research consisted of literature review and empirical study. The historical review laid a foundation that guided empirical study and provided an insight and understanding into the research problem. A qualitative exploratory multiple case study research method was employed in this study. This type of case study is used to explore those situations in which the intervention being evaluated has no clear, single set of outcomes (Yin, 2012). Drawings, descriptions, considerations and clarifications of the events being investigated. The primary data collection for this study came in the form of in-depth interviews using semi-structured questions. Furthermore, additional documents were analysed. These included the hotels' environmental policy statements, annual financial statements and websites. Tracy (2013) writes that an underlying principle in the collection of data in case research is that of triangulation, i.e., the use and combination of different methods to study the same phenomenon and it is considered worthwhile because a key concern for good research is its reliability and formal generalisability.

Purposive sampling was used in this study because, with purposive sampling, one needs to use one's judgement to select cases that will best enable the researcher to answer research questions and to meet objectives (Saunders, Lewis, and Thornhill, 2012). The hotels had

to have an already developed environmental management initiatives. Therefore, it had to have either a Green Leaf Eco Standard certification, Heritage Environmental certification or Fair Trade Tourism certification. Invitations were sent out to 12 hotels which met the selection criteria and 4 of which conceded to participate in this study. For confidentiality purposes, these hotels will be referred to as Hotel A, Hotel B, Hotel C, and Hotel D. The environmental management challenges faced by these establishments are universal. A total of 12 individuals participated in this study, which consisted of 3 general managers, 3 financial managers, 3 maintenance managers, from each hotel. Creswell (2015) recommends a sample size of between 3 to 10 participants for phenomenology studies like this one. Saunders et al. (2012) also confirms that this sample size is sufficient and appropriate for this kind of research. The interviews were conducted between May and December 2016 based on the availability of the informants using an audio recorder.

Findings

To ensure triangulation, field notes from direct observation, documentation and hotel websites were also incorporated into the analysis of data to complement in-depth interviews. This exercise was performed to ensure reliability and validity of the findings and thus address bias. Cross-case synthesis was used and the results were analysed in accordance to the theme and objectives. Table 1 shows the themes, objectives and interview questions that were used in this study. For each hotel, group interviews were held with the hotel management team (hence each table has only four columns which represent responses from hotel A, B, C, and D).

TABLE 1. THEMES, OBJECTIVES AND INTERVIEW QUESTIONS

THEMES	OBJECTIVES	INTERVIEW QUESTIONS
1. EMA and voluntary self-regulatory initiatives.	To identify EMA and voluntary self-regulatory initiatives used by South African hotels to improve the resource efficiency.	- What are the hotel's main environmental challenges? - What has the hotel already done about the challenges?
2. The Extent at which EMA and voluntary self-regulatory initiatives are used.	To examine the extent at which EMA and voluntary self-regulatory initiatives are used by South African hotels to improve the resource efficiency.	- In the hotel, is there anyone who has ever requested any environmental cost information from you? - Have you ever requested any environmental cost information from accounting, or environmental management related administrative divisions? If yes, what is the purpose of requesting such information? If not, why not?

The results are thus discussed in the following section according to the themes developed and research objectives.

Theme 1. EMA and voluntary self-regulatory initiatives

TABLE 2. ENVIRONMENTAL MANAGEMENT INITIATIVES

QUESTION	WHAT ARE THE HOTEL'S MAIN ENVIRONMENTAL CHALLENGES?			
Hotel A	Hotel B	Hotel C	Hotel D	
Energy consumption, Lighting Infrastructure	Energy efficiency	Energy consumption, water consumption and waste management	Water and waste management	
QUESTION 2	WHAT HAS THE HOTEL ALREADY DONE ABOUT THE CHALLENGES? (PLEASE MENTION RECENT PROJECTS)			
Hotel A	Hotel B	Hotel C	Hotel D	
Installation of Building Management System (BMS) to monitor and control energy usage. Shut down some of the lights.	Installation of LED lights. Building of a boiler room with 8 pumps. Analysis of tariffs to evaluate energy consumption in units and convert it into monetary value. Installation of BMS.	Reduction of geyser temperatures. Adjustment of water flow in the toilets and showers. Installation of LED lights. No BMS installed.	Waste collection project with an independent recycle company. "We intend to set up a recycle station within the area in which we operate".	

Table 2 shows that the majority of investigated hotels agree that energy consumption is the main environmental challenge, whilst Hotel D cited water and waste management as its major environmental challenges. Hotel C points out that their environmental challenges were not only energy consumption and efficiency. Hotel C is also concerned about water consumption and waste management, which involves the separation of water into wet and dry waste. This is in line with what the literature suggests that energy consumption, water consumption and waste management are the main environmental challenges for the hotel. The informants were positive about what has been done already to address their environmental challenges and as such different initiatives have been implemented to cater for their environmental challenges. Hotel A and B installed a Building Management System to monitor and control energy consumption. This intervention is not implemented by hotel C and D. The aforementioned initiatives relate mainly to the reduction of energy consumption. Rogerson and Sims (2012) allude that the introduction of new technologies is the most common initiative by hotels because they result in apparent financial gains. The projects implemented by the investigated hotel are similar to that of Hilton Worldwide hotels, as reported by Bohdanowicz, Zientarab, & Novotna (2011). The abovementioned authors reveal that Hilton Worldwide hotels implemented energy-efficient light bulbs and readjusted the settings of boilers and air-conditioning units. In addition, Hotel D focused its efforts towards waste management initiatives.

Theme 2. The Extent at which EMA and Voluntary Self-regulatory initiatives are used

TABLE 3. THE USE OF ENVIRONMENTAL COST INFORMATION

QUESTION	IN THE HOTEL, IS THERE ANYONE WHO HAS EVER REQUESTED ANY ENVIRONMENTAL COST INFORMATION FROM YOU?			
Hotel A	Hotel B	Hotel C	Hotel D	
Yes. Only Green. Leaf consultants.	Yes.	Yes. The suppliers and Green Leaf consultants.	Yes.	

As per Table 3, all the respondents agreed to the question asked citing that mainly Green Leaf consultants and the hotel suppliers do request environmental cost information from the hotel management from time to time.

TABLE 4. REQUEST OF ENVIRONMENTAL INFORMATION BY THE HOTEL MANAGEMENT

QUESTION	HAVE YOU EVER REQUESTED ANY ENVIRONMENTAL COST INFORMATION FROM ACCOUNTING, OR ENVIRONMENTAL MANAGEMENT RELATED ADMINISTRATIVE DIVISIONS? IF YES, WHAT IS THE PURPOSE OF REQUESTING SUCH INFORMATION? IF NOT, WHY NOT?			
	Hotel A	Hotel B	Hotel C	Hotel D
Yes.	Yes.	Yes.	Yes.	Yes.
Comparison, analyses and benchmarking.	Budgetary reasons.	Monitoring and reporting.	Benchmarking and monitoring.	

According to Table 4, the hotel management agreed that they have requested the environmental cost information from the accounting or environmental management related administrative divisions. The purpose(s) of requesting this information ranges from benchmarking, monitoring comparative analysis, budgetary and reporting.

Summary of key findings

It can be concluded that the implementation of EMA and voluntary self-regulatory initiatives in the hotel sector in South Africa is still at an elementary stage. The studied hotels revealed that it uses BMS technologies to provide an environmental account in both physical and financial units. In their attempt to mitigate their environmental challenges, the investigated hotels are all certified for environmental management. These are voluntary programmes without any government's involvement. It can be concluded from the data collected from the informants that there is a fair amount of awareness, knowledge and experience of the EMA and the use of voluntary self-regulatory initiatives by the hotel sector in South Africa.

Limitations

This study was also limited to hotels within the province of KwaZulu-Natal using 4 cases and only 12 informants participated in this study. Generalisation should be exercised with care in terms of the findings being applicable to all hotels in South Africa. It may add value to use multiple case studies with a larger sample size in order to increase rigour of the analysis and to compliment this study.

Implications

This study contributes to the identification and critical evaluation of the integrated use of EMA and voluntary self-regulatory initiatives to improve resource efficiency within the hotel sector. The contribution of this research is to add new concepts and theories in EMA and voluntary initiatives for the hotel sector. Theories about the EMA and voluntary self-regulatory initiatives used by the hotel sector have not been published in the literature previously. The new concept and theories in EMA and voluntary initiatives

should focus on the operational and management processes within the hotel sector so as to improve this craft within this sector. This implies that the hotel sector needs to implement EMA and voluntary self-regulatory initiatives.

Recommendations for future research

A longitudinal case study approach can be used to identify and evaluate EMA implementation process by the hotel sector. This type of study would provide a much richer and more detailed evaluation of the use of EMA by the hotel sector. This approach can also assist in determining how effective are voluntary self-regulatory initiatives in improving resource efficiencies. Moreover, this study used a qualitative approach. A quantitative method is recommended to test the relationship between various variables that affect the use of EMA and voluntary self-regulatory initiatives within the hotel sector.

Conclusion

In line with the literature, the use of EMA and voluntary self-regulatory initiatives are still underdeveloped in the hotel sector in South Africa. However, given the commitment exhibited by the investigated hotels, it is possible that such an attitude elsewhere would encourage the successful application of these tools and eventually be widely implemented within this sector. With experience, the effective use of these initiatives is certain to yield the desired outcomes. Government and industry partnership may also steer the ship in the right direction in as far as the application of EMA and voluntary self-regulatory initiatives with the aim of improving resource efficiency in the South African hotel sector is concerned.

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