

ENVIRONMENTAL ACCOUNTING AS PERSPECTIVE FOR HOTEL SUSTAINABILITY: LITERATURE REVIEW

Review

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Abstract

Purpose – Competitive environment and numerous stakeholders' pressures are forcing hotels to comply their operations with the principles of sustainable development, especially in the field of environmental responsibility. Therefore, more and more of them incorporate environmental objectives in their business policies and strategies. The fulfilment of the environmental objectives requires the hotel to develop and implement environmentally sustainable business practices, as well as to implement reliable tools to assess environmental impact, of which environmental accounting and reporting are particularly emphasized. The purpose of this paper is to determine the development of hotel environmental accounting practices, based on previous research and literature review.

Approach – This paper provides an overview of current research in the field of hotel environmental accounting and reporting, based on established knowledge about hotel environmental responsibility. The research has been done according to the review of articles in academic journals. Conclusions about the requirements for achieving hotel long-term sustainability have been drawn.

Findings – Previous studies have shown that environmental accounting and reporting practice in hotel business is weaker when compared to other activities, and that most hotels still insufficiently use the abovementioned instruments of environmental management to reduce their environmental footprint and to improve their relationship with stakeholders. The paper draws conclusions about possible perspectives that environmental accounting has in ensuring hotel sustainability.

Originality – The study provides insights into the problem of environmental responsibility of hotels, from the standpoint of environmental accounting and reporting, as tools for assessing hotel impact on the environment and for improving its environmentally sustainable business practice. The ideas for improving hotel environmental efficiency are shaped based on previous findings.

Keywords environmental responsibility, environmental accounting, environmental reporting, hotel sustainability

INTRODUCTION

More and more hotels incorporate principles and objectives of environmental responsibility in their business policy and strategy. The reasons for such behaviour are contained in the efforts to decrease their impact on the environment and to comply with environmental laws and regulations, reduce costs, improve reputation and ensure the competitiveness and business viability. Nowadays, hotels in their business conducting

"exhibit a shift from internal, resource-based reasons for environmental engagement to external legitimisation reasons, encouraged by a number of stakeholder pressures depending on the type of the hotel" (Bonilla-Priego, Najera and Font, 2011). Environmental awareness of hotels is becoming more and more emphasized. In developed European countries 98% of European hoteliers believe that hotel activities have a negative effect on the environment (Bohdanowicz, 2005). However, there is still a resistance to undertake formal environmental management programmes (Doody, 2010), which include the development and implementation of environmental management systems. Those systems are used "for development and implementation of environmental policies and for managing environmental aspects" (ISO 14004:2004). Their implementation often includes major changes in business processes and also certification costs. That's why some hotels haven't implemented them yet. However, the ISO 14001 as well as the European Eco-Management and Audit Scheme (EMAS) provide hotels with an opportunity to start basing their own sustainability on environmental performance and to increase responsibility to stakeholders and the community as a whole. The main evidence of hotel environmental responsibility and environmental performance is its environmental report. To provide an environmental report the hotel has to have developed and implemented environmental accounting.

Environmental accounting is used to calculate and evaluate the environmental impact by the production processes (Magerholm Fet, 1998). Its goal is to increase the amount of relevant information that is made available to those who need or can use it (US EPA, 1995). It covers all areas of accounting that may be affected by the business' response to environmental issues, including new areas of eco-accounting (Gray, Bebbington, 2003:7). The implementation of environmental accounting is the underlying assumption and constitutes the framework, which should provide each company with management baseline information for environmental management (Peršić, chapter in Gulin et al., 2011). Environmental accounting can be viewed as financial and managerial.

Environmental financial accounting gathers environmental performance data from internal databases, which contain data about environmental performance indicators measured in natural units and their quantity determination through environmental cost records. In order to gather data about environmental costs, it is important for the hotel to develop environmental management accounting. Environmental management accounting provides managers with information necessary for the decision-making process. Environmental management accounting is defined as "the generation, analysis and use of financial and non-financial information in order to optimize corporate environmental and economic performance and achieve sustainable business" (Bennett, Bouma and Wolters, 2002). The implementation of environmental financial and management accounting is voluntary, respectively, it is not defined by accounting standards. On the other hand, in some countries (e. g. United Kingdom, France, Denmark) environmental reporting is mandatory. For those organizations which conduct business in the European Union, reporting requirements are defined by European Directive 2003/51/EC of the European Parliament and the Council, which states that the annual report should include an analysis of environmental and social aspects necessary for an understanding of the company's development, performance or position. Recently, the European Parliament has voted in favour of amendments to

European accounting legislation in order to require large companies with more than 500 employees to provide additional information on social and environmental matters. These companies will have to disclose information on policies, risks and results as regards environmental matters, social and employee-related aspects, respect for human rights, anti-corruption and bribery issues, and diversity on the boards of directors (European Commission official web site, April, 15th 2014). By taking that into consideration, as well as external and internal stakeholders' requirements for timely and credible information of environmental and social aspects of hotel activities, more and more hotels, especially big hotel companies, integrate environmental information in their annual reports in order to disclose their accomplishments in decreasing their ecological footprint. Environmental performance indicators and environmental costs make a set of environmental information, which explains the level of hotel environmental awareness, as well as its efficiency in managing environmental aspects. This accounting information is necessary for accountability, comparability and probity; and when not made available, could be tantamount to being bias, not transparent, fraudulent and liable to risk; which could dissuade patronages from consumers, suppliers, investors, surrounding communities and possible sanction from government who are becoming conscious of the organization's contribution to sustainable development (Beredugo and Mefor, 2012). Hence, environmental reporting can be considered as the precondition of hotel environmental responsibility. However, today the most significant problem is that disclosed environmental information is not fully comparable, which makes it impossible to rank hotels depending on their environmental responsibility. The reason for this problem is lack of information about how data are measured. Even when hotels use the same indicators, they do not always use the same reporting units (Bonilla-Priego et al., 2007). Therefore, prior research argues that environmental reporting is the area in which hotels still have to prove themselves in order to accomplish better communication with stakeholders, especially guests (e. g. Dwyer, 2005; Holcomb, Upchurch and Okumus, 2007; Hong Chung and Parker, 2010; Han et al., 2011).

1. HOTEL ENVIRONMENTAL RESPONSIBILITY

Increasing environmental awareness, as well as changes in tourism demand, force hotels to implement environmentally sustainable business practices that require the availability of reliable tools to assess the impact of the hotel on the environment, of which environmental management systems and environmental accounting are emphasized. Environmental responsibility is the duty that a company has to operate in a way that protects the environment (Cambridge Dictionaries Online, April, 15th 2014). Therefore, an environmentally responsible hotel is the one that carries out activities for reducing its impact on the environment by reducing the consumption of non-renewable natural resources, reduction of emissions and waste, by investing in "green" technology and more efficient business processes and the training of employees. In order to achieve environmental objectives it is important that all hotel employees participate. With their own pro-environmental behaviour they will encourage the environmental responsibility of their guests. However, in order to raise awareness about environmental issues, it is necessary for hotel management to make decisions for the implementation of environmental protection activities and for considering those

activities as relevant, not only in the context of corporate social responsibility, but also in the context of the hotel long-term sustainability. Management commitment can be recognised in elaborated environmental policy and defined objectives related to environmental protection, and also in a defined and accepted strategy for long-term business sustainability. The concrete level of environmental responsibility is visible from the structure of existing environmental management systems and from measured and disclosed environmental performance indicators and information about environmental costs. The primary purpose of the implementation of environmental management systems, and of measuring environmental impacts, is to determine the possibilities for reducing environmental impact, complying with legislation and achieving other benefits. Those benefits include a more rational usage of natural resources, cost savings of waste disposal, and overall cost savings, enhancing communication with guests and other stakeholders, complying with the requirements for environmentally accepted services, increasing employees' motivation as well as better market positioning. Those benefits can be sorted in a group of economic benefits. By achieving them hotels can improve their market position, get stakeholders' approval and ensure business sustainability. To do so hotels also implement environmental management systems and often certificate them according to international standard ISO 14001, but they can also register themselves in the European Eco-Management and Audit Scheme – EMAS. The Standard for Environmental Management Systems ISO 14001 requires the hotel, as well as other types of organizations, an initial review of the environmental aspects of activities, products and services, environmental policy, environmental planning, implementation of environmental management systems, monitoring and corrective action (ISO 14001:2004). EMAS upgraded ISO 14001:2004 with a few additional elements, the purpose of which is to attain a more powerful stimulus for continuous improvement of environmental performance and business transparency. EMAS requirements especially emphasize the importance of open dialogue with stakeholders and the relationship of a hotel, or other types of organizations, with the environment in which they operate. Due to this all registered EMAS participants are obligated to disclose environmental reports periodically and have them audited by a competent third party. To increase quality of an environmental report it is necessary to define environmental performance indicators (e. g. water consumption indicators, energy consumption indicators, quantity of waste disposal, quantity of harmful emissions etc.) and to implement environmental accounting.

Issues about hotel environmental responsibility and accountability nowadays occupy the attention of many researchers and accounting professionals, those issues are not a new trend. In fact, the forerunner of current research in the field of hotel environmental responsibility are signs of environmentally responsible practices from the 1970s, when environmental awareness started to awake in developed countries and when the first hotel companies started to pay attention to detecting the ways of decreasing environmental costs, especially utilities costs and energy supply costs. After introducing the concept of sustainable development by the Commission of the United Nations in 1992 and after the United Nations Conference on environment and development, which presented Agenda 21 a chapter which is dedicated to sustainable development of tourism, many environmental programs have been started in the hotel industry. Nevertheless, an intensive era of considerations about hotel environmental sustainability and hotel environmental management started in the 2000s. The

arguments of that are papers of researchers from all around the world. The overview of those papers is given in table 1.

Table 1: Overview of previous research in the field of hotel environmental responsibility

AUTHOR	ORIGINAL TITLE AND YEAR OF PUBLICATION	SCIENTIFIC AND PRACTICAL ORIGINALITY OF THE PAPER
Sloan, P., Legrand, W., Chen, J. S.	Sustainability in hospitality industry: Principles of sustainable operations, 2nd edition (2013)	The book deals with economic, environmental and social issues important for hospitality. It investigates ideas, solutions and strategies for sustainable managing of business operations.
Mattera, M., Moreno Melgarejo, A.	Strategic Implications of Corporate Social Responsibility in Hotel Industry: A Comparative Research between NH Hotels and Meliá Hotels International (2012)	The research determined that major hotel companies in Spain, in order to achieve sustainable competitive advantage, are taking significant efforts to decrease environmental pollution and energy consumption, as well as taking efforts to use new technologies and recycled materials.
Shah, K. U.	Strategic organizational drivers of corporate environmental responsibility in the Caribbean hotel industry (2011)	The research was carried out on the sample of Caribbean hotels. It has shown that environmental responsibility is higher for those hotels with defined environmental policies, which are directed toward guests with environmental requirements, which are in foreign ownership, which are the part of hotel chains, and which achieve high financial performance.

Chang, L. L.	World's LEED hotels: Innovation, renovation and development (2010)	The certification of hotels, as well as schools, and hospitals in the USA is possible toward the LEED Programme (<i>Leadership in Energy and Environmental Design</i>). The Programme developed US Green Destination Challenge with an aim to promote more cost efficient and resource-savings green building design and construction. The book describes case studies, the pioneers in green building and “greening” of hotel industry.
Petrić, L., Pranić, Lj.	Environmental awareness in the Croatian lodging industry (2010)	The authors investigated environmental awareness of Croatian hoteliers. The conclusion of the research is that Croatian hoteliers tend to favour environmental issues, but their attitudes are generally independent of hotel characteristics.
Wang, J., Wang, J.	Issues, Challenges, and Trends, that Facing Hospitality Industry (2009)	The authors as one of the main issue in hospitality emphasize “green” hospitality. They argue that sustainable development of hotels is based on “greening” their businesses, as well as controlling labour costs, dealing with multicultural differences and lifelong learning.
Bohdanowicz, P.	Environmental awareness and initiatives in the Swedish and Polish hotel industries—survey results (2006)	The paper investigates the impact of geo-political, economic and social context of the country on the environmental attitudes and pro-ecological initiatives in Swedish and Polish hotel industries. The conclusion is that hotels recognize the need for environmental protection and that they are activated in many activities, but this is not their main priority.

Bohdanowicz, P.	European Hoteliers' Environmental Attitudes: Greening the Business (2005)	The research showed that environmental responsibility still is not the major reason of guests' arrivals. However, the author emphasizes that hotels will do well if they are environmentally responsible. For now, the leaders in environmental practices are hotel chains.
Gössling, S. et al.	The eco-efficiency of tourism (2005)	By the analysis of tourism industry from the viewpoint of eco-efficiency, the authors proposed the concept to estimate the significance of environmental impacts and creating financial values in different tourism sectors. This is relevant for answering the questions related with an improvement of environmental performance in economically the most payable way.

Source: Authors' research

In the context of environmental management, hotels became a matter of interest because of their environmental impact, respectively because of their consumption of natural resource and generation of great quantities of municipal waste. In the USA since the 1970s The American Hotel and Lodging Association monitors environmental impacts of hotels and other accommodation units, with the objective to promote their environmental responsibility. In 1993 The Prince of Wales International Business Forum was founded with the same objective. The Forum promotes environmental responsibility of hotels by publishing the guidelines for solving environmental issues. A year later The Asian Pacific Hotels Environment Initiative was also founded. Its goal is to direct hotels toward solving issues about environmental responsibility. On the international level, the Green Globe 21 Programme is conducted, which is projected to promote sustainability goals in tourism and hospitality. The Programme suggests the usage of carefully selected key performance indicators (KPIs) for measuring emissions of carbon dioxide, energy efficiency, air quality preservation, noise control, consumption of drinking water, waste water management, reduction of solid waste, increase of public relationship and conservation of ecosystems. Therefore it can be noted that there is great interest of stakeholders for solving important environmental issues in hospitality. With efforts for "greening" hospitality hotels are joining researchers and professionals worldwide. Together they reached the conclusion that "green" hospitality is the main issue of hospitality. The basis for sustainable and "green" hospitality operations is a three-part balance, expressed as „profits, people and planet“. By taking those three elements into account, thus, a sustainable green hospitality development program becomes economically viable, as well as beneficial to the community and environment (Wang and Wang, 2009). From the viewpoint of environmental performance, an analysis of hotel industry can also be carried out, so

Gössling et al. introduced the concept which can help to assess the relative importance of different tourism sectors in terms of environmental impacts and generation of financial value, and thus provide insights of how to improve their environmental performance in the economically most feasible way (Gössling et al., 2005). Shah argued that higher environmental responsibility of hotels is driven quite strongly by a written environmental policy, marketing to eco-conscious tourists, foreign ownership, multinational affiliation, and performing better financially (Shah, 2011). Although nowadays it is expected that environmental awareness of guests is more pronounced and that they are becoming increasingly demanding, in her survey of the views of European hoteliers Bohdanowicz concludes that the hotel environmental care is still not the main reason for guests' arrival (Bohdanowicz, 2005). She reached the same conclusion by comparing attitudes with hotel activities and initiatives in Sweden and Poland, so she proposed directions for introducing environmental responsibility in the hotel industry (Bohdanowicz, 2006). The first direction is the introduction of adequate technologies and necessary changes in employee behaviour, as well as to emphasize the necessity of inducing greater demand for "green" services. The latest research in the field of environmental responsibility consider it wider, namely in the context of improving competitiveness. Mattera and Moreno Melgarejo argue that the biggest hotel companies in gaining competitive advantage take significant actions in order to reduce energy consumption through new technologies, using recycled materials, and basing their inputs on fair-trade products (Mattera and Moreno Melgarejo, 2012). When it comes to research in Croatia, Petrić and Pranjić investigated the environmental awareness of hoteliers in Croatia and they reached the conclusion that hoteliers tend to favour environmental issues, but their attitudes are generally independent of hotel characteristics (Petrić and Pranjić, 2010). In Croatia, unfortunately, concrete initiatives for the improvement of hotel environmental awareness are missing. Hence, in order to find new sources of competitive advantage and sustainable development, hotels have to take voluntary initiatives and investigate issues of environmental awareness by themselves.

2. HOTEL ENVIRONMENTAL ACCOUNTING

Gray and Bebbington encompass all those areas of accounting which must be adapted to the new requirements in the enterprise under the term environmental accounting, due to its orientation to the environment, all the way to the lowest level of eco-accounting or green accounting (Gray and Bebbington, 2003). The task of environmental accounting is "to provide a methodological basis that will enable relevant costs and effects of investments in environmental protection and sustainable development be recorded in the business system" (Peršić, 2005). From the aspect of a business system, environmental accounting develops within financial and managerial accounting. The object of environmental financial accounting is to prepare and report environmental information for external purposes. Those reports include information about environmental costs arising from environmental responsibility (or irresponsibility) of an organization. Apart from environmental financial accounting, environmental management accounting concerns environmental costs. The identification of environmental costs can be complex because those costs are often hidden in the overheads. This characteristic of environmental costs is very important because when it

is identified, it can be managed and optimised, so it can become the source of future business benefits. In the late 1990s, United States Environmental Protection Agency (US EPA) was among the first who investigated environmental costs, claiming that “identifying and managing the environmental costs contribute to improving the financial results of doing business” (US EPA, 1998). Therefore, hotels have to direct themselves toward development of their own environmental accounting as an independent accounting system or as a part of an existing accounting system, in order to increase the economic effects of their environmental responsibility.

There are not many published papers in the field of hotel environmental accounting, and this cognition demonstrates that environmental accounting is poorly used potential for achieving a competitive advantage and long-term sustainability. Most previous research in the field of hotel environmental accounting refers to measuring the quantity of disclosed environmental information and deals less with measuring the quality of disclosed information, and with investigating the structure of environmental accounting and recording of environmental costs. However, a positive fact is that environmental accounting is considered in the context of the development of environmental management systems. Implemented environmental management systems detect deficiencies in business processes and enable the improvement of these systems in the area of managing environmental costs. However, implementation of environmental management systems has some obstacles. One of the most significant ones is the managers’ resistance to undertake formal environmental management programmes. This is due to lack of knowledge and training and also investment in time, money and resources that is required in order to comply with standards and procedures leading to additional barriers to implementation (Doody, 2010). Bonilla-Priego, Najera and Font determined that changes in managerial behaviour is the key issue, not only because of decreasing natural resources, as a resource-based internally driven reason, but also because of legitimating actions to increase the environmentally friendly visibility of the firm, as an externally-driven reason (Bonilla-Priego, Najera and Font, 2011). Those findings, as well as other conclusions of previous research in the field of hotel environmental accounting, are shown in table 2.

Table 2: **Overview of previous research in the field of hotel environmental accounting**

AUTHOR	ORIGINAL TITLE AND YEAR OF PUBLICATION	SCIENTIFIC AND PRACTICAL ORIGINALITY OF THE PAPER
Buyukipekci, S.	Green Accounting Applications in Accommodation Services as a Part of Sustainable Tourism (2014)	The study involves accommodation companies currently operating in Konya, tourist destinations in Turkey. It is observed that 5-star hotels are quite sensitive in terms of sustainable tourism, because they have seen that they have to take environmental costs into consideration. Some of the 4-star hotels apply the environmental cost factors just like 5-star hotels do. Other ones are making efforts in this issue, but are unable to make necessary investments due to their insufficient capital amount. It is also concluded that 3-star hotels do not have sensitivity in this issue.

Vejzagić, V., Janković, S., Peršić, M.	Challenges of Environmental Accounting in Tourism Destination as a Trend of Sustainable Development (2012)	The main concern of this article is to illustrate accounting methods suitable for the inclusion of the economically-orientated component in the processes of environmental reporting, whilst examining the interrelation of eco-costs and values found in the classic LCC. A multivariable model used for calculation of a product's eco efficiency is introduced.
Bonilla-Priego, M. J., J. J. Najera and X. Font	Environmental management decision-making in certified hotels (2011)	The result of the research is to propose a model for better understanding two aspects of organizational behaviour: the purpose of EMAS registration, and business decision making based on aspects of environmental protection. The research showed that trend of internal reasons for environmental aspects incorporation turned into external reasons associated with business legitimacy to stakeholders.
Janković, S., Peršić, M.	Environmental Costs in the Hotel Industry of Croatia (2011)	The paper offers recommendations for the initial development of environmental accounting practices for hotels and their departments, and argues for the importance of developing relevant cost management systems that support environmental strategies and management. Focus is on environmental cost categories and potential classifications and approaches for hotel management decision-making and control purposes.
Janković, S., Peršić, M., Zanini Gavranić, T.	Framework for development of environmental management accounting in Croatian hospitality industry (2011)	The paper describes the model for the implementation of environmental accounting in hotel organizations. The research was conducted to investigate environmental accounting in Croatian hospitality, and concrete data was exposed.
Doody, H.	What are the barriers to implementing environmental practices in the Irish hospitality industry? (2010)	The author investigates barriers to which hotels are exposed in the process of implementing environmental practises. As the main barrier the author emphasizes the resistance of owners and managers. This resistance is the result of insufficient awareness of benefits which hotels can achieve by implementing environmental practice, as well as the absence of responsibility to stakeholders.
Hsieh, Y., Jeon, S.	Hotel Companies' Environmental Awareness and Commitment: A review of their web pages (2010)	According to analysis of the information disclosed on web pages of selected hotels, the authors concluded that hotels first have to discover barriers for environmental practices implementation, and then develop methods for their resolving, increasing environmental awareness as well as organizing workshops, conferences and exchange data of best environmental practices etc.

Er, H. and S. Aydin	Environmental Reporting in UK Hotels: An Empirical Analysis (2009)	The research was conducted on the sample of UK hotels and showed that only 31% of hotels, categorised with four and five stars, separately measure and report information about environmental costs, and that only 39% of them use environmental quality standards.
Peršić, M., Janković, S., Vlašić, D.	Eco Hotels - Philosophy of the 21st Century (2008)	The research conducted on the sample of Croatian hotels presents analysis of water and energy usage and cost of waste with regard to occupied rooms and number of guests.
Chan, W. W., Lam, J. C.	Environmental costing of sewage discharged by hotels in Hong Kong (2001)	The focus of the paper is the determination of environmental costs, especially municipally waste generated by the hotels. The authors propose the model for asses those costs, as well as environmental costs of hotels' restaurants.

Source: Authors' research

3. HOTEL ENVIRONMENTAL REPORTING

Environmental reports are usually associated with reporting about corporate social responsibility, which is understandable, considering that environmental accounting is the integral part of corporate social responsibility. Practice has shown that the establishment of environmental accounting and environmental reporting at organizational level, the same goes for hotels, is mostly voluntary, i.e. they are not regulated by law. However, the availability and reliability of environmental reports is important to different users of environmental information, so more and more hotels integrate environmental information in their annual reports or prepare special reports on environmental impacts, environmental costs and the achievements in reducing their ecological footprint. Disclosing environmental information is very significant for hotels because such disclosure represents their environmental responsibility, enhances their transparency to stakeholders and the community, and also ensures compliance of their business activities with legal requirements and international guidelines.

The incentive for environmental reporting comes from different national initiatives, professional accountants associations, consultant organizations etc. The most representative international initiative is the Global Reporting Initiative (KPMG, 2011). GRI provides sustainability reporting framework to promote usage of environmental performance indicators. By using environmental performance indicators organizations worldwide asses their environmental performance and comply with the principles of sustainable development, so they disclose achieved results. Some countries (e. g. Austria, Belgium, Denmark, Finland, Canada, Netherland, Germany, Norway, USA, Sweden) officially refers to GRI guidelines in their own guidelines and standards for corporate social responsibility accomplishment and environmental responsibility and/or in their environmental policies. GRI, affiliated with the United Nations Global Compact Initiative (the initiative which also supports business sustainability and sustainable reporting), constitutes the biggest international incentive for promoting corporate sustainability, and sustainable and environmental reporting. Previous research has shown that hotels disclose certain information about their environmental

responsibility, but information is missing about the usage of the GRI reporting framework in hotel environmental reporting. Hsieh states that only 46% of the selected hotel companies use web pages to post information related to environmental issues on their public web sites (Hsieh, 2012). As a possible reason for that he quotes the fact that hospitality is not such a environmentally sensitive industry, that environmental reporting is voluntary and that there is no standard for the reporting. The general conclusion is that hotels still have to prove themselves in the field of environmental reporting. In fact, Holcomb, Upchurch and Okumus state that hotels do report about their social responsible activities, but the area of sustainability reporting that seemed to be lacking was environmental (Holcomb, Upchurch and Okumus, 2010). Han, Hsu, Lee and Sheu argue that eco-friendly attitudes favourably affect hotel guests' intentions to visit a green hotel, to spread positive word-of-mouth, and to pay more. Respectively, more efforts must be made to communicate green hotel practices to the public in order to assist the selection of green hotels and more active participation for green consumption (Han, Hsu, Lee and Sheu, 2011). As a strategic vehicle for pursuing social and environmental agenda in hospitality industry is proposing the triple bottom line framework (Hong Chung and Parker, 2011). Also, a good starting point can be implementing an environmental management system, because the existence of ISO 14001 certified environmental management system determines the entities to report voluntarily information related to environmental performance (Ienciu, 2012). Recommendations for future environmental reporting are making data being communicated to stakeholders more transparent (Legrand, Huegel and Sloan, 2013).

Table 3: **Overview of previous research in the field of hotel environmental reporting**

AUTHOR	ORIGINAL TITLE AND YEAR OF PUBLICATION	SCIENTIFIC AND PRACTICAL ORIGINALITY OF THE PAPER
Legrand, W., Huegel, E. B., Sloan, P.	Learning from best practices: sustainability reporting in international hotel chains; chapter in the book "Advances in hospitality and leisure" (Chen, J. S. et al.), (2013)	The chapter elaborates on existing practices of sustainability reporting of international hotel chains. It evaluates the meanings of disclosed information, as well as the comparability of reports. The conclusion is that sustainability reporting has to be transparent and customized to stakeholders.
Peršić, M., Janković, S., Bakija, K., Poldrugovac, K.	Sustainability reporting for hotel companies: A tool for overcoming the crisis (2013)	The research of sustainability reporting in hotel companies in Croatia reached the conclusion that in present sustainability reports miss relevant information. The reasons why hotels report sustainability information are different from those reported on the global level. The conclusion is that hotels in Croatia are far behind global competition in the area of sustainability reporting.

De Grosbois, D.	Corporate social responsibility reporting by the global hotel industry: Commitment, initiatives and performance (2012)	The study evaluates corporate social responsibility reporting practices among the largest hotel companies in the world. It demonstrates that while a large number of hotel companies report commitment to CSR goals, a much smaller number of them provide details of specific initiatives undertaken to these goals and even fewer report actual performance achieved.
Hsieh, Y.	Hotel companies' environmental policies and practices: a content analysis of their web pages (2012)	The research was conducted on a sample of the biggest 50 hotel companies. Information disclosed on their web pages was analysed. The results have shown that only 46% of hotel companies disclose environmental information. The possible reasons can be related with considering of hotel industry as less environmentally sensitive, volunteerism of reporting, and no available reporting standards.
Ienciu, I. A.	The contribution of the environmental management systems to ensuring environmental reporting (2012)	The conclusion of the paper is that organizations with implemented environmental management systems are more efficient in measuring and reporting environmental information. It is also concluded that certification of environmental management system according to ISO 14001 contributes to higher level of voluntary reporting of environmental performance.
Han, H., Hsu, L. J., Lee, J., Sheu, C.	Are lodging customers ready to go green? An examination of attitudes, demographics, and eco-friendly intentions (2011)	The research has shown that eco-friendly attitudes favourably affect hotel guests' intentions to visit a green hotel, to spread positive word-of-mouth, and to pay more. Respectively, hotels have to pay more attention to "green" reporting because environmental information is useful to guests when they need to decide about hotel reservations.
Hong Chung, L., Parker, L. D.	Managing social and environmental action and accountability in the hospitality industry: a Singapore perspective (2010)	The paper investigates corporate sustainability reporting and environmental reporting in the hospitality industry. The main conclusion is that triple bottom line reporting has to be the strategic issue for incorporating social and environmental agendas in Singaporean and international hospitality.
Holcomb, J. L., Upchurch, R. S., Okumus, F.	Corporate social responsibility: what are top hotel companies reporting? (2007)	The paper investigates socially responsible behaviour of ten hotel companies. The conclusion is that the majority of hotel companies report about their socially responsible activities, but a little about their environmental responsibility.

Bohdanowicz, P., Simanic, B., Martinac, I.	Sustainable hotels – environmental reporting according to Green Globe 21, Green Globes Canada / GEM UK, IHEI Benchmarking hotel and Hilton environmental reporting (2005)	The authors compare four reporting and benchmarking schemes depending on their usefulness for the hotel sector. The major conclusion is that the hotel industry needs reliable and universal tools for reporting and comparing environmental performance. All sectors of hotel industry have to participate in this process, as well as scientists and legislators.
Dwyer, L.	Relevance of triple bottom line reporting to achievement of sustainability tourism: a scoping study (2005)	The paper deals with the key components of the TBL approach of reporting, identifies potential benefits of TBL approach for the organization in tourism as well as necessary conditions for the integration of TBL in business activities. The paper also argues about the challenges that organisations in tourism have to deal with in order to implement TBL approach.

Source: Authors' research

The research conducted on the sample of hotels in Croatia has shown that the reasons why hotels in Croatia report their environmental information are significantly different in relation to those determined on the global level (Peršić, Janković, Bakija and Poldrugovac, 2013). On the global level reasons for preparing environmental reports are: improving energy efficiency, reducing the products' environmental footprint and cutting emissions and pollutants. For hotels in Croatia the reasons for preparing sustainable reports are: compliance with regulations and standards, and long-term business success. The less likely reasons for preparing sustainable reports are implementation of environmental policies and improving the relationship with stakeholders. Therefore, it is evident that in the field of environmental responsibility hotels in Croatia fall behind global competition.

The financial crisis in the 2008 hit the majority of developed countries and resulted in emphasising cost control measures. This forced hoteliers to reevaluate their plant equipment and operational practices to reduce utility costs (Goldstein and Vasu Primlani, 2012). Previous studies have shown that initiatives aimed at reducing the impact of the activities of any organization on the environment generally reduce their operating costs (e. g. Sinding, 2001; Hillary and Burr, 2011). The same counts for hotels. A hotel with sound and reputable green practices can lower operating costs, appeal to stakeholders, enhance employee morale, and consequently enjoy financial prosperity (Han, Hsu, Lee and Sheu, 2011). The consumption of energy from non-renewable resources, the consumption of drinking water, as well as the amount of solid waste and waste waters are the biggest generators of environmental costs in hotels. The International Federation of Accountants, therefore, proposes the implementation of relatively simple and inexpensive measures to achieve savings - implementation of systematic monitoring and the control of resource consumption, investment in equipment and plant of lower-energy class and investment in recycling systems (IFAC, 2011). IFAC also points out how accountants play a significant role in those processes. Accountants identify environmental costs, which managers then can, and have to control. Starting point for the identification of environmental costs are the data from

the general ledger. However, it is necessary to gather detailed information by developing accounting information system, which will link different sectors and departments of the hotel. Incoming and outgoing invoices have to be analysed, as well as current processes and working methods, and environmental costs associated with the payment of proposed fees and taxes. Therefore it is necessary to implement environmental management accounting, which will be connected with every specific activity in the management system of a hotel and will "identify, collect, estimate, analyse and prepare reports for managers" (Janković, Peršić and Zanini Gavrančić, 2011).

Generally, environmental costs are defined as resources that can be used either voluntarily or to meet regulatory requirements, and with the intention of achieving environmental objectives (Bennett, Bouma and Wolters, 2002). They are classified according to the activities that have an impact on the environment. Activities that have an impact on the environment are defined as ones that are undertaken with a view of improving the environmental performance of the organization, while the resources used in those activities are environmental costs (Bennett, Bouma and Wolters, 2002). There are also environmental costs that are not linked with those activities, but they are the output of environmental pollution (e. g. penalties and fees for not complying with legal requirements and compensations to those who suffer damages caused by environmental pollution). Regardless of types of environmental costs, it is important to incorporate them into internal cost accounting. Depending of the assessment of the type of environmental cost, hotels need to elaborate environmental costs. In most cases environmental costs will refer to costs of energy consumption, water consumption and waste disposal. Nevertheless, previous research has shown that such hotel practice does not prevail. For example, a survey conducted on a sample of hotels in the United Kingdom has shown that only 31% of hotels, categorised as four and five star hotels, separately measures and discloses environmental costs and that only 39% of them use environmental quality standards (Er and Aydin, 2009). Reasons for this may differ, so Hsieh and Jeon point out that it is necessary to discover the barriers that prevent the implementation of environmental policies at first, and then develop ways to remove those barriers, increase environmental awareness, offer green education workshops and conferences, share the best green practices and mandate solutions through legislation (Hsieh and Jeon, 2010).

CONCLUSION

Contemporary trends in the hotel industry force hotels on changes in their business policy and strategy. Those changes are necessary for implementing environmentally sustainable practices such as environmental accounting. It is possible to develop environmental accounting if management commitment for environmental issues is incorporated in corporate environmental policy and if business practises incorporate environmental management. Hotels have to detect, measure, record and analyse environmental costs in order to optimise them. Information about environmental costs and other environmental performance indicators have to be communicated to stakeholders. Previous research has shown that most hotels still have not developed environmental accounting and reporting practices. Some positive trends are

demonstrated by those hotels that base their environmental practice on the principles of corporate social responsibility and have implemented and certified environmental management systems. Croatian hotels lag behind in environmental practice development, and those hotels that consider themselves environmentally responsible fall behind from the leaders on the global level. Previous research has demonstrated that the improvement of environmental responsibility, the development of environmental accounting and environmental reporting are the issues which hotels have to consider, resolve and use in order to accomplish a competitive advantage and long-term business sustainability.

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