# Croatian hotel managers' attitudes towards environmental management systems: perceived benefits and barriers

HELENA ŠLOGAR
Libertas International University
Zagreb, Trg J. F. Kennedy 6b
Croatia
hslogar@libertas.hr
ORCID ID: https://orcid.org/0000-0002-7240-1140

STELLA HRVATIN
hrvatinstella@gmail.com
ORCID ID: https://orcid.org/0000-0001-5275-024X

*Abstract*: Researchers have pointed out significant adverse environmental impacts of the hotels and suggested environmental management systems (EMS) as a solution for identifying, managing and mitigating those impacts. EMS are adopted by the top management members based on perceived benefits and implementation barriers. The purpose of this study is to explore the attitudes of general managers from Croatian hotels about perceived benefits of and barriers to EMS implementation. Data was collected with online questionnaires from April to June 2021. Sample included 32 general managers, representing hotels from Istria, Kvarner, North, Central and South Dalmatia. Collected data was analysed using descriptive statistics. Croatian hotel managers perceive improved reputation and sustainable resource governance, followed by cost reductions as the main benefits of EMS. Administrative burden, lack of human resources and lack of knowledge are perceived as the most significant barriers for managers of hotels with implemented EMS, while implementation costs, lack of human resources and infrastructure changes are perceived as considerable barriers by managers from hotels without EMS. The results of this study provide an insight about the perceived benefits and barriers of EMS in Croatian hospitality sector contributing to the field by testing the findings of previous research in different context.

*Key words*: environmental management system, hotels' environmental impacts, perceived benefits, implementation barriers, Croatian hotel industry
*JEL classification:* Z30

---

The research is based on Stella Hrvatin's Undergraduate thesis entitled "Implementation of environmental management systems in Croatian hotels" (In Croatian: "*Implementacija sustava upravljanja okolišem u hrvatskim hotelima*"). It was defended on 26 August 2021 at the Visoka škola za međunarodne odnose i diplomaciju Dag Hammarskjold in Zagreb, Croatia (Dag Hammarskjold Business School of International Relations and Diplomacy, part of Libertas International University).

## 1   Introduction

As the popularity of Mediterranean coastline destinations rose among tourists from 1960' onwards, local communities witnessed an influx of a large number of tourists and consequently construction of many hotels (Gelbman, 2022). The same is true for the Croatian coast which is characterized by density of accommodation facilities and imbalanced 'tourists to locals ratio' during summer. This intense development has changed both the Mediterranean landscape and the lifestyle of local communities. On one side this brought economic development and prosperity, infrastructure development, new jobs and entrepreneurial opportunities. On the other side, a large number of guests put pressure on water, energy, sewage and waste management systems and contributed to the loss of authenticity and local customs (Gelbman, 2022). Hotels' environmental impacts include intense water consumption and possibility of contamination of local water bodies by wastewater, significant energy consumption and consequently greenhouse gas emissions, large amounts of disposed waste and impact on ecosystems through irresponsible supply chains. Due to the scale of their operations, environmental management of the hotels is gaining focus of the researchers (Jones et al., 2014).

Literature recognizes environmental management systems (EMS) as effective way to implement sustainability into hotel operations, thus reducing negative impacts on the environment (Ayuso, 2006; Álvarez-García & del RíoRama, 2016). Park et al. (2014) found that environmental management in the hotels mostly depends on the management's attitude towards EMS, and, as pointed out by Lopez-Gamero et al. (2011), managers' attitudes are influenced by perceived benefits and barriers. Attitudes and perceptions of hotel management are crucial for investment in proactive environmental management (Pereira-Moliner et al., 2015). Research by Park et al. (2014) confirmed with structural equation modelling that top manager's attitudes influence EMS adoption and implementation through perceived benefits of the environmental program. Perceived benefits can therefore be viewed as a crucial factor for EMS implementation. On the other hand, what prevents managers from implementing EMS are perceived barriers.

Main benefits of EMS and motivational drivers were studied by Kirk (1995), Bohdanowicz (2005), Bohdanowicz (2006), Tzschentke et al. (2008), Kasim (2009) and Tag-Eldeen et al. (2011) and perceived barriers for EMS implementation by Chan (2008), Kasim, (2009), Chan (2011) and Alvarez-García & del RioRama (2016). However, literature still does not provide a single answer as to what are the main benefits or main barriers and as Graci and Dodds (2008) point out, there is a need to study managers' attitudes in different contexts. So far in Croatia, managerial attitudes towards EMS in hospitality were studied by Petrić and Pranić (2009) who were researching managers' environmental awareness and environmental responsibility, by Golja (2009) who focused on hotel managers' perceptions of the importance of implementation of the sustainability principles into business strategies, also by Krstinić Nižić and Matoš (2018) who were researching managers' attitudes towards hotel energy management and frequency of EMS standards in Croatian hospitality sector and by Racz et al., (2021) who were studying managers' attitudes towards climate change in hospitality companies of different category.

Since there is scarcity of research on the managers' attitudes towards EMS in the Croatian hospitality sector, the aim of this paper is to explore current managers' perceptions of benefits and barriers to EMS implementation in Croatian hotels. This will contribute to the theoretical field results by covering the existing gap in Croatian hospitality research and lead to practical implications for decision-makers in terms of understanding the benefits and overcoming implementation barriers.

Environmental management systems are adopted by the top management members based on perceived benefits and implementation barriers. The purpose of this study is thus to explore the attitudes of general managers from Croatian hotels about benefits of and barriers to EMS implementation. Based on the purpose, following research questions are set:

RQ1: What are the main benefits of the EMS implementation as perceived by Croatian hotel managers?

RQ2: What are the main barriers to the EMS implementation as perceived by Croatian hotel managers?

The following two sections of the paper give an overview of environmental impacts in the hospitality industry and present findings of previous research on benefits and barriers of environmental management systems. Methodology is presented in the fourth chapter, while the fifth section elaborates on the empirical results. Paper ends with limitations, recommendations and conclusions on the findings.

## 2    Environmental impacts of the hotel industry

Coastal and island destinations are usually characterized by warm and dry climate, with limited amounts of rain and cyclical droughts, especially in periods of high tourist influx (Deyà Tortella & Tirado, 2011). As research has shown that daily water consumption per tourist in Mediterranean destinations is several times higher than consumption of local inhabitants (Kasim, 2007), intense tourism activity can cause problems with water supply (Rico-Amoros et al., 2020) negatively impacting local communities. Another negative impact is related to pollution of water bodies resulting from improper treatment of wastewaters, or contamination with fertilizer and pesticides used for green areas (Deyà Tortella & Tirado, 2011).

Number of offered services in the hotels impact the energy consumption (Santiago, 2021) which is why luxury hotels and all-inclusive resorts report higher consumption levels (Mechri & Amara, 2021). Energy is used for food and beverage preparations, heating, cooling, functioning of SPA facilities, electronics, lighting, vehicles etc. (Mechri & Amara, 2021; Santiago, 2021). Besides the number of offered services, energy consumption is impacted by occupation rate and ambient temperature/weather conditions (Papageorgiou et al., 2018). Improvements in energy efficiency and implementation of energy saving measures have high potential for lowering emissions and reducing negative impact on climate change (Papageorgiou et al., 2018). Research by Bianco et al. (2017) shows that by implementing financially sustainable energy efficiency measures it may be possible to save up to 13% of energy in 2030 in the Italian hotel sector.

According to Arbulú et al. (2016), 1% increase in tourist arrivals results in 1.25% increase in waste and 1% increase in tourist expenditures increases waste for 0.51%. Research by Curry (2012) and Camilleri-Fenech et al. (2020) indicates that a considerable amount of the waste in hospitality comes from single-use (plastic and paper) products and from kitchen operations (up to 50%). Kasavan et al. (2022) report that food waste is the result of long supply chains and miscalculations in orders, inappropriate storage of raw food materials, lack of experience of kitchen staff, portion sizes, type of service and treatment of food surplus.

Food waste is a considerable problem due to loss of resources that are used for food production and gases emitted during the decomposing phase of the food if disposed inappropriately.

However, as Gelbman (2022) claims, without hotel development in coastline areas, Mediterranean coastline communities could suffer from neglect, lack of income and lack of infrastructure investments. Tourism sector is constantly growing, which brings economic and social development to the communities. 7 929 000 tourists visited Croatia in 1980 and this number rose to 14 343 000 (Croatian National Tourist Board, 2021) in 2015. In the period from 2000 to 2021, the number of hotels grew by 60%. In 2000, Croatia had 446 hotels, and in 2021 there were 713 of them (Croatian National Tourist Board, 2021). Therefore, in order to find balance between tourism growth and benefits for shareholders on one side and negative influence on environment on the other, recommendation is to implement environmental management systems in hotels (Gelbman, 2022).

## 3   Environmental management systems

Environmental management system (EMS) is a "transparent and systematic process" (Steger, 2000, p.24) that includes defining environmental goals, developing corporate policies, assigning responsibilities, planning activities, allocating resources and implementing practices for improving environmental footprint (Steger, 2000; Meade & Pringle, 2001). EMS allows organizations to identify, manage, monitor and control environmental impacts of business operations (Chan, 2009). EMS provides a structure that allows better control of the environmental impacts and achieved results (Chan, 2008). As Chan (2009) points out, the purpose of the EMS is to align the company with its environmental policy and demonstrate compliance to the company's stakeholders.

EMSs date back to the mid 1980's when in the US companies needed to ensure compliance with new, strict environmental legislation, while companies in the EU were proactively trying to implement them, perceiving them as business opportunity rather than a burden (Steger, 2000). EMS can be designed individually by the hotel, however most of them use international standards as guidance. Standards are seen as a way to increase competitiveness and improve quality of services (Vrtodušić Hrgović & Puklavec, 2013). As Steger (2000) points out, first environmental management standards, namely, ISO 14001 and EMAS by the EU, were developed in the 1990's to ease the implementation processes for the companies. Today, there are more than 60 standards worldwide, however ISO 14001 and EMAS (Álvarez-García & del RioRama, 2016), Travelife and Green key (Krstinić Nižić and Matoš, 2018) remain the most popular in the tourism sector.

### 3.1. Benefits of EMS implementation

Alvarez-García and del RioRama (2016) point out there are internal and external motivators that lead to EMS implementation. External motives are related to stakeholder pressures and regulations, while internal factors relate to possibilities for competitive advantage through improved performance, productivity and profitability (Alvarez-García & del RioRama, 2016).

Heras-Saizarbitoria et al.'s (2011) extensive literature review on motivators for implementing EMS shows that there is no unanimity among researchers on what are the main drivers. However, Alvarez-García and del RioRama (2016) summarized potential motives in the following groups: satisfying stakeholder pressures (suppliers, customers, local community…), ensuring compliance with legislation, improving image or reputation, cost reductions, improvement in environmental performance, competitiveness and new market opportunities. Based on the extensive literature review, Park et al. (2014, p.99) categorized common benefits of the environmental management into: "improved stakeholder relations, enhanced marketing benefits, increased operational efficiency and profits and fulfilled social responsibility".

Based on the findings from these two research (Park et al., 2014; Alvarez-García & del RioRama, 2016), motives for EMS implementation can be summarized as follows: (1) Cost reductions due to increased efficiency, (2) Improved stakeholder relations, (3) Competitiveness and market opportunities (4) Improved image and reputation and (5) Sustainable resource governance.

**(1) Cost reductions due to increased efficiency**
Improved environmental management results in improved resource efficiency and lower operating costs (Park et al., 2014). Research by Bohdanowicz (2006) indicates that even small initiatives like replacing light bulbs with energy efficient ones can save 10-25% of energy, depending on the size and age of the building. Furthermore, water-saving practices like towel and linen reuse programs can save up to 25 000$ per year for the hotel with 100 guest rooms and occupancy rate of 75% (Bordsky, 2005 cited in

Park et al., 2014.). Graci and Dodds (2008) argue that environmental management can help hotels maximize their efficiency and reduce waste which reduces operating costs, while Lopez-Gamero et al. (2011) point out that positive effect on financial performance is not achieved true cost reductions (due to high investments) but rather through augmented organizational capabilities such as continuous innovation, employee motivation, stakeholder involvement and compliance with legislation. Finally, Molina-Azorín et al. (2009) claim that different levels of environmental commitment will have different effects on financial performance.

**(2) Improved stakeholder relations**
Better management of environmental impacts can improve relations with the local community, customers, employees and other stakeholders. One of the main benefits of the EMS is better relationship with the local community in the form of their increased support (Kirk, 1995). Furthermore, Bohdanowicz (2005) reports that customers are increasingly concerned about impacts on the environment so investment in EMS can bring benefits in terms of attracting eco-aware customers and gaining their support. On the other hand, Lopez-Gamero et al. (2011) claim that tourists might negatively respond to the environmental initiatives (in terms of room temperature, towel reuse or lower water pressure) because they perceive them as hindering for service quality. Thus, hotels must carefully balance between high quality standards for their guests and initiatives for environmental protection. One other benefit might come from improved relations with employees, since research (Markuz, Hrvatin & Miklošević, 2022) has shown that perceived corporate social (and environmental) responsibility of the hotels positively influences job satisfaction and organizational commitment among employees. As Graci and Dodds (2008) point out, employees are more likely to stay loyal to employers whose business principles are in line with their own values.

**(3) Competitiveness and market opportunities**
Less recent research by Bohdanowicz (2005) indicates that sometimes managers don't perceive EM as factor that has significant influence on customers' decision-making. Bohsanowicz (2005) points out that green consumers are a niche market with insufficient purchasing power to influence the industry to adopt more environmentally friendly practices. However, number of environmentally conscious customers is steadily growing, and they are demanding greener services (Krstinić Nižić & Matoš, 2018). Customers who are conscious of how their lifestyles affect environment will want to continue with eco-friendly practices even when on vacation thus expecting opportunities for recycling, consuming organic food and using products made of sustainable materials (Graci & Dodds, 2008). Graci and Dodds (2008) found that more and more companies and governmental offices in Canada are requesting information about environmental practices and are committing to staying only in hotels that have sound EM. Finally, Pereira-Moliner et al. (2015) and Lopez-Gamero et al. (2011) conclude that environmentally proactive hotels are able to differentiate their services from less environmentally friendly competitors on the market, thus achieving market advantage through differentiation. Research by Kasim (2009) shows that SMEs in Kuala Lumpur agree that EMS will make them more attractive to tourists (92.3%) and bring them competitive advantage (69.2%).

**(4) Improved image and reputation**
Kirk (1995) points out EMS results in improved public image which is one of the main benefits of implementation. Increased reputation among consumers was also confirmed by (Pereira-Moliner et al., 2015). Research results by Lopez-Gamero et al. (2011) imply firms investing in EM improve reputation among consumers thus gaining competitive advantage through differentiation. Hotels are usually not perceived as big polluters like oil&gas or manufacturing facilities, which is why pressure from general

public might be lower (Chan, 2008). Even though public pressure is low, hotels who invest in environmental management will benefit from better reputation in their local communities (Lopez-Gamero et al., 2011).

**(5) Sustainable resource governance**

EMS allows a systematic approach to reduce energy and water consumption (Chan, 2008) which is why there are many positive consequences in terms of environmental protection as well as positive effects on bottom line (Graci and Dodds, 2008); Deyà Tortella and Tirado, 2011). Additionally, some studies have shown that managers feel internal social responsibility to include the environment in their decisions because they believe that is the "right thing to do" (Graci & Dodds, 2008). This intrinsic motivation to engage in environmental management is especially specific for small hotels owned and managed by one person where values and series of lifestyle choices have strong influence on decision-making (Tzschentke et al., 2008). As Tzschentke et al. (2008, p.132) state "going green is largely an intrinsically driven change, and its seed is planted long before".

Bohdanowicz (2005) explored attitudes of European hoteliers in 2005 and she found that reducing operational costs (5,37), demand from customers (4,57), improving hotel image (4,43) and diminishing environmental impacts of the hotels (4,21) are seen as the motives to introduce EMS. In Sweden, as reported by Bohdanowicz (2006) the main incentive for introducing EMS in the hotel is reduction of operating costs (5.04), followed by demands from customers (4.96), diminishing negative environmental impacts of the hotel (4.55) and improving the hotel image (4.32). The same is true for Poland where Likert scale average for reducing operating costs is 5.82, 4.48 for demands from customers, 4.42 for improving the hotel image and 4.12 for diminishing environmental impacts of the hotel (Bohdanowicz, 2006). Research by Deyà Tortella and Tirado (2011), showed that reasons why management in Spanish hotels introduces environmental initiatives are mostly demand-driven and include attempts to improve the hotel's image (74%), improve the quality of service (46%) and increase customer loyalty (31%). Results from research by Tag-Eldeen et al. (2011) in Egypt indicate that cost reductions (35%) is the biggest motivator, followed by improved image (27%) and compliance with regulation (19%). Stakeholder pressures are listed as the least powerful motivator (Tag-Eldeen et al., 2011).

**3.2. Barriers to the EMS implementation**

Based on the literature review of the barriers to EMS in other industries, Chan (2008) conducted empirical research among 83 hotels in Hong Kong SAR to determine what are the main barriers in the hotel industry. Proposed barriers are: (1) costs of implementation and maintenance, (2) lack of resources, (3) lack of knowledge and skills, (4) lack of professional advice, (5) uncertainty of outcome and (6) certifiers/verifiers. His findings (Chan, 2008) indicate that implementation and maintenance cost is the biggest barrier, followed by lack of professional advice (3.51) and lack of knowledge and skills (3.48).

**(1) Implementation and maintenance costs**

Implementation costs include education and training of the staff, adaptation of the processes, documentation, reorganization, consultation costs, certification and audit costs (Ann, Zailani & Wahid, 2006). EM certification costs depend on the hotel size and audit fees (Krstinić Nižić & Matoš, 2018), and as Krstinić Nižić and Matoš (2018) list in their paper, Green Globe can cost from 620 to 4200 euros, Green Key costs 1000 euros + 500 euros for audit, Green Hotel Association membership costs 200 + 1 euro for each guestroom.

**(2) Lack of resources**

Lack of different kinds of resources (time, people and money) is a considerable barrier to EMS implementation, especially in small and lower-standard establishments. As Chan (2008) points out, environmental management adds to the responsibilities and workload of both staff and management which affects performance of their daily duties. Chan (2005) claims EM standardization increases paper-work and introduces new work tasks for hotel employees. After a certain point EM tasks will start to negatively impact service quality which is why some managers are reluctant to implement EMS (Chan, 2005). Moreover, management support can also be seen as one of the crucial resources for successful implementation because if there is insufficient support, resources will not be allocated properly, causing thereby delays and failures (Chan, 2008).

**(3) Lack of knowledge and skills**

As Chan (2008) points out, managers are traditionally concerned with revenue management and guest satisfaction, while environmental management is not their priority. And even when they are implementing some environmentally friendly practices, they are lacking knowledge on formal EMS and its implementation (Chan, 2008). Another important barrier is the lack of awareness about the sources of environmental impacts. Many studies point out that in order to invest in renewable energy or energy efficiency measures, managers need to be aware of and educated on the advantages of renewable energy sources and energy-saving technologies (Papargeorgiou et al., 2018). Same is true for preventing waste going to landfills. For example, in F&B department, hoteliers need to be aware of weak points in the processes that cause food to get spoiled and then they need to be knowledgeable to implement new practices that will prevent food waste from happening (Kasavan et al., 2022).

**(4) Lack of professional advice**

Lack of professional advice relates to lack of support from authoritative source - for example governmental agencies or local instances regarding environmental legislation and lack of professionals that are knowledgeable about EMS standards (Chan, 2008). Respondents in the Kasim (2009) study emphasize the need for both national and state governments to do more in terms of helping hotel SMEs be more environmentally friendly. Some hotels are faced with difficulty when interpreting standards and adapting them to their own conditions, which is why they need external help that was lacking (Chan, 2008). There is also lack of sector-specific guidelines and difficulty in obtaining certification/verification, since different options are inconsistent and costly (Kasim, 2009).

## 3  Methodology

This study employed quantitative methods for data collection and analysis. Researchers collected data with an online questionnaire developed based on the literature review. Questionnaire is recommended by Tharenou et al. (2007) as a good data collection method when the aim is to obtain perceptions, attitudes and experiences from respondents. Respondents were completing questionnaire online, without the presence of the researchers and it was pointed out to them that it is anonymous. In line with recommendations by Walliman (2017) questionnaire was short, with clear instructions and nice design to increase response rate.

Questionnaire consisted of two parts, the first part was related to the hotel features and questions in the second part were aimed at investigating manager's attitudes regarding benefits and barriers for implementing EMS in their hotels. Their attitudes were measured on a 5-point Likert scale.

Before distributing the questionnaire, a pilot testing was conducted to improve clarity of the questions. Obtained comments were taken into account and changes were applied. The final version of the

questionnaire was sent to 322 email addresses that were obtained through publicly available websites. Data was collected from April to June 2021. 35 completed questionnaires were returned, however due to irregularities, 3 questionnaires were discarded. Thus, the final sample included 32 respondents. The response rate was 10,86% which is low but expected for this type of research.

Sample included 32 representatives (general managers) of 8 hotels from Istria, 8 from Kvarner, 3 from North Dalmatia, 9 from Central Dalmatia and 4 from South Dalmatia. General managers were the target group of this research because they are decision-makers when it comes to implementation of management systems, they determine strategic goals, generate vision and lead the development (Rupčić, 2018), therefore they have the power to integrate environmental protection in the organizational culture and all hotel operations. 46.9% of hotels in the study were domestically owned and managed, 25% were part of a domestic group or chain, 12.5% were part of an international group and 9.4% had foreign ownership and management. 62.5% belong to the mid-range category, 31.3% to the luxury and 6.3% to the budget standard. Size was measured with the number of rooms. From hotels in the sample 40.6% had less than 50 rooms, 31.3% between 50-200 and 28.1% more than 200. Sample is small, but diverse. Table 1 presents the characteristics of the sample.

**Table 1.** Sample characteristics (N=32)

| Attribute | Option | Frequency | Share |
|---|---|---|---|
| Ownership | Hotel is part of an international chain or group | 4 | 12,5% |
| | Hotel is part of a domestic chain or group | 8 | 25% |
| | Foreign ownership and management | 3 | 9,4% |
| | Domestic ownership and management | 15 | 46,9% |
| | Other | 2 | 6,2% |
| Standard | Budget (economy) | 2 | 6,3% |
| | Mid-range | 20 | 62,5% |
| | Luxury | 10 | 31,3% |
| Size | Less than 50 rooms | 13 | 40,6% |
| | 50-200 rooms | 10 | 31,3% |
| | More than 200 rooms | 9 | 28,1% |
| Location | Istria | 8 | 25% |
| | Kvarner | 8 | 25% |
| | North Dalmatia | 3 | 9,4% |
| | Central Dalmatia | 9 | 28,1% |
| | South Dalmatia | 4 | 12,5% |

Source: Authors calculation, 2021.

From 32 hotels that participated in the study, 11 hotels or 34,4% have established EMS while 21 or 65,6% haven't. In the sample, EMS is the least common among small hotels (84,61% don't have EMS), and most common in medium-size hotels with 51 - 200 rooms where 60% of hotels have implemented EMS.

Figure 1 presents the share of sample hotels that implemented EMS categorized by the size.
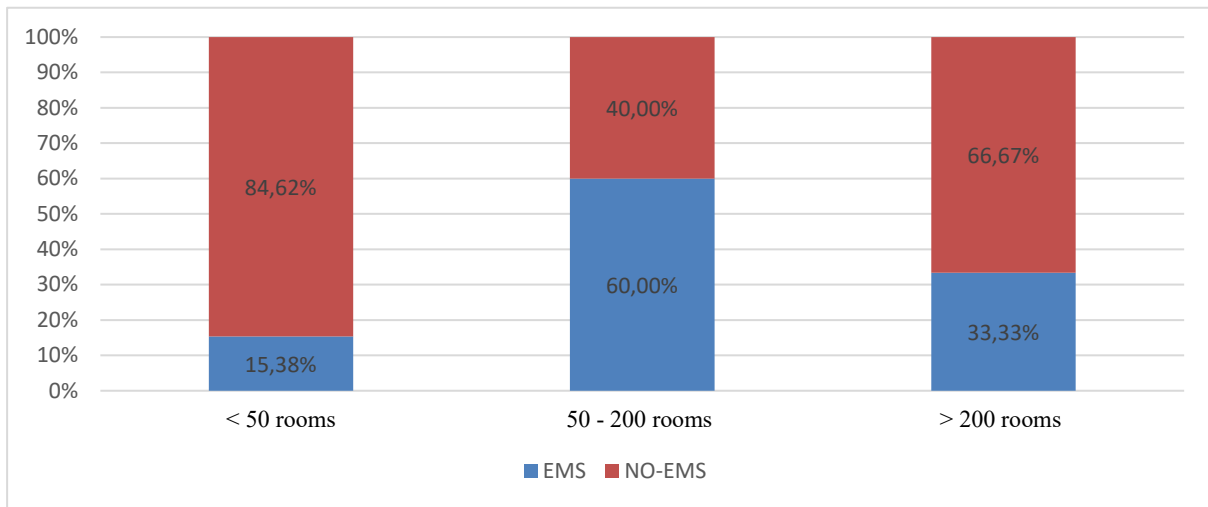


**Figure 1.** Share of hotels with EMS in different size categories
Source: Authors calculation, 2021.

Cross-tabulation showed that in the sample the largest % of hotels with EMS is from Istria (62,5%) followed by Kvarner (50%). It has to be noted that the majority of the hotels from Dalmatia does not have an environmental management system.

The percentages of hotels with EMS in Dalmatia regions vary from 25% in South Dalmatia to none in North Dalmatia. Figure 2. presents the share of hotels with EMS categorized by different regions.
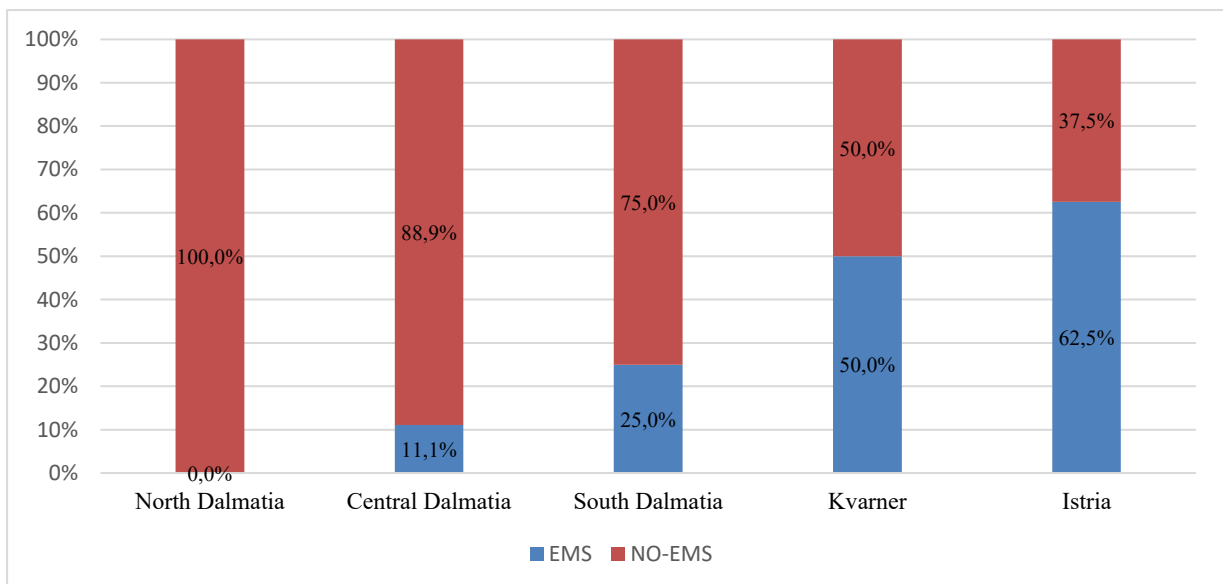


**Figure 2.** Share of hotels with EMS in different regions
Source: Authors calculation, 2021.

Data were organized and analysed using MS Excel. Descriptive statistics was applied to analyse the main characteristics of the collected data and to answer the research questions.

## 5   Results

This chapter presents descriptive analysis of the main benefits and barriers for EMS implementation as perceived by Croatian hotel managers. Data is visually presented with charts.

### 5.1. Benefits of EMS implementation in Croatian hotels

Among hotels that have already implemented EMS (11 in total), main motivators are improved image (4.09) and sustainable resource governance (4.0), followed by marketing benefits (3.9) and cost reductions (3.6). Improved stakeholder relations is seen as the least important benefit with a mean average of just 3.0. Table 2 presents the means, standard errors, standard deviations and sample variance.

**Table 2.** Perceived benefits of EMS implementation in Croatian hotels that have implemented EMS

| Benefit | Mean | Standard error | Standard deviation | Sample variance |
|---|---|---|---|---|
| Improved image | 4,09 | 0,47 | 1,58 | 2,49 |
| Sustainable resource governance | 4,00 | 0,47 | 1,55 | 2,40 |
| Marketing | 3,91 | 0,46 | 1,51 | 2,29 |
| Cost reductions | 3,63 | 0,36 | 1,21 | 1,45 |
| Competitiveness | 3,54 | 0,39 | 1,29 | 1,67 |
| Improved stakeholder relations | 3,00 | 0,40 | 1,34 | 1,80 |

Source: Authors calculation, 2021.

Importance of different benefits of EMS as perceived by hotel managers that have implemented environmental management system is presented visually by figure 3.

**Figure 3.** Perceived benefits of EMS implementation among Croatian hotels that have implemented EMS (sample 11)
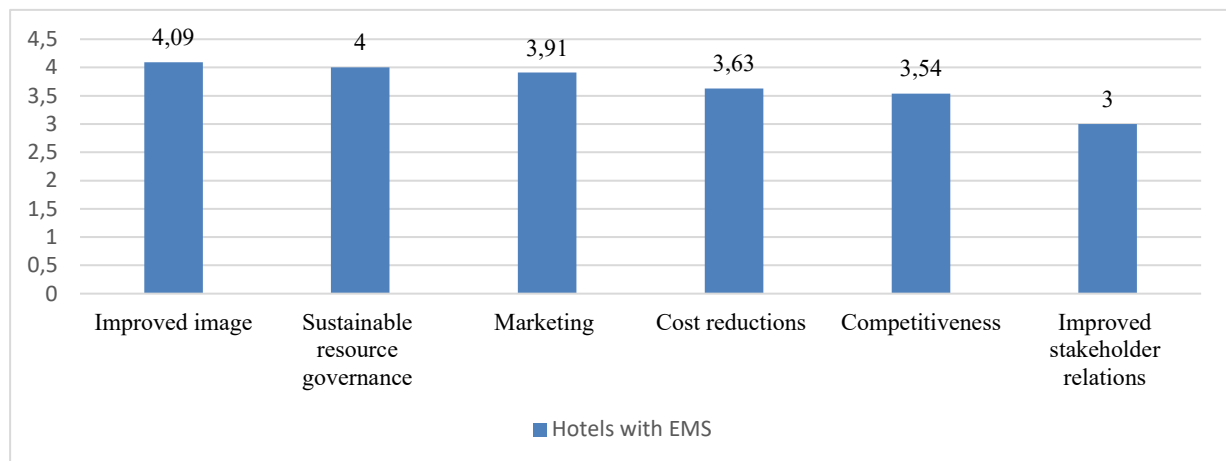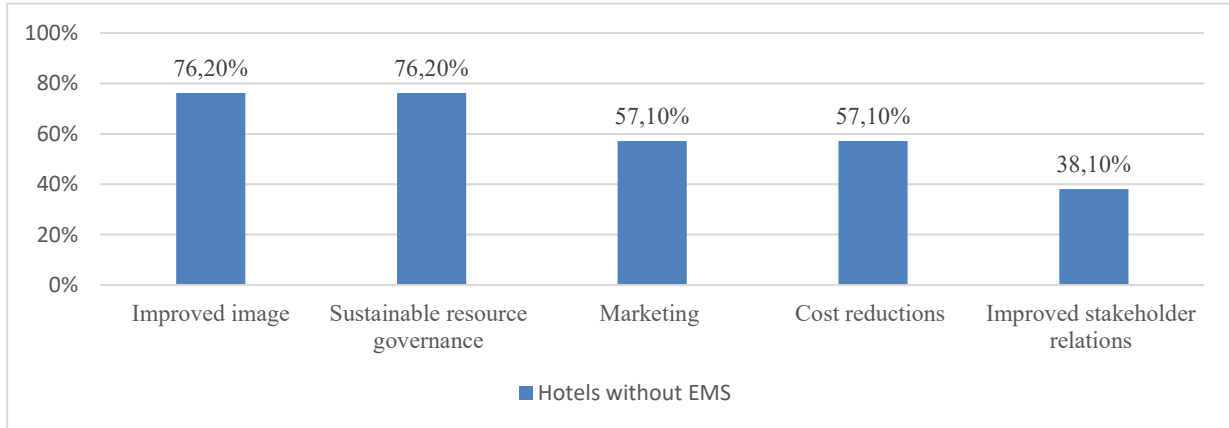


Source: Authors calculation, 2021.

Managers of the hotels that have not yet implemented EMS also perceive improved image (76,2%) and sustainable resource governance (76,2%) as two main benefits of the EMS. This is followed by cost reductions (57,1%), competitiveness and market opportunities (57,1%). Improved stakeholder relations (38,1%) is seen as the least important benefit. Each respondent perceives at least one of the factors as potential benefit.

Figure 4 presents the share of respondents who perceive proposed factors as benefits of EMS implementation.

**Figure 4.** Perceived benefits of EMS implementation among Croatian hotels that have not yet implemented EMS (sample 21)
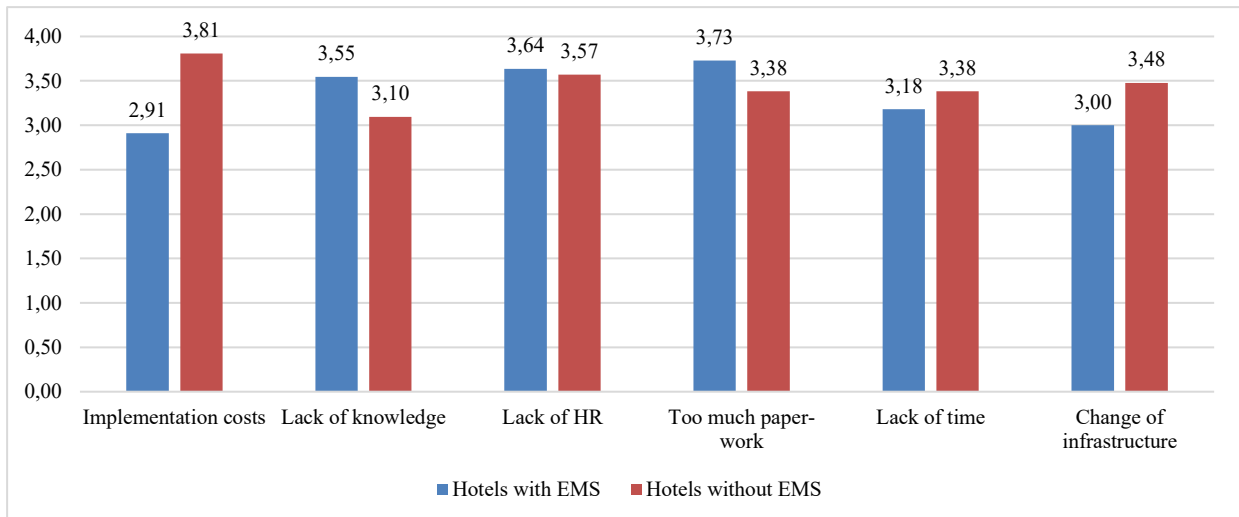


Source: Authors calculation, 2021.

## 5.2. Barriers to implementation of EMS in Croatian hotels

Data implies that managers in hotels with implemented EMS perceive too much paperwork (3,73), lack of human resources (3,64) and lack of knowledge (3,55) as main barriers. This is followed by lack of time (3,18), complex changes in infrastructure (3,00) and implementation costs (2,91). On the other side, managers of the hotels that still haven't implemented EMS, perceive implementation costs as the biggest barrier (3,81), followed by lack of human resources (3,57), complex changes in infrastructure (3,48), too much paper-work (3,38) and lack of time (3,38). Interestingly, they perceive lack of knowledge as the least significant barrier (3,10).

**Figure 5.** Perceived barriers to EMS implementation in Croatian hotels



Source: Authors calculation, 2021.

Figure 5 gives an overview of perceived barriers to EMS implementation and enables the comparison of the perceived barriers between hotels that have implemented and hotels that have not yet implemented environmental management system.

**Table 3.** Perceived barriers to implementation of EMS in Croatian hotels (sample = 32)

| Barriers | Mean | | Standard Error | | Standard Deviation | | Sample variance | | Confidence level | |
|---|---|---|---|---|---|---|---|---|---|---|
| | EMS | No-EMS | EMS | No-EMS | EMS | No-EMS | EMS | No-EMS | EMS | No-EMS |
| Implementation costs | 2,91 | 3,81 | 0,25 | 0,2 | 0,83 | 0,93 | 0,69 | 0,86 | 0,56 | 0,42 |
| Lack of knowledge | 3,55 | 3,1 | 0,31 | 0,21 | 1,04 | 0,94 | 1,07 | 0,89 | 0,7 | 0,43 |
| Lack of HR | 3,64 | 3,57 | 0,31 | 0,22 | 1,02 | 1,03 | 1,05 | 1,06 | 0,67 | 0,47 |
| Administrative burden | 3,72 | 3,38 | 0,38 | 0,16 | 1,27 | 0,74 | 1,62 | 0,55 | 0,85 | 0,34 |
| Lack of time | 3,18 | 3,38 | 0,33 | 0,16 | 1,08 | 0,74 | 1,16 | 0,55 | 0,72 | 0,34 |
| Change of infrastructure | 3 | 3,48 | 0,23 | 0,21 | 0,77 | 0,98 | 0,6 | 0,96 | 0,52 | 0,44 |

Source: Authors calculation, 2021.

Frequency, central tendency and variability regarding perceived barriers for implementation of EMS in Croatian hotels are presented in the table 3. It should be kept in mind that the sample research is only 30 hotels, so the results should be seen as a comparison of sample hotels, rather than the conclusions for the whole Croatian hotel industry.

## 6    Discussion and conclusion

Hotels have significant environmental impacts due to energy, water and waste intensity of their business operations. In order to better identify, manage, monitor and reduce such impacts, researchers as well as practitioners, suggest implementing environmental management systems. Decision to implement EMS is made by top management based on the perceived benefits and implementation barriers. Aim of this paper was to determine what Croatian hotel managers perceive as the main benefits of and barriers to EMS implementation. Since the majority of the hotels are located on the coast, and coastline communities have faced the biggest environmental impacts of the tourism industry, this research focused on the hotels in coastal regions of Croatia: Istria, Kvarner and Dalmatia. Data was collected with an online questionnaire and analysed with descriptive statistics. From participating hotels, 34,4% had implemented EMS. Most of the hotels that have implemented EMS are medium-sized and based in Istria and Kvarner.

First research question regarded the benefits of the EMS implementation. According to the results, there are no differences in perceived benefits between managers of hotels that have implemented environmental management system and those that do not have it. Perceived benefits are primarily related to better position on the market through improved image and marketing opportunities. With the growing awareness about the social and environmental problems, especially among Millennials and Generation Z, more and more managers are becoming aware that sustainability image could help them win over tourists. Interestingly, sustainable resource governance is perceived as one of the main benefits of EMS implementation. This indicates that Croatian managers hold environmental protection as an internal value and possibly see it as their social responsibility.

While findings about the importance of motives related to reputation and market opportunities are in line with international research (Bohdanowicz, 2005; Bohdanowicz, 2006; Deyà Tortella and Tirado, 2011; Tag-Eldeen et al., 2011), contrary to their findings, this study found that cost reductions are not perceived as major benefit. In fact, respondents are more neutral than positive towards cost reductions with an average score of 3,63. Environmental management implies better resource efficiency, with lower water and energy intensity which is related to cost reductions. It is recommended to researchers in the field to further explore this finding.Second research question was related to perceived barriers to EMS implementation. According to the obtained data, managers from the hotels that have established EMS perceive more non-financial aspects such as paperwork, lack of human resources, knowledge and time as the main barriers. Since managers of the hotels that already established EMS perceive lack of knowledge as an important barrier, there is a need to increase access to knowledge and external advice regarding EMS implementation to facilitate the process. Lack of knowledge also pertains to lack of support from governmental agencies and local authorities and lack of sector-specific guidelines. This is in line with previous findings by Chan (2008) and Kasim (2009).

On the other hand, general managers from the hotels in which there is no EMS, perceive implementation costs as the main barrier which is in line with previous research (Ann, Zailani & Wahid, 2006; Chan, 2008). However, this research indicates that managers of the hotels that have already implemented EMS perceive implementation costs as the least important barrier. This could be due to technology development which decreases the costs of required environmental measures (for example solar panels, EM software, sensors etc). It could be that these aspects are falsely seen as major obstacles by managers from hotels with no EMS due to lack of information regarding this topic. If that is the case, then awareness campaigns and education sessions could positively impact the increase in the number of hotels with implemented EMS.

Due to the lack of research about perceived benefits and barriers of EMS in Croatian hotel industry, this study contributed significantly to the current state of literature. Furthermore, it responded to the calls of international authors (Bohdanowicz, 2006; Ann, Zailani and Wahid, 2006; Chan, 2008; Kasim, 2009) who recommended expanding the research to other countries and contexts. Additionally, findings have practical implications since study has clarified what are the main barriers to implementation which can help policy makers or certification companies to align their services to better match the needs of the hotels.

First limitation of this study concerns the sample size and response rate. Only 32 managers of Croatian hotels participated in the study, thus this study should not be used as representative of the total population of the Croatian hotels. The response rate in this study was 10%. Similar response rate of 7,4% was obtained in the study by Park et al. (2014) in the US hotel sector. This is mainly due to restricted access to the respondents. The fact that this survey was aimed at general managers who due to their responsibilities don't consider completing surveys as priority must be noted. Furthermore, the topic of this research may be either of low relevance or unfamiliar to a large number of managers, which could be the reason why they thought that they were not the right person to complete it. This could however lead to the non-response bias (Blair, 2006 cited in Park et al., 2014). Secondly, study relied on self-reported data which could be biased due to selective memory, attribution or exaggeration (Brutus et al., 2013). This study applied a questionnaire composed of close-ended questions as a data collection method. Future studies could apply interview or focus groups which will allow respondents to further elaborate on their answers. This could help researchers gain a better understanding of the actual problems they face. Since the topic is under-researched in the Croatian hotel sector, obtaining a qualitative research approach in further studies would be beneficial for expanding the understanding of the topic.

## References

Álvarez-García, J., del RíoRama, M. (2016) Sustainability and EMAS: Impact of Motivations and Barriers on the Perceived Benefits from the Adoption of Standards, Sustainability, 8(10), 1057. https://doi.org/10.3390/su8101057

Ann, G. E., Zailani, S., Wahid, N. A. (2006) A study on the impact of environmental management system (EMS) certification towards firms' performance in Malaysia, Management of Environmental Quality: An International Journal, 17(1), 73 - 93.

Ayuso, S. (2006) Adoption of voluntary environmental tools for sustainable tourism: analysing the experience of Spanish hotels, *Corporate Social Responsibility and Environmental Management*, 13(4), 207–220. https://doi.org/10.1002/csr.103

Blair, E. (2006) From the Editor: Nonresponse and Generalizability in Academic Research, *Journal of the Academy of Marketing Science*, 34(1), 4–7. https://doi.org/10.1177/0092070305283778

Bohdanowicz, P. (2005) European Hoteliers' Environmental Attitudes, *Cornell Hotel and Restaurant Administration Quarterly*, 46(2), 188–204. https://doi.org/10.1177/0010880404273891

Bohdanowicz, P. (2006) Environmental awareness and initiatives in the Swedish and Polish hotel industries—Survey results, *International Journal of Hospitality Management*, 25(4), 662-682.

Brutus, S., Aguinis, H., Wassmer, U. (2012) Self-Reported Limitations and Future Directions in Scholarly Reports, *Journal of Management*, 39(1), 48–75. https://doi.org/10.1177/0149206312455245

Chan, E. S. W. (2008) Barriers to EMS in the hotel industry, *International Journal of Hospitality Management*, 27(2), 187–196. https://doi.org/10.1016/j.ijhm.2007.07.011

Chan, E. S. W. (2010) Implementing Environmental Management Systems in Small- and Medium-Sized Hotels: Obstacles, *Journal of Hospitality & Tourism Research*, 35(1), 3–23. https://doi.org/10.1177/1096348010370857

Chan, E. S. W., Hsu, C. H. C. (2016) Environmental management research in hospitality, *International Journal of Contemporary Hospitality Management*, 28(5), 886–923. https://doi.org/10.1108/ijchm-02-2015-0076

Chan, S.W., Wong, C.K. (2005) Motivation for ISO 14001 in the hotel industry, *Tourism Management*, 27 (3), 481-92.

Chan, W., Wong, K., Lo, J. (2009) Hong Kong Hotels' Sewage: Environmental Cost and Saving Technique, *Journal of Hospitality & Tourism Research*, 33(3), 329–346. https://doi.org/10.1177/1096348009338525

Croatian National Tourist Board (2022) Tourism in numbers 2021. Available at: https://www.htz.hr/sites/default/files/2022-08/HTZ%20TUB%20HR_%202021.pdf (8/8/2022)

Curry, R. (2012) The Composition of Waste Disposed of by the UK Hospitality Industry, *Waste and Resources Action Programme (WRAP)*,United Kingdom.

Deyà Tortella, B., Tirado, D. (2011) Hotel water consumption at a seasonal mass tourist destination: The case of the island of Mallorca, *Journal of Environmental Management*, 92(10), 2568–2579. https://doi.org/10.1016/j.jenvman.2011.05.024

Tag-Eldeen A., Elbana, S., Kattara, H., Hamza, M. (2011) Environmental Management System Implementation In the Egyptian Hotel Industry: A case study of Sharm-Elsheikh, *Faculty of Tourism and Hotels Journal*, 8(1), 2–29. https://doi.org/10.21608/thalexu.2011.160158

Gelbman, A. (2021) Seaside hotel location and environmental impact: land use dilemmas, *Journal of Tourism and Cultural Change*, 20(4), 1–21. https://doi.org/10.1080/14766825.2021.1961797

Golja, T. (2009) Percepcija menadžera o važnosti implementacije načela održivog razvoja u poslovne strategije hotelskih poduzeća - slučaj velikih hotelskih poduzeća u istri, *Ekonomska Misao i Praksa*, 18(1), 3–15. Retrieved from https://hrcak.srce.hr/39276

Graci, S., Dodds, R. (2008) Why Go Green? The Business Case for Environmental Commitment in the Canadian Hotel Industry, *Anatolia*, 19(2), 251–270. https://doi.org/10.1080/13032917.2008.9687072

Heras-Saizarbitoria, I., Arana Landín, G., Molina-Azorín, J. F. (2011) Do drivers matter for the benefits of ISO 14001? *International Journal of Operations & Production Management*, 31(2), 192–216. https://doi.org/10.1108/01443571111104764

Hrvatin, S. (2021) Implementacija sustava upravljanja okolišem u hrvatskim hotelima. Visoka škola međunarodnih odnosa i diplomacije Dag Hammarskjöld, Zagreb.

Jones, P., Hillier, D., Comfort, D. (2014). Sustainability in the global hotel industry, *International Journal of Contemporary Hospitality Management*, 26(1), 5–17. https://doi.org/10.1108/ijchm-10-2012-0180

Kasavan, S., Siron, R., Yusoff, S., Fakri, M. F. R. (2022) Drivers of food waste generation and best practice towards sustainable food waste management in the hotel sector: a systematic review, *Environmental Science and Pollution Research*, 29(32). https://doi.org/10.1007/s11356-022-19984-4

Kasim, A. (2007) Towards a Wider Adoption of Environmental Responsibility in the Hotel Sector, *International Journal of Hospitality & Tourism Administration*, 8(2), 25–49. https://doi.org/10.1300/j149v08n02_02

Kasim, A. (2009) Managerial attitudes towards environmental management among small and medium hotels in Kuala Lumpur, *Journal of Sustainable Tourism*, 17(6), 709–725. https://doi.org/10.1080/09669580902928468

Kirk, D. (1995) Environmental management in hotels, *International Journal of Contemporary Hospitality Management*, 7(6), 3–8. https://doi.org/10.1108/09596119510095325

Krstinić Nižić, M. & Matoš, S. (2018) Energy efficiency as a business policy for eco-certified hotels, *Tourism and hospitality management*, 24 (2), 307-324. https://doi.org/10.20867/thm.24.2.6

Lopez-Gamero, M. D., Molina-Azorin, J. F., Claver-Cortes, E. (2011) The relationship between managers' environmental perceptions, environmental management and firm performance in Spanish hotels: A whole framework, *International Journal of Tourism Research*, 13(2), 141–163. https://doi.org/10.1002/jtr.805

Markuz, A., Hrvatin, S. Miklošević, I. (2022) The Effects of Corporate Social Responsibility on Employee Retention: Quantitative Study in Croatian Hospitality Sector. U: Kaya, M. & Chodnicka-Jaworska, P. (ur.)Conference Proceedings of "26th RSEP International Conference on Economics, Finance & Business" 22- 23 August 2022 Istanbul, Türkiye. https://doi.org/10.19275/RSEPCONFERENCES186

Mechri, H. eddine, Amara, S. (2021) Investigation and analysis of energy and water use of hotel buildings in Tunisia, *Energy and Buildings*, 241, 110930. https://doi.org/10.1016/j.enbuild.2021.110930

Molina-Azorín, J. F., Claver-Cortés, E., Pereira-Moliner, J., Tarí, J. J. (2009) Environmental practices and firm performance: an empirical analysis in the Spanish hotel industry, *Journal of Cleaner Production*, 17(5), 516–524. https://doi.org/10.1016/j.jclepro.2008.09.001

Papageorgiou, G., Efstathiades, A., Nicolaou, N., Maimaris, A. (2018) Energy management in the hotel industry of Cyprus, *2018 IEEE International Energy Conference (ENERGYCON).* https://doi.org/10.1109/energycon.2018.8398763

Park, J., Kim, H. J. (2014) Environmental proactivity of hotel operations: Antecedents and the moderating effect of ownership type, *International Journal of Hospitality Management*, 37, 1–10. https://doi.org/10.1016/j.ijhm.2013.09.011

Pereira-Moliner, J., Font, X., Tarí, J. J., Molina-Azorin, J. F., Lopez-Gamero, M. D., Pertusa-Ortega, E. M. (2015) The Holy Grail: Environmental management, competitive advantage and business performance in the Spanish hotel industry, *International Journal of Contemporary Hospitality Management*, 27(5), 714–738. https://doi.org/10.1108/ijchm-12-2013-0559

Petrić, L., Pranić, Lj. (2010) Ekološka svijest u hrvatskoj smještajnoj industriji, *Acta turistica nova*, 4(1), 5-21. Preuzeto s: https://hrcak.srce.hr/61460 (Datum pristupa: 04.07.2021.)

Racz, A., Smolčić Jurdana, D., Rotim, K. (2021) Razlike u stavovima o klimatskim promjenama kod menadžera u turističkim smještajnim objektima različitih kategorija, *Journal of Applied Health Sciences*, 7(2), 151–160. https://doi.org/10.24141/1/7/2/5

Rico-Amoros, A. M., Olcina-Cantos, J., Sauri, D. (2009) Tourist land use patterns and water demand: Evidence from the Western Mediterranean, *Land Use Policy*, 26(2), 493–501. https://doi.org/10.1016/j.landusepol.2008.07.002

Rico-Amoros, A., Olcina, J., Baños, C., Garcia, X., Sauri, D. (2019) Declining water consumption in the hotel industry of mass tourism resorts: contrasting evidence for Benidorm, Spain, *Current Issues in Tourism*, 23(6), 770–783. https://doi.org/10.1080/13683500.2019.1589431

Santiago, D. E. (2021) Energy use in hotels: a case study in Gran Canaria, *International Journal of Low Carbon Technologies*, 16(4), 1264–1276. https://doi.org/10.1093/ijlct/ctab048

Steger, U. (2000) Environmental management systems: empirical evidence and further perspectives, *European Management Journal*, 18(1), 23–37. https://doi.org/10.1016/s0263-2373(99)00066-3

Tharenou, P., Donohue, R., Cooper, B. (2007) *Asking questions: Questionnaires and interviews in Management Research Methods*, 101-122. Cambridge: Cambridge University Press. doi:10.1017/CBO9780511810527.007

Tzschentke, N. A., Kirk, D., Lynch, P. A. (2008) Going green: Decisional factors in small hospitality operations, *International Journal of Hospitality Management*, 27(1), 126–133. https://doi.org/10.1016/j.ijhm.2007.07.010

United Nations Environmental Program (2022) *Resource efficiency: Tourism*. Available at: https://www.unep.org/explore-topics/resource-efficiency/what-we-do/responsible-industry/tourism (8/8/2022)

Vrtodušić Hrgović, A., Puklavec, M. (2013) Integrated management systems in Croatian hotels. *Conference: TURIZEM IN MANAGEMENT - Na poti k uspešni poslovni prihodnosti*. Koper. Available at: https://www.researchgate.net/publication/344203936_Integrated_management_systems_in_Croatian_hotels

Walliman N. (2017) *Research Methods: the Basics* (2nd Edition). Taylor & Francis Group. Available at: https://ebookcentral.proquest.com/lib/malmo/detail.action?docID=5015633.

# Stavovi menadžera hrvatskih hotela prema sustavima upravljanja okolišem: percipirane koristi i prepreke

HELENA ŠLOGAR
Libertas međunarodno sveučilište
Zagreb, Trg J. F. Kennedy 6b
Hrvatska
hslogar@libertas.hr
ORCID ID: https://orcid.org/0000-0002-7240-1140


STELLA HRVATIN
hrvatinstella@gmail.com
ORCID ID: https://orcid.org/0000-0001-5275-024X

***Sažetak:*** Literatura ukazuje na značajne negativne utjecaje hotela na okoliš i predlaže sustave upravljanja okolišem (EMS) kao rješenje za prepoznavanje, upravljanje i ublažavanje tih utjecaja. EMS usvajaju članovi najvišeg menadžmenta na temelju percipiranih prednosti i prepreka implementaciji. Svrha ovog istraživanja bila je istražiti stavove generalnih direktora hrvatskih hotela o prednostima i preprekama implementacije EMS-a. Podaci su prikupljeni online upitnicima od travnja do lipnja 2021. U istraživanju su sudjelovala 32 generalna direktora, predstavnika hotela iz Istre, Kvarnera, sjeverne, srednje i južne Dalmacije. Prikupljeni podaci analizirani su deskriptivnom statistikom. Hrvatski hotelijeri kao glavne prednosti EMS-a vide poboljšanu reputaciju i održivo upravljanje resursima, a zatim i smanjenje troškova. Administrativni teret, nedostatak ljudskih resursa i nedostatak znanja percipiraju se kao najznačajnije barijere za menadžere hotela s implementiranim sustavom upravljanja okolišem, dok se troškovi implementacije, nedostatak ljudskih resursa i promjena infrastrukture percipiraju kao značajne barijere za menadžere hotela koji još nisu uspostavili takav sustav. Rezultati ove studije daju uvid u percipirane prednosti i prepreke sustava upravljanja okolišem u hrvatskom hotelskom sektoru pridonoseći ovom području testiranjem rezultata prethodnih istraživanja u različitom kontekstu.

***Ključne riječi***: sustav upravljanja okolišem, okolišni učinci hotela, prednosti, prepreke, hrvatska hotelska industrija
***JEL klasifikacija:*** Z30