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ADVANCES IN GLOBAL SERVICES AND RETAIL MANAGEMENT

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Eco-Label Certification, Hotel Performance, and Customer Satisfaction: Analysis of a Case Study and Future Developments

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Abstract

The hospitality industry is a significant contributor to environment degradation and over the last years has started to implement voluntary instruments to manage environmental sustainability of its operations. The main goal of this research is to examine guest perception of these practices with respect to other hotel service quality attributes. The first objective is to identify the existence of a specific environmental dimension among hotel service quality dimensions. Taking as baseline for the analysis the three-factor theory of customer satisfaction, the second objective of the study is to evaluate if green attributes are considered by guest as basic, performance, or excitement attributes. As these attributes are not generally recognized as essential in the provision of hotel service, our hypothesis is that they may be perceived by guest as excitement factors. If the hypothesis is confirmed, when these attributes are delivered properly, they surprise and generate delight. Through a survey, targeted to hotel customers, the paper investigates how they evaluate green attributes implemented by hotels awarded with an Eco-label. Results show that customers identify environmental practices as specific dimension of eco-label hotel. Additionally, the analysis shows that most of environmental practices implemented by hotel are identified by customers as excitement factors.

Keywords: eco-label, green hotels, sustainability practices, IPA analysis, three-factor analysis

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Introduction

Over the last years the industry has started to implement voluntary instruments to manage environmental sustainability of its operations (World Tourism Organization and United Nations Environment Program, 2008). Among a large spectrum of voluntary environmental management tools, third party certified eco-labels stand out due to their capacity to inform guest and to the trustworthiness ensured by third-party certification process (Geerts, 2014). Many researchers define a tourism eco-label as “any form of certification giving assurance that the transaction or tourist activity is conducted according to a known standard that improves the environment or at least minimizes environmental impacts”. Font (2005) defines eco-labels as “methods to standardize the promotion of environmental claims by following compliance to set criteria

generally based on third party, impartial verification usually by governments or non-profit organizations”. When contextualizing green practices implemented by tourism facilities the adoption of environmental certifications, such as ecolabels is an important differentiator factor (Esparon et al., 2014). The third-party certified ecolabels support the voluntary implementation of green practices, avoiding green-washing (Karlsson and Dolnicar, 2015; Martínez García de Leaniz et al., 2017). Ecolabels stand out for their capacity to communicate directly with costumers influencing their choices, and for the credibility ensured by external certification (Geerts, 2014; Penz et al., 2017). Moreover, by applying for eco-labels hoteliers can further facilitate the customer decision-making process (Bohdanowicz, 2006). Indeed, green practices have a significant influence on guest satisfaction (Berezan et al., 2013; Bruns-smith et al., 2015; Gao and Mattila, 2014; Kassinis and Soteriou, 2015, 2003; Oroian et al., 2014; Verma and Chandra, 2017) and are considered as part of service quality attributes in eco-labelled certified facilities (Han and Kim, 2010; Merli et al., 2019; Preziosi et al., 2019). According to other studies investigating guest perceptions of green practices in tourism hospitality, consumers demand no longer basic eco-friendly practices but expected more from ecolabel tourism facilities and required their practices to be even more socio-environmentally responsible (Ogbeide, 2012). As Robinot & Giannelloni (2010) pointed out, some environmental attributes are evaluated as “basic” and are seen as an integral part of the service offer, rather than as differentiating criteria. So practitioners have to look forward to innovative green practices as most of these practices are increasingly becoming commonplace (Rahman and Reynolds, 2016). This is notable for tourism facilities, which are more sensitive to environmental issues and are thus innovative adopters of sustainable practices (Reid et al., 2017). Consumers with a high level of environmental concern will be more likely to have a positive attitude towards green practices that can facilitate the choice of ecolabel facilities as opposed to regular one (Han et al., 2009; Manaktola and Jauhari, 2007) and the development of positive behavioural intentions (Lee et al., 2011). Eco-labels, together with Environmental Management Systems (EMS), have been proven to be the most effective in reducing companies’ negative impact on the environment and to communicate hotel’s efforts toward sustainability (Ayuso, 2007; Tepelus and Córdoba, 2005). Plenty environmental and sustainability certifications are available to hotels aiming to guarantee their sustainability performance; however, not all are recognized by their credibility (Núñez et al., 2014). Nowadays, there are more 140 quality labels worldwide for the tourism and hospitality sectors (Núñez et al., 2014). If, on one hand, the growth of tourism eco-labels has the positive effect to increase the sector’s sustainability, on the other one it leads to market confusion, in which consumers have difficulties in distinguish credible labels and certifications (Font, 2002). In the light of this aspect, the paper presents the results of a survey targeted to the guests of an Italian hotel awarded with the Legambiente Turismo Ecolabel. The main goal is to better understand how they perceive green practices implemented by the hotel that are specific requirements to obtain this certification. Additionally, the research aims at investigating how the Ecolabel related practices are evaluated with respect to the “traditional” hotel service quality attributes.

Literature Review

The Importance – Performance analysis (IPA) framework has been applied in several fields and contexts (Azzopardi and Nash, 2013; Feng et al., 2014; Lai and Hitchcock, 2015; Lin et al., 2009). Additionally, the IPA has reached notable recognition in the field of hospitality and tourism, as it has been applied to several of its aspects (Azzopardi and Nash, 2013; Lai and Hitchcock, 2015). IPA has been used by several scholars to analyze how customers evaluate practices implemented

to improve the environmental sustainability of the service provided. Investigations were also targeted to different categories of stakeholders, as hotel employees (e.g. To, Lam, & Lai, 2015; Tsai, Tsang, & Cheng, 2012) and managers (e.g. S. H. Kim & Choi, 2013; Levy & Park, 2011; Wu, Teng, & Huang, 2013). Scholars also considered the customers point of view, integrating green practices together with other service attributes (e.g. Kassinis & Soteriou, 2015; Sörensson & von Friedrichs, 2013) or investigating exclusively sustainability attributes (Esparon et al., 2014). In other cases, environmental sustainability was analyzed considering residents of touristic destinations viewpoint (e.g. Boley, McGehee, & Hammett, 2017; Chan & Zhang, 2016). The studies presented above employed a traditional approach to IPA, in which it is assumed a symmetric relationship between service performance and customer satisfaction. Scholars also studied hospitality services in the light of the three-factor theory, to differentiate attributes into basic, performance and excitement (Albayrak et al., 2016; Albayrak and Caber, 2015; Deng, 2007; Deng et al., 2008; Deng and Pei, 2009). Results of this study were observed through the Vavra Importance Grid, which maps results in the baseline of the Three-Factor Theory of customer satisfaction (Albayrak et al., 2016; Matzler and Sauerwein, 2002; Smith and Deppa, 2009). The assumption is that customer satisfaction is a multi-dimensional concept and that the relationship between attributes' performance and overall satisfaction is not always symmetrical (Albayrak and Caber, 2015). According to this approach attributes fall and can be plotted into four categories: basic factors, low and high performance factors and excitement factors, identifying the three-factor theory (Feng et al., 2014; Matzler and Sauerwein, 2002). The theory assumes that each category influences overall satisfaction differently. Basic factors are minimum requirement, causing disaffection with a low score, but do not influence satisfaction with high scores. Thus, if fulfilled they do not deliver delight, but they have a great impact on overall satisfaction only at low performance level. Excitement factors increase customer satisfaction if delivered, but they do not lead to disaffection if not fulfilled (Feng et al., 2014; Matzler et al., 2003). Thus, they have a small influence on overall satisfaction with low scores. Conversely, they deliver delight with high performance (Albayrak and Caber, 2015). Finally, performance factors may determine satisfaction or dissatisfaction (Oliver, 1993; Smith and Deppa, 2009; Westbrook and Oliver, 1991) varying their scores. With respect to Basic and Excitement attributes, these attributes' performance has a symmetric relationship with overall satisfaction (Albayrak and Caber, 2015). Thanks to this approach which requires the indirect measurement of importance it is possible to take into account how the performance level influences overall satisfaction (Albayrak et al., 2016). The main goal of this research is to examine guest perception of these practices with respect to other hotel service quality attributes. The first objective is to identify the existence of a specific environmental dimension among hotel service quality dimensions. Taking as baseline for the analysis the three-factor theory of customer satisfaction, the second objective of the study is to evaluate if green attributes are considered by guest as basic, performance, or excitement attributes of their staying in the hotel. As these attributes are not generally recognized as essential in the provision of hotel service, our hypothesis is that they may be perceived by guest as excitement factors. If the hypothesis is confirmed, when these attributes are delivered properly they surprise and generate delight (Matzler et al., 2004).

Summarizing the paper aims a testing the following hypothesis:

- **H1:** hotel green attributes define a specific dimension of service quality in eco-labelled hotels.
- **H2:** hotel green attributes are perceived by guests as “excitement” attributes.

To answer research questions was developed a questionnaire, targeted to hotel customers.

Methods

The research was carried out through a survey, by the means of a questionnaire. The questionnaire was built with a three-step procedure. In the first, the measurement scales were identified through a literature review. Next, the list of items obtained was skimmed with a semi-structured interview with a panel of 10 managers of hotels awarded with the Legambiente Turismo eco-label. Results of this step allowed to drop redundant items, to reduce the number of items, and improve the semantic comprehensibility and clarity. Then, a first version of the questionnaire was pre-tested on a sample of hotel guests to assess its suitability as an instrument of measurement. Finally, the questionnaire was reviewed and finalized.

The first section aimed at measuring guests' perceptions on hotel service attributes. The section was composed of 26 items, which were produced following previous studies investigating service quality and sustainability practices in the hotel industry. Guests' evaluation of hotel environmental attributes was measured with a Likert scale ranging from 1 (poor performance) to 7 (excellent performance).

The Hotel service quality attributes presented in the questionnaire have been selected with an extensive review of literature dealing with customer satisfaction in hotel facilities. Specifically, the starting point have been investigations that used SERQUAL. The analysis has been integrated with modified SERVQUAL scales specifically designed for hotel industry as the HOLSERV (Mei et al., 1999), ECOSERV (Khan, 2003), LONGSERV (Knutson et al., 1990), Rural Establishment (Albacete-Saez et al., 2007), Lodging Quality Index (Getty and Getty, 2003). Main other reference for the analysis have been (Akama and Kieti, 2003; Akan, 1995; Akbaba, 2006; Ekinci and Riley, 2001; Juwaheer, 2004; Kandampully et al., 2003; Ramsaran-Fowdar, 2007; Robinot and Giannelloni, 2010; Yusof et al., 2014).

The environmental sustainability attributes have been elaborated considering mostly two sources: the criteria that the hotel had to meet to be awarded with the Legambiente Turismo Ecolabel and previous published literature dealing with green hotel practices and customer satisfaction (e.g. Bastič & Gojčič, 2012; Bohdanowicz, Zientara, & Novotna, 2011; Esparon et al., 2014; Hsiao, Chuang, Kuo, & Yu, 2014; Kassinis & Soteriou, 2015; Khan, 2003; Levy & Park, 2011; Prud & Raymond, 2013; Robinot & Giannelloni, 2010; Sörensson & von Friedrichs, 2013; To et al., 2015; Xu & Gursoy, 2015; Yusof et al., 2014).

After receiving the approval of the manager, 500 questionnaires were sent to the hotel. The hotel staff, once trained and informed on the research project, was invited to distribute the questionnaire to all hotel guests during checkout. The survey was conducted in an Italian 3 stars hotel awarded with the Legambiente Turismo Ecolabel. The survey was conducted during the summer, before COVID-19 pandemic diffusion, as this season is the most appropriate as it is the period of greatest inflow of guests, as the hotel is in a seaside location in Italy. 366 questionnaires were usable and employed for subsequent analysis.

Table 1 presents the main characteristics of survey respondents. Almost 70% were male and with an age ranging from 18 to 39 years. Leisure travel is the most cited purpose of travel, and almost

half of the guests were travelling with family. Considering their level of awareness respect to the hotel ecolabel, almost one-third knew that the facility was certified. Of this percentage, 44.1% had this information before visiting it. Moreover, only 17.4% declared to have had experiences in an ecolabel certified hotel (Table 1).

Table 1. Characteristics of Respondents, Type of Traveler and Purpose of Stay, Ecolabel Awareness

Variable	Range	Percentage	Variable	Range	Percentage
Gender	Female	30.7%	Purpose of travel	Leisure	72.7%
	Male	69.3%		Business	23.3%
Age	18-29	34.8%	Number of nights	1-2	35.1%
	30-39	35.7%		3-5	17.2%
	40-49	22.4%		6-10	34.2%
	50-59	5.0%		over 10	13.5%
	over 60	1.2%		Hotel Ecolabel awareness	Yes
Type of traveller	Single	18.9%		No	69.3%
	Couple	11.6%	Hotel Ecolabel awareness before visit	Yes	44.1%
	Family	46.5%		No	55.9%
	Friends	23.0%	Other experience in ecolabel hotel	Yes	17.4%
				No	82.6%

The questionnaire was structured in order to perform IPA that is a decision tool technique which main goal is to allow a simple prioritization of improvements in order to improve service quality (Azzopardi and Nash, 2013).

To test H1 was conducted an Principal Component Analysis, to test if hotel service attributes can be grouped into different dimensions of service quality (Deng, 2007; Lai and Hitchcock, 2015; Wilkins, 2010). This procedure allowed to test the existence of a specific environmental dimension among hotel service quality dimensions.

To test H2, and determine whether green hotel attributes are excitement attributes, the first step is to calculate the implicit importance of hotel attributes. Different techniques have been applied to derive implicit importance in the context of three-factor theory. All of them share the idea of deriving implicit importance from attributes performances and overall satisfaction (Deng, 2007). There are two alternative forms of implicit importance. One is employed through competitive measures and the other through not competitive measures (Smith and Deppa, 2009). In this study, implicit performance was derived with a non-competitive technique through the Kendall's tau-b correlation coefficients between performance and overall satisfaction. Kendall's tau-b correlation was preferred over simple Pearson correlation as more suitable for the ordinal data employed in the questionnaire. Once determined, the implicit importance was plotted with explicit measure of importance into the Importance Grid (Albayrak et al., 2016; Vavra, 1997).

Findings

The first step of the analysis was the identification of hotel attributes dimensions. The performance evaluation of the 33 hotel attributes was analyzed, using PCA with Direct Oblimin Method rotation (Jennrich and Sampson, 1966) as factors extraction method. The results of PCA suggest a five factors solution. The five components have been named: "Tangibles", "Staff service quality", "Food", "Value for money", "Green" (Green Attributes).

Table 2. PCA Results of Hotel Attributes Performance

Item	Hotel service attributes performance	FL	EV	% Var.	Comm.
	Factor 1 - Tangibles (N=3) ($\alpha=0,739$)		1,60	6,15	
TANG_1	The room is comfortable, adequately furnished and fitted	0,614			0,68
TANG_2	The room is quiet	0,802			0,71
TANG_3	In-room and hotel technologies (Wi-fi, TV, telephone, wake-up call) are adequate and functional	0,771			0,70
	Factor 2- Staff service quality N=7 ($\alpha=0,833$)		2,37	9,11	
STAFF_SERV_1	The room is clean	0,729			0,62
STAFF_SERV_2	The communal facilities are comfortable and in good conditions	0,434			0,51
STAFF_SERV_3	The hotel staff is well-trained and prepared	0,492			0,56
STAFF_SERV_4	The hotel staff is kind, careful and polite	0,671			0,54
STAFF_SERV_5	The hotel staff is always available when needed	0,721			0,54
STAFF_SERV_6	The hotel's reservation system is reliable and efficient	0,55			0,46
STAFF_SERV_7	The check-in/check-out procedures are efficient	0,652			0,49
	Factor 3 - Food (N=4) ($\alpha=0,683$)		1,37	5,28	
FOOD_1	Service during breakfast is accurate and efficient	-0,547			0,58
FOOD_2	The quality of the food offered for breakfast is adequate	-0,739			0,70
FOOD_3	The choice of food & beverages for breakfast is adequate	-0,843			0,75
FOOD_4	Organic or seasonal food are available for breakfast	-0,596			0,61
	Factor 4 - Value for money (N=2) ($\alpha=0,631$)		1,01	3,87	
VAL_MON_1	The quality of hotel service corresponds to the number of stars	0,738			0,68
VAL_MON_2	The prices correspond to the level of services provided	0,619			0,59
	Factor 5 - Green (N=10) ($\alpha=0,931$)		9,87	37,97	
GREEN_1	The hotel cares about sustainability and adopts good practices of environmental management	0,499			0,60
GREEN_2	The hotel implements water and energy saving practices (e.g. new linen only when necessary)	0,556			0,60
GREEN_3	The hotel tries to avoid disposable or single-dose products	0,626			0,63
GREEN_4	In the hotel separated waste collection is available	0,473			0,50
GREEN_5	The hotel informs the guests about the good environmental practices implemented	0,805			0,69
GREEN_6	The hotel provides its guests with information on how they can contribute to reduce the hotel's environmental impact	0,749			0,64
GREEN_7	The hotel provides its guests with information on the environmental and cultural activities available in the area	0,825			0,80
GREEN_8	The hotel provides information on public transportation	0,767			0,76
GREEN_9	The hotel provides its guests bicycles for free or for rent	0,588			0,55
GREEN_10	The hotel uses environmental certified or green labelled products (toiletry products, paper)	0,825			0,73
62,38% of cumulative variance explained					
Legend: FL: Factor loadings; EV: Eigenvalue; α : Cronbach's alpha					

Secondly, the analysis focused on the three-factors structure of hotel attributes. The implicit importance of each attribute in determining customer satisfaction was obtained performing a Kendall's tau-b correlation between attributes' performance and a specific questionnaire item in which guests were asked to indicate their overall level of satisfaction considering their experience at the hotel. Moreover, the value of importance and performance for each dimension was calculated as the average of attributes' score. Table 3 presents the explicit importance, performance and implicit importance for each of the 26 hotels attributes and 5 dimensions.

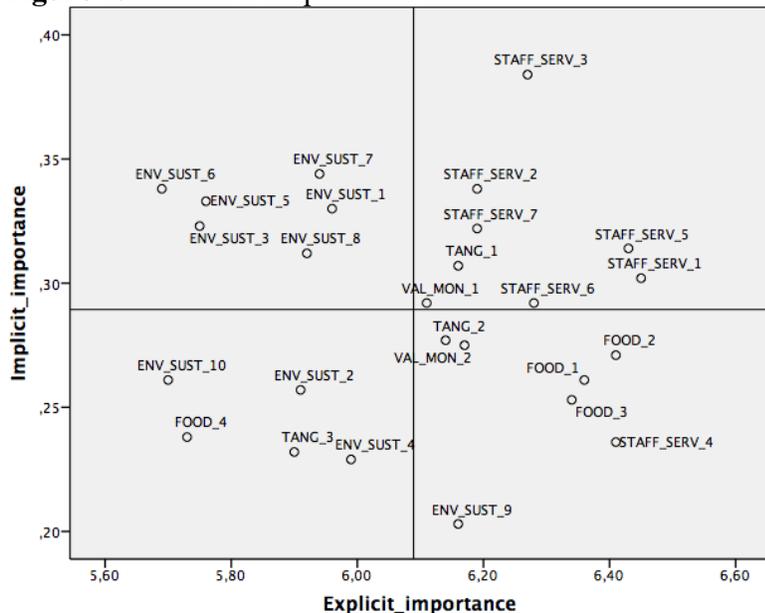
In the next step of the analysis explicit and implicit performance have been plotted in the Importance Grid with a "data-centred" approach, in which cross point are set using the average score obtained for importance and performance on the questionnaire scale (Bacon, 2003; Eskildsen and Kristensen, 2006; Lai and Hitchcock, 2015; Oh, 2001). Figure 1 represents the Importance Grid is divided into four quadrants through crosshairs with the grand mean of explicit and implicit importance.

Table 3. Explicit Importance, Performance, and Implicit Importance Values of the Hotel Attributes and Dimensions

Hotel service attributes	Explicit Importance		Performance		Implicit Importance
	Mean	Std. Dev.	Mean	Std. Dev.	Kendall's tau-b
Dimension: Tangibles	6,06		5,73		
TANG_1	6,16	0,76	5,95	0,85	,307*
TANG_2	6,14	0,97	5,72	1,18	,277*
TANG_3	5,90	1,19	5,52	1,34	,232*
Dimension: Staff and Service Quality	6,32		6,27		
STAFF_SERV_1	6,45	0,64	6,27	0,69	,302*
STAFF_SERV_2	6,19	0,77	6,20	0,75	,338*
STAFF_SERV_3	6,27	0,90	6,20	0,86	,384*
STAFF_SERV_4	6,41	0,74	6,37	0,76	,236*
STAFF_SERV_5	6,43	0,69	6,28	0,72	,314*
STAFF_SERV_6	6,28	0,77	6,30	0,75	,292*
STAFF_SERV_7	6,19	0,78	6,27	0,72	,322*
Dimension: Food	6,21	0,24	6,14	0,88	
FOOD_1	6,36	0,81	6,33	0,72	,261*
FOOD_2	6,41	0,76	6,11	0,92	,271*
FOOD_3	6,34	0,76	6,16	0,80	,253*
FOOD_4	5,73	1,32	5,95	1,06	,238*
Dimension: Value for Money		6,14		6,13	
VAL_MON_1	6,11	0,83	6,14	0,78	,292*
VAL_MON_2	6,17	0,85	6,11	0,85	,275*
Dimension: Green	5,88		5,98		
GREEN_1	5,96	0,97	6,13	0,79	,330*
GREEN_2	5,91	0,95	6,04	0,87	,257*
GREEN_3	5,75	1,16	5,86	0,96	,323*
GREEN_4	5,99	1,03	6,12	0,92	,229*
GREEN_5	5,76	1,12	5,83	1,12	,333*
GREEN_6	5,69	1,13	5,76	1,23	,338*
GREEN_7	5,94	1,02	5,96	1,18	,344*
GREEN_8	5,92	1,08	5,89	1,17	,312*
GREEN_9	6,16	1,06	6,35	1,01	,203*
GREEN_10	5,70	1,05	5,91	0,95	,261*

Legend: *Significance level at 99.9% (p-value < 0.01)

Figure 1. Attributes Importance Grid



In Figure 1 “basic” attributes are in the southeast quadrant, “high-performance” attributes are in the northwest quadrant, “low-performance” attributes are in the southwest quadrant and

“excitement” attributes are in the northwest quadrant. Considering the quadrant defining basic attributes, three relate to “Food” dimension, one to “Staff and Service Quality” (“The hotel staff is kind, careful and polite”), one to “Tangibles” (“The room is quiet”), one to “Value for Money” (“The prices correspond to the level of services provided”), and one to “Green” dimension (“The hotel provides its guests bicycles for free or for rent”). The high-performance factors quadrant groups together six out of the seven attributes defining “Staff and Service Quality” dimension. It also includes one attribute from “Tangible” dimension (“The room is comfortable, adequately furnished and fitted”) and one from “Value for money” (“The quality of hotel service corresponds to the number of stars”). The low-performance quadrant contains one attribute from “Tangible” dimension (“In-room and hotel technologies are adequate and functional”), one from “Food” (“Organic or seasonal food are available for breakfast”), and three elements from “Green” dimension. Finally, the excitement quadrant is made of the remaining six “Green” attributes.

Conclusions

Service quality is a multi-criteria construct. The hotel industry has started to implement on a voluntary base practice to reduce the environmental impact of its operations. The paper explored hotel customers view-point in evaluating hotel service quality attributes jointly with the sustainability practices implemented as criteria to comply with the eco-label certification. Results show that customer identify environmental practices as specific dimension of eco-label hotel (Hypothesis 1 accepted).

Considering the second research hypothesis, it partially accepted as the majority of environmental practices implemented, beside the are identified by customers as “excitement factors”. However, some Green attributes falls in different quadrants: one into the Basic quadrant (“The hotel provides its guests bicycles for free or for rent”); three into the low performance quadrant (“The hotel implement water and energy saving practices (e.g., new linen only when necessary)”; “In the hotel separated waste collection is available”; “The hotel uses environmental certified or green labelled products (toiletry products, paper”). Results show that environmental sustainability practices implemented by eco-labels hotel are positively recognized by guest, and therefore are positive differentiation factors. These findings, have important managerial implications for hoteliers, as they allow firms to stand out from competitors (Berman, 2005; Oliver, 1997; Vavra, 1997). Firstly, results indicate that guests recognize green practices as a specific dimension of the service. This is critical for hotel managers as the integration of green practices is perceived by guest as a relevant part of the service provided. Additionally, green practices are perceived by guests as “excitement” attributes, which deliver delight with high performance, but they do not lead to disaffection if not fulfilled (Feng et al., 2014; Matzler et al., 2003). From a managerial point of view, these results show that hotel’ green programs may increase guests’ satisfaction. Furthermore, from the analysis emerges that offering guests bicycles for free or for rent is a basic factor, so hoteliers should consider this issue when they decide strategies for their customers. Instead, water and energy saving practices, separated waste collection and using environmental certified or green labelled products are less appreciated by guest. However, these practices are the most impacting on hotels cost saving and financial benefits thus hotel should consider also these aspects. Finally, hoteliers should bear in mind that the adoption of green practices, such as the hotel efforts to avoid disposable or single-dose products, the communication on green practices implemented, on environmental and cultural activities available in the area, and on public transportation are perceived as excitement factors. Considering the three-factor theory of customer satisfaction,

hoteliers should: “Fulfil the basic requirements to “enter” the market, be competitive with regard to the performance factors to increase satisfaction, and stand out from the rest based on excitement factors to delight the customer” (Fuller and Matzler, 2008)

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