

# **Differences in Sustainable Management Between Four- and Five-star Hotels Regarding the Perceptions of Three-Pillar Sustainability**

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*Although there is a wealth of publications about sustainability in tourism destinations management literature, the concept has only recently started coming under examination within the area of hospitality management. This paper's main focus is on capturing the perceptions and practices of hotel management in respect to the concept of three-dimensional sustainability. A literature based self-administered questionnaire was used and 423 hotels participated in the study. Logistic Regression was employed in order to examine four research hypotheses and extract useful findings. The findings suggest that hotel star ratings play a significant role in the perceived importance of financial measures of economic viability, as well as in the application of socially-responsible practices by hotel management; the same conclusion does not apply to environmental practices. Furthermore, it was found that hotel location does not play a significant role in shaping perceptions of sustainability dimensions.*

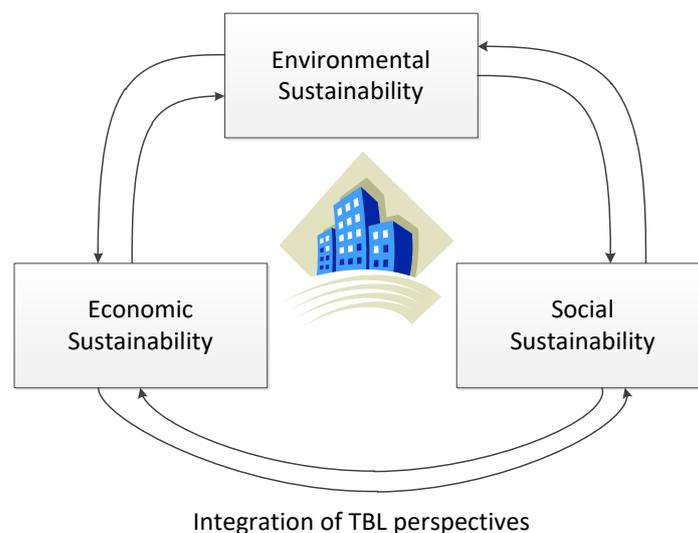
**Keywords:** Triple-bottom-line sustainability, corporate social responsibility, sustainable management, hospitality, hotel rating, green practices

## **INTRODUCTION**

The terms *sustainability*, *sustainable development* and *sustainable growth* have entered into the vocabulary of academics, businesspeople, and policymakers alike as these communities have come to believe that economic growth must account for its ecological and societal impact if it is to be sustained over time (Swart & Raes, 2007). Sustainability as a key issue was brought onto the agenda of business practice and scholarly research by the World Commission on Economic Development (WCED) more than 20 years ago (Crittenden et al., 2010; Holleran, 2008).

Today, it is an important part of many organisations' business goals as they increasingly recognise that their policies and practices have important social and environmental consequences (Zouganeli et al., 2012; Sheth & Babiak, 2010; Steger et al., 2007; Stubbs and Cocklin, 2008; Lewis et al., 2004). As a business goal (Nidumolu et al., 2009), sustainability should be viewed as a triple-bottom-line (TBL) responsibility, with the corporate expectation that business results should be based not only on economic prosperity, but should also take into account the criteria of environmental integrity and social equity (Mihalič et al., 2012; Bansal, 2005), as well as their interrelationships (Farsari, 2012). This multidimensional view encompasses ecological (environmental), social (equity), and financial (economic) sustainability, which are often referred to as the "three Es" that constitute TBL (Savitz and Weber, 2006), as shown in Figure 1. Kiewiet and Vos (2007) assert that sustainability reduces business risks, increases market opportunities, and is an organisational responsibility.

According to Northcote and Macbeth (2006), sustainable tourism development is closely related to sustainable tourism management of from hotel operators, airlines, as well as from whole destinations. Kasim (2006) suggests that hotels' activities within physical and social environments, combined with the fast growth of the industry during the last 3 decades, have resulted in negative impacts that have to be confronted and mitigated. An increasing number of hotels have carried on with the implementation of sustainable measures and practices for various reasons over the last 15 years, such as cost reduction, brand positioning and marketing, employee-employer relations, pressures from society and governmental bodies, as well as the desire to project an ethical image (Mair and Jago, 2010; Han et al. 2009; Cavagnaro and Gehrels, 2009; Butler, 2008; Tzschentke et al. 2004).



**FIGURE 1** Triple Bottom Line Sustainability (Lee et al., 2012).

Researchers have come to the conclusion that sustainability in hotels has begun to gain ground, which may be a response to the demands of environmentally and socially conscious stakeholders, the risks associated with litigation and regulation, and the need to sustain profitability and adequate market growth (Smerecnik and Andersen, 2011; Hitchcock and Willard, 2006). As Rodríguez and del Mar Armas Cruz (2007) suggest in their research, when hotels have high levels of social and environmental sustainability, their business units improve their profits, which can mainly be attributed to higher repeat business and room revenue (Huimin and Ryan, 2011; McGehee et al., 2009). On the other hand, non-economic benefits within an environmental, cultural and societal context should not be considered to be negligible, because sustainable development requires a management attitude with broader perspectives (C. Ryan, 2002).

This study aims to explore possible differences in the perceived importance of TBL sustainability practices and policies in hotels relative to their star rating and varying locations, and compare highly developed and less developed or developing tourism destinations within a country. Our research has focused on 4 & 5-star hotels located across Greece; however a distinction was made between the more developed (in terms of tourism) southern part of Greece and the northern part. Understanding the role that these criteria play in hotel management's understanding of the concept of sustainability would allow us: a) to reveal any patterns in TBL policies implementation, b) to enhance our knowledge of managerial learning, and c) to propose changes in hotel management practices that may assist the hotel industry in achieving competitive advantages over rivals at a national and international level (Waligo et al. 2013; Dwyer et al., 2009; Byrd, 2007; Vernon et al. 2005; Dewhurst and Thomas, 2003; Hardy et al., 2002).

## LITERATURE REVIEW AND RESEARCH HYPOTHESES

Sustainable marketing management is a holistic, integrative approach that puts equal emphasis on environmental concerns, economic concerns, and social equity in the development of marketing management strategies (Bridges and Wilhelm, 2008). According to van Dam and Apeldoorn (1996, p. 46) sustainable marketing "is marketing within, and supportive of, sustainable economic development". According to Buhalis (2000) this approach is disadvantageous, because it does not take into account equally important factors such as the unique needs and limitations of each destination, geographical characteristics,

environmental characteristics and the socio-cultural characteristics of the destinations (Sustainable Tourism). The need for rational management and usage of natural resources aimed at the sustainable development of tourism destinations, as well as the various effects of development on the local community and natural environment have been remarked on by researchers in the literature (de Grosbois, 2012; Needham et al., 2004; Pickering and Buckley, 2003; Dolli and Pinfold, 1997; Saremha and Gil, 1991).

The negative effects that could occur due to inadequate management practices, which are based on expectations of short-term financial turn-over and heavy intensive usage of natural resources, could damage long-term financial performance (Clayton, 2002). Overcrowding, bad aesthetics, and the destruction of the natural environment from construction could limit positive effects, not only for the wider local economy, but also for a hotel's financial reporting (Faulkner and Tideswell, 2006; Wyllie, 1998). Tourism development is seen as a way of improving a country's economy and social wellbeing, but if this development is not handled carefully, tourists could choose alternative destinations or attractions, resulting in limited business and economic results at a microlevel (e.g. hotels; de Sausmarez, 2004).

Developing tourism products with a sustainable focus is the way for the tourism sector to fit in with the local environment and ensure its preservation (Eccles, 1995). Tourism sustainability has recently been discussed by researchers from a broad perspective, conceptualising tourism services as processes that involve many service providers that formulate a supply chain (Xu and Gursoy, 2014; Sigala, 2008; Jamrozny, 2007). Large corporations, such as TUI, get actively involved in promoting "environmentally-compatible management", as well as socioeconomic viability, by publicising and awarding qualified tourism services suppliers within its business network (Sigala, 2008). Additionally, it has been confirmed through cross-cultural analysis that tourists demonstrate a strong preference, and specific willingness to pay for a stay in hotels that have environmentally responsible practices (Choi et al., 2009). Thus, hospitality sector has recently started experiencing increased pressure from customer demand, environmental protection organisations and governmental regulations (Smerecnik and Andersen, 2011; Erdogan and Baris, 2007). This has led many hotels to adopt passive and active systems in environmental and energy engineering, as well as water saving and waste minimising technologies (Honey, 2008; Erdogan and Baris, 2007). Furthermore, the holistic sustainability concept has been rejuvenated in Scandinavia, where an innovative corporate social responsibility program has been employed which contributes greatly to increased satisfaction amongst managers,

employees and customers (Bohdanowicz and Zientara, 2008). It is crucial to further empower tourism services customers through special management strategies that enhance their involvement and participation in sustainable practices (Sigala, 2013) and at the same time determine the barriers that impede the implementation of relevant initiatives (Graci, 2009). When “push” TBL strategies are coupled with demand-driven responses on behalf of tourists, it is apparent that a dynamic process of matching tourism services with consumers’ needs and preferences will start developing (Liu, 2003).

A number of studies have assessed how TBL is implemented and how effective it is in terms of developing the sustainability of hotels (Assaf et al., 2012; Bohdanowicz, 2005, 2007). In these studies there are important findings that directly connect TBL with positive hotel performance (Assaf et al., 2012; Fotiadis et al., 2013). What is more, there is evidence that the development of environmental awareness and responsibility within a hotel’s organisational structure (Schianetz et al., 2007; Jurowski, 2001) can lead to an upgraded environmental image and excellent economic performance (Bohdanowicz, 2006; Bohdanowicz et al., 2005). Some researchers examine the effects of implementing a proactive environmental strategy on organisational and economic performance levels (Day & Cai, 2012; Smerecnik and Andersen, 2011; Galbreath, 2008; Claver-Cortés et al., 2007; Trung and Kumar, 2005), whereas others focus on the social responsibility dimension of hospitality organisations (Whitfield and Dioko, 2012; Darcy et al., 2010; Henderson, 2007). However, most of them aim to provide useful insights in respect to all three dimensions of the TBL concept (Cvelbar and Dwyer, 2013; Mihalič et al., 2012; White, 2009; Kasim, 2006; Dwyer, 2005). This study responds to the research call of Jones et al. (2014) about the importance of sustainability to the stakeholders and managers, of the hotel industry. On a secondary level it also responds to the research of Mihalič et al. (2012) concerning the need to compare hotel firms’ commitment and performance along all three business bottom lines.

There are many studies that have examined the effects of sustainable development practices on small and medium hotel enterprises (Ali et al. 2008; Cote et al. 2008; Le et al. 2006; Mensah, 2006; Chan and Lam, 2003). Moreover, hotel star rating and location of the facilities in respect to TBL implementation and reporting have been referred to in past research as possible determinants of hotel performance (Assaf et al., 2012; Heung et al., 2006; Bohdanowicz, 2006; Le et al., 2006; Schendler, 2001; Wei and Ruys, 1999). Nevertheless, the degree of implementation of various strategies depends on top management’s perception of hotel performance (Garrigós-Simón et al., 2005; Carmona-Moreno et al., 2004; Alvarez

Gil et al., 2001; Banerjee, 2001). Apart from leading to huge savings, sustainable innovation and responsible policies provide hotels with a competitive advantage in terms of environmentally conscious customers (Levy and Park, 2011), which probably results in greater customer loyalty and enhanced access to new market segments (Chouinard, 2005; Willard, 2005).

However, is the concept of sustainability of the same importance to all hotels? Are there any specific parameters of differentiation between management's perceptions? For example, it would be worthwhile to examine whether a possible differentiation in the importance of sustainability and relevant TBL policies in managers' perceptions is associated with hotel rating (Kasim, 2009; Mensah, 2006; Kirk, 1998). Some researchers have suggested that the degree of hotels' participation in efficient and effective energy usage depends upon their size and star rating (Mensah, 2006; Lu and Beamish, 2001). One-star-hotel managers have shown hardly any interest in adopting eco-friendly practices; however, those managing two to five star hotels are more willing to make changes to their operation with respect to reducing the consumption of different types of energy and the production of waste from hotel services (Ali et al. 2008; Cipriano and Jafari, 2002). Furthermore, an examination of hotel location could also be revealing. Kasim (2006) and Fotiadis et al. (2013) have implied that differences have been identified between developed and developing countries, as well as between local economies within the same country with respect to implementation of various aspects of TBL policies. Thus, depending on whether a hotel is located in a high or low developed region could be related to specific perceptions and attitudes towards the three pillars of sustainability. In our case, northern Greece is considered to be less developed from a tourism point of view in comparison to southern Greece and the islands of the southern Aegean sea (Andriotis, 2004).

Consequently, the following hypotheses are proposed for testing:

H1: In comparison to the perceptions of four stars hotel managers, five stars hotel managers consider the importance of economic tools and management practices as being higher in respect to their contribution into economic/financial viability.

H2: In comparison to the perceptions of four stars hotel managers, five stars hotel managers consider the importance of environmental practices as being higher in respect to their contribution into environmental sustainability.

H3: In comparison to the perceptions of four stars hotel managers, five stars hotel managers believe that social practices make a more significant contribution into corporate social responsibility.

H4: Managers of hotels located in Northern Greece consider three-pillar sustainability dimensions as more important, in comparison to the perceptions of hotel managers located elsewhere within Greece.

## RESEARCH DESIGN & METHODOLOGY

### Survey and Data Collection

Our data were collected from hotels situated in prefectures across Greece during October 2013. Survey participants, who were holding a general management position at that time, were initially approached by phone in order to ascertain if they were inclined to participate in the study. A team of 25 undergraduate business administration students, supervised by the authors at the University of Macedonia, randomly contacted the heads of the hotels via telephone or/and e-mail. The hotel details were taken from a two-part list of 1607 four and five stars hotels that can be found on the website of the Hellenic Chamber of Hotels (2013). This list consists of 1181 four-star and 426 five-star hotels. A systematic sampling method was employed, selecting every 3rd four-star hotel and every 2nd five-star hotel to contact in order to conduct probability sampling. As a consequence, 394 four-star and 213 five-star hotels were included in the final contact plan. Prior to the contact stage, specific instructions were provided to the students with respect to how to conduct effective communication by phone and e-mail in this case. A standard e-mail form was also constructed in order to ensure that all managers would be contacted in the same professional manner.

Managers were invited to take part in the survey, fill out the whole questionnaire, and return it to the researchers within a month. After 65 days, including first contact and follow-up contacts in most of the cases, 279 of the four-star-hotels listed and 144 five-star hotels provided their inputs to the field researchers, either through e-mail, facsimile or postal mail. As has been stated by Pearl & Fairley (1985), non-response error is encountered when the opinions of non-participants in the study are different from the opinions of those that actually respond positively to the invitation for participation; two types of non-respondents are of interest in the published literature: the unit and the item non-response (Whitehead et al. 1993). Any response rate above 60% for a unit response is considered to be adequate for publication purposes (Babbie, 2007; Johnson and Owens, 2003). In our case, 115 out of 394

four-star hotel managers and 69 out of 213 five-star hotel managers refused or could not be located to participate to the research study, thus resulting in response rates of 70.81% and 67.60%, respectively. Item non-response error was not a problem in this research; in the case where respondents did not respond to some items, the survey team made follow up contact with them to ensure complete responses. All survey responses anonymised, preserving confidentiality, and only general demographic data was collected.

### Measurement Instruments

A self-administered questionnaire was formulated after an extensive literature review on three-pillar sustainability and sustainable hotel operations. Before its release to hotel managers, it was reviewed by three faculty members of the University of Macedonia in order to evaluate its face validity. Corrections of items that presented ambiguity, deletion of almost duplicated items, or addition of some other items not previously included took place in nine instances. The questionnaire in its final form was divided into three main sections: introductory, core and demographics. The core section was based on Bragg's (2006) Business Ratios and Formulas, as well as on Farris et al. (2006) marketing metrics in terms of the part that is related to economic tools and practices, comprising of 38 items covering: marketing, human resources management, financial management, innovation, strategy and business administration. The environmental dimension was evaluated using a 58-item scale published by Chan (2009), regarding the set-up of an environmental management system (EMS), and covering power saving practices, energy and environmental impacts, use of resources and water, as well as reuse and recycling (Stylos & Koroneos, 2014; Theodosiou, Koroneos & Stylos, 2014). The last part of the main body consists of 29 corporate social responsibility items based on a set of questions provided in CSR Europe's Toolbox (CSR Europe, 2012) report covering personnel policies, human rights and local community impact and activities. The research study of Lindgreen et al. (2009) was also taken into account, thus improving the corporate social responsibility part of the questionnaire. Managers were asked whether the implementation of the proposed practices took place in their hotels or not, providing a yes/no answer for each item. Then, they were asked to provide their opinions about the importance of the practices mentioned, according to their knowledge and experience, on a 7-point Likert scale ranging from 1=totally unimportant to 7=totally important. Tables 1, 2 and 3 present all the statements that were used in constructing the measurement instrument of this study.

**TABLE 1** Means and Standard deviations for the scale items of importance measures for economic viability (Bragg, 2006; Farris et al., 2006)

Sub-dimensions	Statements	Perceived Importance Mean (SD)	
		4 stars	5 stars
<b>1. Marketing</b>			
	Market share evaluation (mkt1)	5.18 (1.63)	6.20 (1.24)
	Brand development index (mkt2)	4.92 (1.89)	6.15 (0.88)
	Evaluate brand penetration (mkt3)	4.84 (1.82)	5.80 (1.85)
	Evaluate customer loyalty (mkt4)	5.78 (1.33)	6.80 (0.52)
	Evaluate customers' willingness to recommend the hotel (mkt5)	6.16 (1.23)	6.50 (0.69)
	Evaluate customer satisfaction (mkt6)	6.56 (0.79)	6.75 (0.44)
	Calculate profit margins (mkt7)	5.47 (1.71)	6.30 (0.80)
	Determine break-even sales (mkt8)	4.98 (1.97)	6.25 (1.07)
	Estimate average acquisition cost (mkt9)	4.53 (1.84)	6.20 (1.24)
	Estimate average retention cost (mkt10)	4.10 (1.78)	6.05 (1.40)
	Estimate optimal prices of hotel services (mkt11)	5.66 (1.45)	6.15 (1.23)
	Calculate promotional costs (mkt12)	5.46 (1.40)	6.00 (1.03)
	Calculate advertising costs per medium (mkt13)	5.69 (1.58)	5.80 (1.15)
	Count customers/customer visits (mkt14)	5.94 (1.19)	6.70 (0.47)
	Implement SWOT analysis (mkt15)	4.44 (1.80)	6.35 (0.88)
	Implement Customer Relationship Management system (mkt16)	5.47 (1.72)	5.95 (1.10)
<b>2. Human resources management</b>			
	Calculate workload of personnel (hrm1)	5.26 (1.54)	6.20 (1.32)
	Sales potential forecast (hrm2)	5.15 (1.80)	6.20 (0.83)
	Assess sales force effectiveness (hrm3)	5.00 (1.72)	5.30 (1.95)
	Calculate break-even number of employees (hrm4)	5.24 (1.68)	5.75 (1.83)
<b>3. Financial Management</b>			
	Evaluate cost per customer received services (fin1)	5.06 (1.66)	6.10 (1.80)
	Calculate debt to equity ratio (fin2)	5.14 (1.80)	5.30 (1.87)
	Calculate return on investment ratio (ROI) (fin3)	5.22 (1.53)	6.10 (1.07)
	Calculate internal rate of return (IRR) (fin4)	4.29 (1.76)	5.55 (1.88)
	Calculate return on marketing investment ratio (ROMI) (fin5)	4.65 (1.45)	4.95 (1.79)
	Exercise ABC accounting (fin6)	4.33 (1.70)	5.55 (1.40)
	Implement modern or international accounting standards (fin7)	5.10 (1.52)	6.30 (0.87)
<b>4. Innovation</b>			
	Support, analyse, record and assess proposed and innovative ideas, processes and services on behalf of personnel (inn1)	5.39 (1.50)	6.40 (1.00)
	Evaluate degree of innovation (inn2)	4.37 (1.81)	5.85 (1.46)
<b>5. Strategy</b>			
	Make use of models for planning, implementation and control of investments and relevant budgets (str1)	4.71 (1.78)	5.50 (1.54)
	Use of perceptual analysis for depicting the position of our hotel in relation to competitors in customers' minds (str2)	4.39 (1.74)	5.65 (1.57)
	Use of perceptual tools for depicting our hotel's strategies in comparison to competitors' ones (e.g. McKinsey matrix) (str3)	4.16 (1.78)	5.20 (1.80)
<b>6. Business Administration</b>			
	Standardised procedure for planning on human resources (bus1)	4.48 (1.66)	5.70 (1.49)
	Standardised procedure for recruiting personnel e.g. career agencies (bus2)	4.14 (1.76)	4.80 (2.31)
	Standardised procedure for training and developing employed personnel (bus3)	4.80 (1.84)	6.10 (1.33)
	Standardised procedure for evaluating performance of personnel (bus4)	4.40 (1.65)	4.55 (2.06)
	Specified rewarding system on efforts and results of human resources (bus5)	5.16 (1.74)	6.30 (0.80)
	Manage supplies and logistics through a robust management system e.g. ERP (bus6)	4.44 (1.82)	6.05 (0.95)

## Data Analysis

Collected data was analysed using SPSS statistics software, performing direct Binary Logistic Regression (Logit). This specific technique is preferred for identifying the independent

variables that impact group membership in the dependent variable and/or establishing a classification system based on the logistic model (Hair et al., 2010). In the current study Logit was performed to assess the impact of two factors on the likelihood that significant differences in the perceptions of hotel managers would be observed. Therefore, each dimension, i.e. economic, environmental, social, was considered to be a dependent variable for the aforementioned hypotheses, while rating (denoted as “Evaluation”), as well as hotel location (reported as “NG”) were categorical predictor (independent) variables. Concerning the overall sample size needed to adequately support estimation of the logistic model, Hosmer and Lemeshow (2000) recommend a sample size greater than 400. Moreover, Hair et al., (2010) underline the importance of the sample per group of the dependent variable. In our case, we distinguished between the hotels in the 2 groups based on their rating, i.e. 4 and 5-star hotels. Therefore, taking into account Hair et al.’s (2010) considerations that the size of each group should have 10 times the number of estimated coefficients, we derived that group sample size should be at least 30, and the overall sample size at least 60. Following a conservative approach, it was decided that at least 400 cases should be collected. Finally, field research design and implementation resulted in gathering 423 responses to the questionnaire, thus achieving minimum sample size target, both at the group level and overall.

A split-half reliability test was implemented for both groups of hotels in order to examine the internal consistency of the sustainability scale proposed in the current paper. Concerning the 4-stars hotels group the Spearman-Brown coefficient was found to be 0.883 and the same coefficient for the 5-star hotels group was found to be 0.904; in both cases the Spearman-Brown coefficient values are considered to be satisfactory (Troidahl & Powell, 1965), thus supporting the internal consistency of the measurement instrument with respect to the different methods of data collection used in this research (e.g. postal mail, email, facsimile).

**TABLE 2** Means and Standard deviations for the scale items of importance measures for environmental sustainability (Chan, 2009)

Sub-dimensions	Statements	Perceived Importance Mean (SD)	
		4 stars	5 stars
<b>1. Power saving practices</b>			
	Finer tuning of controllers of air conditioning (psp1)	5.94 (1.08)	6.35 (0.88)
	Solar control film at window shields (psp2)	5.00 (1.64)	4.70 (1.92)
	Energy saving light bulbs only (psp3)	6.24 (1.11)	6.40 (0.82)
	Automatic switchers for lighting and ventilation (psp4)	5.86 (1.21)	6.35 (0.88)
	Cleaning light fittings (psp5)	4.60 (1.76)	4.85 (1.42)
	Washing machines operate at full load (psp6)	5.26 (1.47)	5.60 (1.34)
	Energy saving policy (psp7)	5.20 (1.68)	5.65 (1.79)
	Main entrance door is normally closed (psp8)	4.92 (1.67)	6.10 (0.85)

Air conditioning of facilities only where needed by central control (psp9)	5.62 (1.28)	5.95 (1.28)
Preventive maintenance program (psp10)	4.74 (1.71)	5.30 (1.59)
Central control of all electrical systems (e.g. illumination, ventilation) (psp11)	5.51 (1.29)	6.00 (1.08)
Energy saving stickers at common spaces and rooms (psp12)	5.04 (1.44)	4.85 (2.06)
Illumination level is not higher than necessary (psp13)	5.24 (1.62)	5.75 (1.33)
Drapes and blinds of unoccupied rooms are closed (psp14)	5.16 (1.63)	5.65 (1.42)
Existence of internal venetian blinds (psp15)	5.18 (1.71)	5.30 (2.13)
Minimize the opening of doors and of cold store and freezers (psp16)	4.78 (1.68)	5.05 (1.82)
Automatic setting of temperature when room is vacant (psp17)	5.10 (1.57)	5.65 (1.90)
Each landing call will only be answered by one lift (psp18)	5.22 (1.71)	5.95 (1.36)
Switches for saving energy in lifts (psp19)	5.64 (1.21)	6.15 (1.14)
Fine tune of pneumatic control for all AHUs and PAUs (psp20)	5.12 (1.69)	5.40 (1.79)
Lifts are energy efficient (psp21)	5.61 (1.15)	6.25 (0.97)
Checked indoor parameters (temperatures and humidity) to ensure no over cool (psp22)	4.35 (1.96)	4.75 (2.02)
Installed natural cooling distribution equipment (psp23)	5.08 (1.63)	5.65 (1.42)
Lamps and ventilation system in car park controlled by timer switch (psp24)	5.53 (1.46)	6.05 (0.95)
Replaced the fluorescent light ballast with electronic type (psp25)	3.40 (2.08)	3.45 (2.40)
Installed frequency inverter for sea-water pump (psp26)	5.66 (1.22)	6.25 (0.97)
Close guest floor during low occupancy to save energy (psp27)	4.98 (1.48)	3.75 (2.25)
A boiler should be operated at percentage load of over 30% (psp28)	5.26 (1.48)	5.70 (1.69)
<b>2. Energy &amp; environmental impacts mitigation</b>		
Kitchen doors adjacent to dining areas kept closed (eei1)	5.52 (1.39)	5.85 (1.57)
Kitchen exhaust make-up (eei2)	5.82 (1.32)	6.25 (0.91)
Checked leakage of refrigerant and water (eei3)	5.80 (1.16)	6.55 (0.69)
Check kitchen equipment efficiency (eei4)	5.54 (1.30)	6.40 (0.75)
Test boiler efficiency by adjusted to fuel ratio (eei5)	5.64 (1.29)	5.80 (1.24)
Check fresh air dampers (eei6)	5.08 (1.57)	5.95 (1.19)
Use as much outdoor air as possible to maximize free cooling effect when permitted by weather conditions (eei7)	5.82 (1.38)	6.00 (0.86)
Use commercially available combustion gas analyser to measure combustion efficiency (eei8)	4.44 (1.95)	5.60 (1.39)
Replaced the old gas equipment by energy saving model (eei9)	5.62 (1.58)	6.30 (0.80)
Improved building air balance: positive building internal pressure maintained (eei10)	4.30 (1.80)	4.95 (1.76)
Environmentally-friendly fire extinguisher (eei11)	5.62 (1.29)	6.15 (0.99)
Implementation of a concrete plan for planting flowers and trees around (eei12)	5.54 (1.36)	6.20 (0.95)
<b>3. Use of resources and water</b>		
Maintain appropriate chemical treatment for feed water for a boiler (urw1)	5.18 (1.72)	6.35 (1.04)
Follow washing machine manufacturer's specified water temperature and amount (urw2)	5.62 (1.29)	5.90 (1.52)
Temperature sensor and control valve are installed in dry cleaning machine (urw3)	4.88 (1.99)	6.00 (1.65)
Apply an economizer to recover waste heat in boiler (urw4)	4.64 (1.86)	5.25 (1.97)
Routine check normal operation of a boiler (urw5)	5.84 (1.15)	6.50 (0.76)
Adjust water flow rate and water temperature to suit different needs within the hotel (urw6)	4.20 (1.71)	5.10 (1.94)
<b>4. Reuse &amp; Recycle</b>		
Donation of used clothes (rr1)	4.53 (1.91)	5.40 (1.19)
Recycle rinse water for next prewash (rr2)	5.08 (1.75)	5.55 (1.82)
Distribute canvas bags to staff instead of plastic bags for staff laundry (rr3)	4.53 (1.79)	5.25 (2.05)
Donation of leftover food for the needy (rr4)	4.59 (1.85)	5.35 (1.66)
Donation of old materials and equipment that can be reused (rr5)	4.90 (1.70)	5.35 (1.84)
Encourage suppliers to use returnable containers/packaging and collect the empty used containers (rr6)	4.82 (1.75)	5.00 (1.92)
Bottle recycling to suppliers or collectors (rr7)	5.14 (1.73)	5.20 (1.80)
Tin can recycling (rr8)	5.57 (1.57)	6.05 (1.00)
Soap, shampoo and cooking oil donation (collect used ones for parties who want) (rr9)	4.15 (1.85)	4.65 (1.87)
Menus, information materials and posters are printed on recycled paper (rr10)	5.34 (1.66)	5.85 (1.09)

Specify a spot for gathering newspapers and magazines for recycling (rr11)	5.08 (1.68)	5.20 (1.54)
Towel / bed linen reuse campaign (rr12)	4.55 (1.93)	5.80 (1.11)

**TABLE 3** Means and Standard deviations for the scale items of importance measures for societal responsibility (CSR Europe, 2012)

Sub-dimensions	Statements	Perceived Importance Mean (SD)	
		4 stars	5 stars
<b>1. Personnel Policies</b>			
	Workers and managers are hired without an age criterion (pep1)	5.14 (1.46)	5.80 (1.54)
	Hotel personnel is hired without a gender criterion (pep2)	5.40 (1.51)	6.25 (0.79)
	Hotel personnel is hired without a nationality or a place of origin criterion (pep3)	5.30 (1.53)	5.85 (1.14)
	Hotel employs people with special skills (needs) (pep4)	3.96 (1.52)	4.35 (1.63)
	Religion is a criterion for recruiting an employee (pep5)	3.90 (2.27)	3.80 (2.44)
	Absenteeism is a quite often phenomenon among the employees (pep6)	5.06 (1.74)	5.70 (1.22)
	Hotel roster changes quite often (pep7)	5.06 (1.96)	5.20 (1.88)
	Salaries and working conditions are above average within local market (pep8)	5.16 (1.39)	5.15 (1.95)
	Complaining on behalf of personnel towards hotel management is gradually escalating (pep9)	5.04 (1.61)	5.90 (1.62)
	Corruption and unprofessional behavior on behalf of personnel is getting worse (pep10)	5.69 (1.31)	6.15 (1.27)
	Hotel budget includes expenses for educational sessions and training (pep11)	5.18 (1.36)	5.60 (1.98)
	In case of important decisions such as personnel downsizing, training etc., an evaluation of relevant impacts takes place (pep12)	5.06 (1.70)	6.10 (1.37)
	Hotelier is interested in a balanced relationship between work and personal life of personnel (pep13)	5.06 (1.62)	5.95 (1.00)
<b>2. Human Rights</b>			
	Hotel compliance with international standards in implementing labor legislation (hur1)	5.68 (1.45)	6.45 (0.83)
	A confidential procedure at personnel's disposal for complaints management (hur2)	4.90 (1.77)	5.95 (1.40)
	Wages and social security benefits are at dictated minimum levels of relevant legislation (hur3)	5.64 (1.47)	6.35 (0.99)
	Hotel's progress in implementing human rights is comparable to directives of international institutions (hur4)	4.59 (1.76)	6.35 (0.67)
	We check our suppliers and associates whether they comply with the rules on human rights (hur5)	4.18 (1.80)	4.20 (2.04)
	We are aware of the percentage of suppliers and associates that satisfy the highly standards set by our hotel regarding respect of human rights (hur6)	3.88 (1.80)	4.10 (1.62)
	We are aware of the percentage of managers in our hotel that follow the human rights standards set (hur7)	4.94 (1.70)	5.65 (1.63)
	We measure personnel's perceptions related to hotel's performance regarding human rights (hur8)	4.72 (1.77)	5.20 (1.58)
	We measure local community's perceptions related to hotel's performance regarding human rights (hur9)	4.31 (1.65)	4.50 (1.70)
<b>3. Local community impact &amp; activities</b>			
	Hotel supports local community's activities with money as a percentage of profits before taxes (lci1)	4.67 (1.78)	5.30 (1.49)
	Evaluation of unified value of salaries, bonuses and other benefits directed to the families of local community (lci2)	4.14 (1.61)	4.55 (1.99)
	There are positive/negative comments or news concerning the actions taken by the hotel in respect of local community (lci3)	5.40 (1.78)	5.80 (1.47)
	Existence of an annual program for organizing events or supporting public infrastructure for the local community (lci4)	4.65 (1.76)	5.55 (1.50)
	Impact assessment of the support provided to local community organizations (lci5)	4.54 (1.66)	5.30 (1.69)
	Impact assessment of the support provided to environmental organisations (lci6)	4.10 (1.64)	5.65 (1.27)
	Impact assessment of the support provided to training social initiatives (lci7)	4.42 (1.78)	4.95 (1.79)

## RESULTS

### Perceived Importance of Sustainability sub-dimensions

Economic viability was comprised of six sub-dimensions based on 38 business policies and practices. Table 1 presents all the items that were used to measure the perceived importance of these sub-dimensions by hotel managers. The results indicate that based on mean values the most important economic viability attributes are related to marketing. In particular, 4-star-hotel managers consider evaluation of customer satisfaction and evaluation of customers' willingness to recommend the hotel as the most important marketing practices. Evaluation of customer loyalty and evaluation of customer satisfaction were reported in a descending order by 5-star-hotel managers as the most important marketing practices. Concerning human resources, 4-star-hotel managers on average consider the calculation of personnel workload to be the most important task of this scale, whereas in the case of 5-star-hotel managers consider the potential sales forecast to be the most crucial one. The most important financial management measurement for the 4-star-hotel managers was the calculation of return on investment ratio (ROI), whereas for the 5-star hotel managers it was the implementation of modern or international accounting standards. As far as innovation is concerned, both groups of 4 and 5-star-hotel managers responded that a specific evaluation & management model of innovative proposals is of utmost importance. Regarding the sub-dimension of strategy, 4-star-hotel managers believe that starting to use models for planning, implementing and controlling investments would be really helpful; on the matter of strategy, 5-star-hotel administrations have a more sophisticated approach to strategy, opting for perceptual analysis as more suitable to the needs of their hotels. Finally, development and implementation of rewarding systems on the efforts and results of personnel were considered to be the most important management practices for both 4 and 5-star hotels. The second most important item in this sub-dimension is a standardised procedure for training and developing personnel, as reported by both 4 and 5-star-hotel managers. In all statements and sub-dimensions the mean values of importance reported by 5-star-hotel managers were higher than those of 4-star-hotel managers, meaning that, as a whole, economic viability tools and measures receive a higher consideration from the administrations of the top-star-rated hotels in Greece.

Environmental sustainability is comprised of four sub-dimensions, made up of 58 scale items. Table 2 shows that energy saving light bulbs and the fine tuning of air conditioning have been reported as the most important power saving practices from both 4 and 5-star hotel managers.

Both groups of respondents have also stressed the importance of automatic switchers for lighting and ventilation. Concerning the energy & environmental impacts category mitigation practices, the 4-star-hotel managers consider kitchen air conditioning and the quantity of outdoor air being used to maximise a free cooling effect as most important, whereas 5-star-hotel managers refer to checks on possible leakages of refrigerant / water supply and kitchen equipment efficiency as the most important practices for them. Then, both 4 and 5-star-hotel managers agree that a routine check to insure boilers are functioning properly is the most significant action that can be undertaken to improve use of water resources. Finally, tin can recycling is the most important practice in the reuse & recycle category for both groups; 5-star-hotel managers also mentioned printing all information brochures and menus on recycled paper, as well as the reuse of towels/linen, whereas 4-star-hotel managers perceive bottle recycling to suppliers or collectors as a very important action.

The societal responsibility dimension is comprised of three sub-dimensions, based on 29 scale items in total (Table 3). Concerning personnel policies, two dominate the interest of all managers; policies for avoiding discriminations in recruitment based on gender and issues of corruption and unprofessional behaviour by personnel. The compliance of hotels with international standards in implementing labour legislation, as well as guaranteeing that wages and social security benefits are at least at the minimum levels have been reported, on average, as the most important human rights policies. Finally, both groups of managers have made it clear that the comments or relevant news published in media, concerning a hotel's local community activities are the most important factor in the relevant sub-dimension.

In general, managers leading 5-star hotels reported a higher perceived importance for most of the scale items across all sustainability dimensions and sub-dimensions. However, there are a few cases of particular interest, mainly in environmental sustainability but also in societal responsibility, for which the perceived importance reported by 4-star-hotel managers was higher than that of 5-star-hotel managers. In those particular cases we felt it would be interesting to check if the differences encountered are statistically significant or due to chance alone. Applying 2-independent samples t-tests for these cases comparing the 4-star with the 5-star-hotel managers groups, we finally reached a conclusion. Table 4 shows that in only one case, namely closing the guest floor during low occupancy to save energy, that the significance value of the test is less than 0.05 for a 95% confidence interval (Sig.=0.009). Therefore, for this power saving practice it can be safely concluded that the average of 1.23 extra points of importance on the Likert scale reported by 4-star-hotel managers in

comparison to 5-star-hotel managers is not due to chance alone. For the rest of the items included on Table 4, the differences in means that have been observed are not significant on a 5% level of significance.

**TABLE 4** Checks for significant differences concerning the items that 4-star-hotel managers have reported a higher perceived importance than 5-star-hotel managers

Sub-dimensions	Statements	Perceived Importance Mean (SD)		t-test for Equality of Means
		4 stars	5 stars	Sig. (2-tailed)
<b>Power saving practices</b>				
	Solar control film at window shields (psp2)	5.00 (1.64)	4.70 (1.92)	0.516
	Energy saving stickers at common spaces and rooms (psp12)	5.04 (1.44)	4.85 (2.06)	0.662
	Close guest floor during low occupancy to save energy (psp27)	4.98 (1.48)	3.75 (2.25)	0.009
<b>Personnel Policies</b>				
	Religion is a criterion for recruiting an employee (pep5)	3.90 (2.27)	3.80 (2.44)	0.874
	Salaries and working conditions are above average within local market (pep8)	5.16 (1.39)	5.15 (1.95)	0.975

### Hypotheses Testing

Three out of four research hypotheses could not be rejected by quantitative analysis. In terms of H1, we checked whether the importance of financial tools and management practices – components of economic viability – were considered to be higher in five stars hotels in comparison to four stars hotels. We did that by suggesting and assessing how well a model fit, as well as extracting information about the contribution of each of our predictor variables. The log-likelihood statistic (-2LL), which is based on summing up the probabilities associated with the predicted and actual outcomes, has a value of 91.246 at the baseline model. With the inclusion of the independent variable “Evaluation”, the value of -2LL is reduced to 85.481, thus the model has been improved (Table 5). As far as testing H1 is concerned, the Hosmer and Lemeshow Test (1980), as shown in Table 6, suggests that the model is worthwhile (Tabachnick & Fidell, 2007), since the corresponding chi-square value is 0.371 with a significance level of 0.831 ( $>0.05 = p$ ). Statistics clearly show that “Evaluation” is significant with Sig. = 0.031 $<0.05$ , as one can see on Table 7. Variable “Evaluation” which represents hotels rating showed a positive B value (1.487) meaning that the higher the hotel rating the more likely it is that hotel managers will perceive as financial measures and practices as having high importance. Moreover, the Exp(B) value shows that the odds of a manager evaluating economic/financial measures as highly important is approximately 4.42 times higher when (s)he manages a 5 star hotel. Hence, hypothesis H1 has been confirmed from the data analysis. However, according to Table 3, variable “NG” representing hotel location is not significant (Sig. = 0.888 $>0.05$ ). Thus, we cannot support

**TABLE 5** Iteration History for testing hypothesis 1

Iteration		-2 Log likelihood	Coefficients		
			Constant	Evaluation	NG
Step 1	1	85.791	.188	1.154	.072
	2	85.484	.182	1.454	.082
	3	85.481	.182	1.487	.083
	4	85.481	.182	1.487	.083

Note. Method: Enter. Constant is included in the model. Initial -2 Log Likelihood: 91.246

**TABLE 6** Hosmer and Lemeshow test (Hypothesis 1)

Step	Chi-square	df	Sig.
1	.371		.83

**TABLE 7** Testing hypotheses 1 and 4

Variables in the Equation	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Step 1 <sup>a</sup> Evaluation	1.487	.689	4.654	1	.031	4.424	1.146	17.086
	NG	.083	.586	.020	1	.888	1.086	.345
Constant	.182	.508	.128	1	.721	1.199		

<sup>a</sup> Variable(s) entered on step 1: Evaluation, NG.

that hotel location is a decisive factor in financial management perceptions, meaning that H4 is not supported.

Regarding the second hypothesis H2, we checked whether the importance of various environmental practices, such as electric power savings, restriction of pollutant emissions, recycling etc. – components of environmental sustainability – were considered to be higher in five stars hotels in comparison to four stars hotels. Similar to the first hypothesis, a binary regression model was proposed and we checked its fit and predictability. In this case, the log-likelihood statistic (-2LL) had a value of 83.758 at the baseline model, which was reduced to 80.293 with the inclusion of the independent variables, as shown on Table 8. Moreover, by applying the Hosmer and Lemeshow Test (Table 9) it was concluded that the model is worthwhile, since the chi-square value is 1.309 with a significance level of 0.52 (>0.05 = p). Then, a thorough check on the statistics of Table 10 showed that neither variable, i.e. “Evaluation” (Sig. = 0.109), nor “NG” (Sig. = 0.408), are significant at 95% confidence level. Thus, H2 was rejected which means that hotel rating could not be assumed to affect

**TABLE 8** Iteration History for testing hypothesis 2

Iteration		-2 Log likelihood	Coefficients		
			Constant	Evaluation	NG
Step 1	1	80.668	.935	.793	-.410
	2	80.296	1.055	1.084	-.531
	3	80.293	1.063	1.120	-.541
	4	80.293	1.063	1.120	-.541

Method: Enter. Constant is included in the model. Initial -2 Log Likelihood: 83.758

**TABLE 9** Hosmer and Lemeshow test (Hypothesis 2)

Step	Chi-square	df	Sig.
1	1.309	2	.520

**TABLE 10** Testing hypotheses 2 and 4

Variables in the							
Equation	B	S.E.	Wald	df	Sig.	Exp(B)	
Step 1 <sup>a</sup> Evaluation	1.120	.699	2.569	1	.109	3.065	
NG	-.541	.654	.684	1	.408	.582	
Constant	1.063	.580	3.358	1	.067	2.895	

<sup>a</sup> Variable(s) entered on step 1: Evaluation, NG.

perceptions of hotel administrations or alter management practices in relation to the environment, the second pillar of sustainability. Again, the data does not support the idea that hotel location is a decisive factor for altering environmental management perceptions, therefore H4 is rejected.

In terms of H3, we checked whether the importance of social related practices – components of corporate social responsibility – were perceived to be higher in five stars hotels in comparison to four stars hotels. The log-likelihood statistic (-2LL) had a value of 95.607 at the baseline model. With the inclusion of independent variables “Evaluation” and “NG”, the value of -2LL reduced to 88.863, thus the model had improved, as shown on Table 11. The Hosmer and Lemeshow Test (see Table 12) indicated that the proposed model was a good one, with a chi-square value being at 0.37 at a  $0.831 > 0.05$  significance level. Checking the statistics at the Variables in the Equation table (Table 13) showed that the “Evaluation” variable was a significant one with  $\text{Sig.} = 0.017 < 0.05 = p$ . Variable “Evaluation” which represents hotels rating showed a positive B value (1.502), which meant that the higher the

**TABLE 11** Iteration History for testing hypothesis 3

Iteration		-2 Log likelihood	Coefficients		
			Constant	Evaluation	NG
Step 1	1	88.988	.154	1.306	-.325
	2	88.863	.179	1.492	-.360
	3	88.863	.180	1.502	-.361
	4	88.863	.180	1.502	-.361

Method: Enter. Constant is included in the model. Initial -2 Log Likelihood: 95.607

**TABLE 12** Hosmer and Lemeshow Test (Hypothesis 3)

Step	Chi-square	df	Sig.
1	.370	2	.831

**TABLE 13** Testing Hypotheses 3 and 4

Step 1 <sup>a</sup>	Variables in the Equation	B	S.E.	Wald	df	Sig.	Exp(B)
		Evaluation	1.502	.631	5.658	1	.017
	NG	-.361	.583	.384	1	.536	.697
	Constant	.180	.507	.126	1	.723	1.197

<sup>a</sup> Variable(s) entered on step 1: Evaluation, NG.

hotel rating the more likely it is that hotel managers will perceive social responsibility practices as having high importance. Moreover, the Exp(B) value shows that the odds of a manager evaluating social responsibility practices to be highly important was approximately 4.49 times higher, when (s)he managed a 5 stars hotel. Therefore, hypothesis H3 was confirmed from the previous data analysis. However, H4 is not supported since variable NG (hotel location) presents a Sig.=0.536>0.05, therefore it is not a decisive factor in corporate responsibility – related perceptions (Table 13).

Table 14 summarises the results of the logistic regression analyses previously conducted concerning the proposed hypotheses. It was concluded that two out of four of the hypotheses were confirmed (H1 and H3), while the rest could not be supported (H2 and H4).

## DISCUSSION

Notwithstanding the fact that hospitality management literature has been slow to adopt the TBL sustainability concept in comparison to tourism destinations management, it has been generally accepted that sustainability is a very important driver for the future success of the hotel industry (Boley & Uysal, 2014; Myung et al. 2012). From a practical point of view, it

**TABLE 14** Hypotheses testing and conclusions

<b>Hypothesis</b>	<b>Description</b>	<b>Result</b>
1	In comparison to the perceptions of four stars hotel managers, five stars hotel managers consider the importance of economic tools and management practices as being higher in respect to their contribution into economic/financial viability	Confirmed
2	In comparison to the perceptions of four stars hotel managers, five stars hotel managers consider the importance of environmental practices as being higher in respect to their contribution into environmental sustainability	Not supported
3	Five stars hotel managers consider importance of social practices as being higher in respect to their contribution into corporate social responsibility, compared to perceptions of four stars hotel managers	Confirmed
4	Managers of hotels located in Northern Greece consider three-pillar sustainability dimensions as more important, compared to perceptions of hotel managers located elsewhere within Greece	Not Supported

has been stated that sustainability theory is not translated into practice (Ruhanen, 2008); sustainable tourism policies may give the impression of TBL implementation but in reality they focus on just one of the sustainability pillars, i.e. economic viability (Bianchi, 2004; Harrison et al., 2003). A meaningful engagement with the local community, government agencies and tourism industry stakeholders, including hotel managers and owners, has been claimed to be a prerequisite for sustainable tourism planning (Andriotis & Vaughan, 2003; Caffyn & Jobbins, 2003; Simpson, 2001). In addition, the sustainable development of tourism destinations and the implementation of TBL sustainability in hospitality firms should not be treated separately; cooperation and mutual benefits are the key drivers of both destinations' and the hotel industry's success in terms of sustainable development (Pavlovich, 2001). On the other hand, it seems that there is a market-pressure towards sustainability, due to the fact that there are open-minded tourists, who are communicative and willing to pay a socially acceptable price for a sustainable tourism product (Kastenholz, 2004; Krippendorf, 1989). In other words, if a tourism destination as a whole is to conform to sustainability principles, then the companies in the sector, e.g. hotels, must aim to achieve sustainability in their operations (Dwyer et al. 2009; Dwyer 2005).

In our opinion, all stakeholders (e.g. the hotel managers and/or hoteliers) should regard sustainability as important in order to bring a holistic sustainable strategy into the tourism and hospitality industry. This study analysed the differences in hotel managers' perceptions between two groups of hotels, four and five-star-rated, located across Greece. According to past research, perceptions of sustainability form attitudes and these attitudes affect implementation of sustainable initiatives significantly (Andriotis, 2004; Brunt & Courtney, 1999; Ajzen & Madden, 1986). Therefore, it could be inferred that differences in perceptions of the three sustainable dimensions could affect the ways action is taken towards financial, environmental and social dimensions (Camisón, 2000); lately, the social dimension is recognised as of utmost importance due to the role of local societies in developing sustainable tourism destinations (Nunkoo et al., 2013). Our findings clearly support two out of four of the research hypotheses related to differences in the perceived importance of economic and social dimensions of sustainability. The same was not true for the environmental dimension of sustainability, or for the hotel location variable.

In conclusion, this study supports the idea that hotel star rating plays a significant role in the use of, and reporting of, financial measures of economic viability. Although there are many studies relating star rating with hotel performance (Assaf et al., 2012; Assaf & Cvelbar, 2011), as well as star rating with quality, satisfaction and prices (Berezan et al., 2014; Narangajavana & Hu, 2008; Israeli, 2002), it was not possible for us to locate other studies than the current one that associated star rating with managers' perceptions on systematic implementation of financial measures and criteria. Thus, this study concluded that the higher the star rating of hotels, the better the perceived importance of financial reporting by hotel managers.

On the other hand, managers – both in four and five star hotels – have similar perceptions in terms of applying environmentally-conscious practices. This finding has been previously supported by Kirk (1998) who has confirmed that hotel characteristics, such as star rating, are not associated with written environmental policies. Similarly, El Dief & Font (2012) have concluded that hotel chain affiliation is probably a determinant in adopting standardised environmental management systems, but not star rating. Additionally, Tang et al. (2012) have suggested that integrating environmental sustainability into company policies, contributes not only to operations management, but also to company reputation and customer satisfaction, thus enhancing economic performance; this is purely a marketing oriented approach that is not connected with the size or capital investment of the companies (Jones et al. 2014).

Therefore, it can be inferred that managers of four and five-star hotels perceive the importance of environmental sustainability equally.

Despite the fact that many researchers have underlined the importance of social sustainability for the hotel industry (Rodríguez & del Mar Armas Cruz, 2007; Kang et al., 2010; Tsai et al., 2010; Holcomb et al., 2007) it is true that none of them, to the best of our knowledge, has focused on possible differences between hotel classes. Concerning research into the social dimensions of sustainability, this study supports the idea that there are significant differences in management perceptions of corporate social responsibility, when star rating is used as a criterion. Thus, the importance of social responsibility and related actions is not perceived to be equally significant by the managers of four and five star hotels. Perhaps, this conclusion is related to know-how and the international practices transfer by large international firms and hotel affiliations investing in high class hotels and resorts (Chen & Dimou, 2005; Alvarez Gil et al., 2001; Simonin, 1999).

However, it cannot be supported that hotel location, which relates to a higher or lower local tourism development level, is a decisive factor in financial management perceptions, environmental sustainability, or corporate responsibility related perceptions. This conclusion has been previously confirmed in similar research settings involving different countries, such as Egypt (El Dief & Font, 2012), while some other researchers claim that hotel location is a factor facilitating adoption of environmental tools (Erdogan & Baris, 2007; Le et al., 2006). Differentiations among studies on assessment of hotel location as a determinant of managers' perceptions could be attributed to the variability of location settings (e.g. natural vs. non-natural areas, northern vs. southern areas, urban vs. rural etc.).

Overall, this study contributes to the hospitality industry and the relevant literature in the following ways: First, it shows that economic viability and social responsibility are more attractive as concepts and measures to the managers of top-star-rated hotels, thus increasing chances for better integration of the respective practices in those hotels' operational and marketing strategies. Hence, success of the hospitality units at a financial and societal level is closely related to the quality of hotel experience offered to the guests. Second, the study reveals that the environmental sustainability-related practices are perceived equally as important from both 4 and 5-star hotel administrations; consequently, possible preference on behalf of tourists for staying at hotels with an enhanced environmental profile could be well satisfied both by 5-star, as well as by 4-star-hotels.

## IMPLICATIONS

This paper has measured the perceived importance of TBL sustainability as reported by hotel managers using a sample of leading star rated hotels in Greece. Schianetz et al. (2007) argue that tourism sustainability cannot be implemented based on possible impacts that may stem from general policies and governmental strategies; predominantly, tourism managers need to independently understand the need to take specific actions towards applying practices of TBL sustainability. The findings of the present study indicate that realisation of the TBL sustainability concept by hotel managers is not of the same degree across the hotel industry. Implications for hotel owners and managers in-charge are derived with respect to receiving important strategic decisions for their firms. Three-pillar sustainability is a strategic concept that promises benefits for hotel firms, the local communities and the natural environment (Cvelbar & Dwyer, 2013; P. Ryan, 2003). At the same time, enhancement of competitiveness features as a central issue for hotels and tourism destinations alike (H. Tsai et al., 2009).

However, competitiveness and three-pillar sustainability are not mutually exclusive concepts; on the contrary, financial goals and competitiveness are consistent with sound sustainable management (Zink and Fischer, 2013; Bryson & Lombardi, 2009). On the other hand, competitiveness without sustainability is unreal because true business competitiveness must be economically, ecologically, socially and politically sustainable (Crouch and Ritchie, 1999).

Bach et al. (2014) pinpoint that many tourism business organisations still rarely base their decisions on sustainability and social responsibility principles due to bounded rationality, cognitive limitations and persistence in seeking short-term economic benefits. Therefore, four-star hoteliers should focus on advancing regarding the economic/financial and social dimensions of sustainable management, because their hotels will have a lot to gain in terms of competitiveness. Furthermore, five-star hotel managers need to move forward from just shaping attitudes to fully implementing the sustainable concept elements; that way the hotels they manage will become the pioneers of the hotel industry and living examples of how long-term benefits can be achieved. The rest of the lower-star-rated hotels might eventually follow, and gradually the whole tourism sector would follow. Finally, hotel managers share similar views of sustainability despite location of the accommodation, which is a positive impact for the competitiveness of the less developed or developing tourism destinations.

All previously mentioned conclusions could be embodied in a holistic hospitality strategy through a series of training sessions and seminars on the three-pillar sustainability concept to hoteliers and managers. Moreover, due to its manifold advantages for the natural and social environments, TBL sustainability should be given additional attention by local governmental bodies, chambers and unions (Chan & Wong, 2006; González Benito & González Benito, 2006). Eliminating the barriers that prevent implementation of TBL sustainability and underpinning the reasons, e.g. long-term financial, ethical, socio-cultural, for launching or advancing sustainable practices within hotels would probably motivate hotel managers to take action (Garay & Font, 2012).

In relation to the previous ideas, it is important for the hotel managers to communicate their perception about the importance of TBL sustainability to their existent and potential customers. Many prospective customers do not have a clear view of the sustainable development concept or do not know why they should perform any pro-environmental activities while staying at a hotel (Kim & Kim, 2014). Therefore, hotel managers need to identify what motivates the hotel guests, plan and implement specific sustainability marketing actions that will be well connected with customers' sense of service quality and satisfaction (Vassiliadis et al., 2013; Priporas et al., 2012). Then, it will be probably easier to influence their behavioral intentions and decisions with respect to selecting sustainable-oriented hotels over the rest of the sector (Dolnicar and Matus, 2008; Wilkins, 2010). On the other hand, hotel managers who perceive sustainability as important – in our study most of the managers reported an importance of more than 4.5 points on Likert scale for most of the items – will have a much better chance of attracting customer segments with a mindful sustainable behaviour, thus further strengthening their green business profile (Barber and Deale, 2014; Lawton, 2002).

The aforementioned suggestions could help in constructing a strategic framework for the Hotel associations in order to support sustainable management practices of their member hotels. Hence, a more effective sustainable set of policies could be designed and promoted, e.g. for the needs of small-medium size hotels; then, effective action plans could be activated, depending on hotel rating, and taking into account the perceived differences of sustainability concept stated by the hotel managers. The implementation of the proposed actions would be secured through specific allocation of funding for making available consultation and in-house seminars to the managers of the member hotels.

## LIMITATIONS AND FUTURE RESEARCH

As with all research, there are some limitations inherent in this study, which restrict its potential generalizability. Although we draw evidence from a considerable number of hotel units, all of them are based in Greece. Thus, our findings may not be generalised in other countries due to possible differences among the various cultures involved. Additionally, we have used multi-item-scales for all three dimensions of sustainability based on internationally accepted tools and sources. However, it would not be wise to generalise conclusions associated with the results of the present research study, due to differences in the perceptions of people with regard to various cultures.

Future studies might consider validating previous results in other countries. These results could also be explored further by conducting some case studies that focus on hotel managers' experience with planning and implementing TBL sustainable practices, as well as including more variables related to hotel characteristics. This might provide readers with useful insights on the deeper reasons for observing differences in overall performance among various hotels that could serve as a general theoretical framework. Moreover, qualitative research could be employed in order to examine the structure of sustainability dimensions towards different hoteliers' cultures, e.g. Scandinavian, Asian, or Mediterranean. A quantitative analysis could follow to guarantee the reliability and validity of the proposed scales per culture, with either allowing generalisation of scales across countries or/and supporting adaption of them according to distinct cultural characteristics. From a methodological point of view, the implementation of structural equation modelling could also prove valuable in terms of revealing any interesting insights that stem from the cause-effect of the sustainability issues upon hotel performance.

Another interesting area for future research would be to explore how the concept and practical aspects of sustainability are managed between hotel administrations and corresponding suppliers of goods and services. What is the relative perceived importance of those two groups with respect to governmental regulations compliance, as well as to their voluntarily participation in sustainable actions? Research into this issue would possibly reveal useful ways of improving business between stakeholders and shed light on how TBL sustainability influences supply chain relationship management.

Finally, the use of an integrated procedure in which the three different aspects of sustainability will be taken into account during the design and planning of hospitality services

could provide a basis for TBL business optimization; multi-criteria analysis could be used for identifying an optimum solution in maximizing economic and societal positive effects and at the same time minimizing environmental impacts of lodging industry at a given tourism destination (Ryngnga, 2008; Fu et al., 2011; Theodosiou, Stylos & Koroneos, 2014).

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We would like to thank the editor of *Journal of Hospitality Marketing & Management* and the anonymous reviewers for their valuable feedback, which helped improve the quality of the article.

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