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A COMPARATIVE STUDY OF SUSTAINABLE DEVELOPMENT IN SMALL AND MEDIUM TOURIST HOTEL INDUSTRY FROM PIERIA (GREECE) AND TAIWAN

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ABSTRACT

This paper is exploring the relationship of the small hotel sector with the principles of sustainable tourism development. Main objective is to highlight the benefits expected to accrue to the hotel industry and examine the degree of awareness among owners of small and medium hotel units on issues related to sustainable tourism development. A questionnaire was distributed in Greece and Taiwan and a logit model was used, to examine the impact of the dichotomous dependent variable of nationality between Taiwanese and Greek SME hoteliers. Greeks and Taiwanese have remarkable differences on how they perceive sustainable tourism development and what impact that kind of development will have on their enterprises. Greeks seems to be much more optimistic than Taiwanese when it comes to environmental issues. For Greeks high investment costs are the most important reason for not implementing the adoption of sustainable development. The biggest problem for Taiwanese hoteliers is the lack of trained staff.

KEYWORDS

Sustainable Development, SME's, Greece, Taiwan, Logit Model.

ECONLIT KEYS

Q01; L26; C18; O29

1. INTRODUCTION

Environmental issue and sustainable business practice as a key component of development has been taken into account only during the past few decades. In the past when someone referred to development, it was referring purely to economic growth. In the tourism sphere this examined how and at what cost a specific area would take to achieve more economic benefits. Later it became clear that it is impossible to think only of economic development and it was recognized that one must take seriously the impact on the environment when aiming at the satisfaction of human needs. The purpose and incentives to integrate environmental practices in business has become one of the most debated issues among different industries and especially the tourism industry during the last two decades (Hoffman 2000). The wide variety of research was accompanied by a mixture of different theoretical frameworks. The most well-known theories that were connected to environmental behaviour of small and medium enterprises are: the theory of resources (Esty and Porter 1998; Fotiadis 2011; Fotiadis et al. 2013; Rivera 2001; Srivastava et al. 2001; Veliyath and Fitzgerald 2000), the institutional theory and theories of the member involvement (Hoffman 2000; Rivera 2001; Rivera 2002; Rivera 2004) and the theory of innovation (Robinson 2004; Rogers 1995). In addition most reported studies try to distinguish how humans can help the environment in a contrast to the actions that cause its degradation. This study explores how sustainable development can assist the SME operator while maintaining or even improving the environment.

Exploring the relationship of the small hotel sector with the principles of sustainable tourism development is the purpose of this study. The main objective is to highlight the benefits expected to accrue to the hotel industry because of sustainable tourism development of a tourist area. One of the secondary objectives of the paper is to examine the degree of awareness among owners of small hotel

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units on issues related to sustainable tourism development and to identify the causes and effects of this phenomenon in the present and the future of SME hotel industry. At the same time, we aim to understand the owners' perceptions of sustainable tourism development, which is the backbone of the tourism industry of Taiwan and Greece.

2. SUSTAINABLE TOURISM DEVELOPMENT

The problem of sustainable development was first considered in late 1980s by the United Nations and reviewed in the Brundtland report, where a series of changes to lifestyle, growth and governance were proposed. In 1993 the World Tourism Organization examined the role of tourism in local development with particular emphasis on sustainable development. They determined that concept of sustainability applies specifically to the ecological dimension which leads to a number of alternative types of tourism development. Mostly, this term is used when referring to alternative tourist products such as ecotourism or green tourism (Valentine 1993). However, these accept the obvious reality that the tourism industry is based on mass tourism, rather than alternative local forms. Tourism industries seem to grows mainly in developed areas or in urban areas (Andriotis 2011; Barke and Newton 1995; Urry 1987; Williams and Shaw 1998; Yang et al. 2010) where intense competition aims to achieve as much as possible in economic benefits (Agarwal 2002; Asia 2003; Harris et al. 2001). According to Barke and Newton (1995), "the concept of sustainable tourism adopted in an urban area must be multifaceted to be successful and should not be based on a narrow ecological and environmental perspective". However, the environment is the basis of natural and cultural resources that attract tourists. This is the reason why environmental protection is necessary for long-term success. If the natural, historical and cultural backgrounds are not protected then expectations for sustainability in the areas of leisure destination cannot exist. Within this context ".the hotel industry is facing constant change due to changes in technology and business processes " (Yang and Wan 2004). Frequent and constant changes in hotel management are considered the norm since that is required by the structural features that govern this industry. If

an enterprise doesn't have the necessary information and knowledge to meet the upcoming changes then failure is reasonably expected.

There are many studies on the impact of sustainable development for small and medium-sized hotel enterprises (Ali et al. 2008; Côté et al. 2006; Fotiadis 2011; Fotiadis, Vassiliadis and Rekleitis 2013; Le et al. 2006; Mensah 2006). It is significant that in all of them the main factor influencing the level of sustainable development is financial. This is realized mainly by cost reductions, which are achieved by improving efficiency and reducing consumption of resources. There are many associated benefits from improved 'environmentally friendly' energy consumption in hotels and other tourist venues, such as improving customer loyalty, enhancing public image, attracting and retaining dedicated staff, avoiding penalties from environmental authorities, and other long-term operational advantages (ESCWA, 2003). These benefits to businesses and the environment make overall energy management in hotels a crucial prerequisite for sustainable development.

In his study Ali, Mustafa, Al-Mashaqbah, Mashal and Mohsen (2008) argues that 1-star hotel managers were not really willing to make changes at their hotels while, on the other hand, the 2.5-star hotels managers did show a greater willingness for change in their accommodation in order to reduce the consumption of energy. The study also suggests some strategies to help reduce the negative impact of high energy consumption in hotels. These include better overall insulation and reinforced insulation for hot water systems as well as strengthening and increasing the level of information for hoteliers through a directed and well planned educational campaign.

Environmental sustainability innovations rate of adoption in hotels and ski resorts at North American was explored by Smerecnik and Andersen (2011). Innovations related to sustainability that have a long term vision, increase competitive advantage and they reduce society's overall environmental impact (Denning 2005; Fotiadis, Vassiliadis and Rekleitis 2013; Grissemann et al. 2013; McAdam et al. 2004; Roberts and Tribe 2008; Rodríguez-Antón et al. 2012; Smerecnik and Andersen 2011; van der Wiele and Brown 1998). Moreover McAdam, McConvery and Armstrong (2004) examine if there are some barriers related to innovation when small and medium enterprises develop sustainability in Northern Ireland. According to their research long-term strategic approach to innovation and employee contributions to innovative ideas was the main constrains.

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Up to know most small and medium hotel enterprises were unaware of their environmental impact (Burke and Gaughran 2007) and that is the reason why now more and more they care about standardized management systems (Briscoe et al. 2005; Hsiao et al. 2014; Labodová 2004; Molina-Azorín et al. 2015; Pheng and Kwang 2005; Poksinska et al. 2006; Robson et al. 2007; Zwetsloot 2003) and corporate responsibility issues since reducing consumption of significant amounts of natural resources (Scanlon 2007) and an increase on environmental commitment level may create a competitive advantage (Molina-Azorín et al. 2009).

Based on the investigations of researchers shown in Table 1 a design for empirical research was developed. A structured questionnaire was produced which was distributed to a sample of small hoteliers in Taiwan and Greece which, after statistical processing, gave useful information about the characteristics of the industry and the hotel owner. It also described the sources of information available to hoteliers in relation to sustainable tourism development. It also emphasized how they conducted themselves in relation to this topic and the understanding of practical tools implied in the principles of sustainable tourism development, especially those applicable to their daily activities.

3. METHODOLOGY

This survey set out to identify and understand the importance and meaning that respondents give to the concept and practice of sustainable development. In order to do this you need to determine the population survey first. The population survey was all hotel companies operating in Taiwan and Pieria County, Greece. The area was chosen mainly for two reasons. Firstly, the area didn't attract any interest in studies that analyzed the local tourist phenomenon. Secondly, because in areas where the natural environment is a non-existent part of the tourism product, there are negative impacts (Staiff and Bushell, 2004) and only the people who are working in the region can formulate the relationship that governs the local tourism and the environment.

The data from the area of study was collected from April to June 2009. Respondents were initially approached by phone in order to investigate their willingness to participate in research then a meeting was arranged to fill the

questionnaire. We classified small and medium hotels based on the employees they have. The European Commission defines medium business as one that employs from 10 to 49 employees, while firms that employ fewer than 10 people are considered small businesses; this definition was followed to classify the hotels we examine.

Design of questionnaires

The questionnaire was designed after reviewing the existing literature on sustainable development and small / medium size hotels as indicated in Table 1 (Ali, Mustafa, Al-Mashaqbah, Mashal and Mohsen 2008; Côté, Booth and Louis 2006; Côté et al. 2008; Lee and Heo 2009) and the pilot survey and validity evaluation conducted. The questionnaire was distributed initially at five hotel companies with whom the authors have friendly relations as part of the pilot evaluation of the instrument. The pilot in the original version consisted of eighty-six questions and seventeen questions were removed and three modified to improve understanding. The final version of the questionnaire had sixty-nine questions and sub-questions and was distributed to 68 hoteliers in Greece and Taiwan. Hoteliers believed that some questions were irrelevant or not well developed. The final version was given to the same hoteliers again and they believed that there was no problem with this version. In both cases the questionnaire was distributed on hotel owners and managers. Small hoteliers in Taiwan and Greece, are both serving on both roles. That means that they are the managers and they are also the owners of the hotel properties. For the primary data collection we used the method of an anonymous self-completion questionnaire. The survey questionnaires were personally distributed by students of the National Chiayi University, Taiwan and Macedonia University, Greece, along with the necessary background information, confidentiality statements and the survey instructions.

Subject Author	Methodology	Sample	Benefits of sustainable development to small hotel businesses
Potential of energy savings in the hotel sector in Jordan, Ali et al (2008)	Stratification Questionnaire	96	• Reduce Costs • Customer loyalty • Enhanced public image • Attract and retain dedicated staff • Avoid penalties by environmental authorities • Improve competitiveness in global market • Long term business benefits
Influences, practices and opportunities for environmental supply chain management in Nova Scotia SMEs, Cote et al (2008)	Meetings	NA	• Reduce environment-related costs • Avoidance of anticipated costs • Finding new innovative ways to manage costs • Comparative advantage
Eco–efficiency and SMEs in Nova Scotia, Canada, Cote, Booth and Lious (2006)	Eco-efficiency Checklist Questionnaire	22	• Cost Reduction • Improvement in products and services • Innovation • Increased motivation of staff • Personal commitment / obligation to the community • Improving the management of crises and disadvantages • Maintain or improve market share.
Environmental management practices among hotels in the greater Accra region, Mensah (2006)	Stratification Questionnaire X^2	52	• Cost Reduction • Environmental marketing which targets on particular markets
Corporate social responsibility and customer satisfaction among US publicly traded hotels and	Durbin – Wu – Hausman test Questionnaire	85 (40 Hotels and 45 Casinos)	• Improve corporate image • Enhance employee morale • Improve retention of rates • Creating healthy relationships with governments and local community • Upgrading of satisfaction by responding to

restaurants, Lee and Park (2009)			increased expectations of employees and social groups • Upgrading the value of the business and profitability
Environmental Management - A study of Vietnamese Hotels, Le et al (2006)	Semi – Delphi Questionnaire Randomly selected sample	497	• Cost Reduction • Improved company reputation • Improvement of sales volume • Improving market share

Table 1. Bibliographic sources for the development of the questionnaire.

The questionnaire consisted of three parts. The first part had ten questions related to the profile of the hotel business. The second part dealt with questions related to sustainable tourism and the business of the small and medium-sized hotels in the area. This contained eleven questions, about the extent to which various factors influence the adoption of sustainable development practices, the impact of sustainable tourism development in economic, social and environmental aspects of the hotel business, the long-term benefits and the contribution of the hotel and the state to future of the tourist destination. The final part of the questionnaire recorded the demographic characteristics of respondents.

At all parts, we used closed-end, dichotomous and multiple choice questions since the second part contained importance rating scale questions we used a five point's Likert scale (totally disagree to totally agree). We used the statistical program SPSS to analyse the results of this research. A logit model was used to examine the differences by the dichotomous dependent nationality variable of Taiwanese or Greek small and medium hoteliers. In the logit model the log odds of the outcome are modelled as a linear combination of the sustainability constraint predictor variables so it can be addressed the reasons why sustainability actions had not been taken.

Reliability Analysis

In order to identify the reliability of the measurements tool scale the Cronbach Alpha statistical test was used. The a coefficient was over the minimum value of 0.70 (0.80 > 0.70). This critical value is a widely accepted level of adequacy for the alpha

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coefficient (Cortina, 1993; Netemeyer, Bearden, & Sharma, 2003; Nunnally, 1978). For an acceptable internal consistency, authors suggest an alpha value greater than .70. The coefficient for the subscales was above .70, which is an acceptable limit of internal consistency. The minimum and maximum alpha reliability values for the were 0.759 and 0.936 respectively

Validity

As Gay (1996), mention one of the best way to validate a scale is to be judged by the experts in the field to assess. Centred on that content validity was established based on the literature review and a panel of experts. The questionnaire was sent to five experts (hotel managers) and they all reported back that the questionnaire seemed to be a good measurement tool. As we mention above the original version of the questionnaire consisted of 86 questions and 20 questions were removed or modified.

4. RESULTS

Initially we examine the demographic characteristics of respondents. The respondents from Taiwan (Table 2) were evenly divided with 50.0% male and 50.0% female. They have a fairly high level of education since 44.2% have graduated from high school and 40.4% have a university degree with 11.5% holding a Masters or PhD. Respondents from Greece, were mostly male (80.9%) compared to only 19.1% who were female. They have a high level of education since the 44.1% are university graduates and 35.3% hold a post graduate degree. Only 5.9% received little formal education as graduates of elementary school and 10.3% gave their highest achievement as high school level. The overall sample has a relatively high level of educational though it is biased in the proportion of men versus women compared to the overall population.

Characteristic	Taiwan		Greece		Total	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Gender	68	100.0	68	100.0	136	100.0
Male	34	50.0	55	80.9	89	67.5
Female	34	50.0	13	19.1	47	32.5
Education	68	100.0	68	100.0	136	100.0
Elementary School	3	3.8	4	5.9	7	5.0
High School	30	44.2	7	10.3	37	25.0
University	27	40.4	30	44.1	57	42.5
Masters - PhD	8	11.5	24	35.3	32	25.0
Marital Status	68	100.0	68	100.0	136	100.0
Single	18	26.9	4	5.9	22	15.0
Married	18	26.9	5	7.4	23	15.8
Married with children	32	46.2	58	85.3	90	68.4
Divorced	0	0	1	1.5	1	0.8
Age	68	100.0	68	100.0	136	100.0
18-29	1	1.9	0	0	1	0.8
30-39	18	26.9	11	16.2	29	20.8
40-49	36	51.9	21	30.9	57	40.0
50-59	12	17.3	31	45.6	43	33.4
60and over	1	1.9	5	7.4	6	5.0

Table 2. Characteristics of respondents.

The majority of Taiwan respondents (46.2%) are married with children while 26.9% are not married and 26.9% are married without children. As can be seen from the results, there are no divorced hotel owners in the sample. The respondents are mainly between the age of 40 and 49 (45.6%), followed by the age group of 30-39 (26.9%) with the segment between of 50-59 (17.3%) being the somewhat smaller. There is only one hotelier under 30 and only one above 60 years. In Greek sample the majority of respondents are married with children (85.3%) and only 5.9% were unmarried and only one hotelier was divorced. Most of the hoteliers in Greece are between 50 and 59 years old (45.6%), followed by the age group of 40-49 (30.9%). There is not even one hotelier under the age of 30 but 7.4% were older than 60 years of age.

Characteristic	Taiwan		Greece		Total	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Stars	68	100.0	68	100.0	136	100.0
5stars	0	0	0	0	0	0.0
4stars	9	13.5	1	1.5	10	7.4
3stars	53	57.1	23	33.8	76	55.9
2stars	5	7.7	23	33.8	28	20.6
1star	1	1.9	21	30.9	22	16.2
Employees	68	100.0	68	100.0	136	100.0
1-10	1	1.9	49	72.1	50	36.8
11-49	55	32.7	19	27.9	74	54.4
50-100	12	17.3	0	0	12	8.8
101 - 200	0	0	0	0	0	0.0
Residence in the same town	68	100.0	68	100.0	136	100.0
Yes	43	63.5	35	51.5	68	56.7
No	25	36.5	33	36.5	52	43.3
Member of a Union	68	100.0	68	100.0	120	100.0
Yes	64	94.2	66	97.1	115	95.8
No	4	5.8	2	2.9	5	4.2
Informed about sustainable development	68	100.0	68	100.0	136	100.0
Yes	46	67.3	54	79.4	89	74.2
No	22	32.7	14	20.6	31	25.8

Table 3. Characteristics of hotel business.

The performance in the accommodation sector and hotels in particular is affected by many factors, including the size and level of luxury, climatic conditions, location (remote, rural or urban), and type of services and activities the provider offers. The majority of the survey responses are from three star hotels (55.9 %) with two stars hotels representing further 20.6%.. Although no five-star SME hotels are included 7.4% of the sample was classified as four-star which provided some contrast to the 16.4% that represented the lowest quality level of one-star.

The European Commission defines small business as one that employs between 11 and 49 employees, while firms that employ fewer than 11 people are considered to be small businesses. As shown in Table 4 most of our sample belongs to the categories of small to medium-sized organizations: 54.4 % have between 11-49 employees, 36.8% have between 1 and 10 employees and 8.8% have between 50 and 100 employees. More than half of the hotel owners (56.7%) come from and live in the region where they work and nearly all of them (98.8%) are members of a business chamber, union or network that has informed them about sustainable tourism development (74.2%).

In the second part of the questionnaire we examined the general success factors for hotel businesses in general and how sustainable tourism development affects their operations. A key part of this section was to examine the factors that prohibit or constrain the owners from the full application of Sustainable Development Practices (SDP).

Factor	Taiwan	Greece
Factors that prevent the adoption of SDP	**Mean***	**Mean***
Untrained staff	2.6	3.87
Difficulties in implementing the changes to the company	2.4	3.74
Accept the changes by workers	2.4	3.79
High investment costs	2.1	4.44
Fear of reducing customers	2.1	2.90
Return on investment	1.9	4.40
Growth of business		
Comparative advantage	3.2	3.49
Improving the volume of hotel	2.4	3.31
Reduce costs	2.4	2.66
Finding new innovative methods for managing costs	2.3	3.24
Better products and services	2.2	3.78
Developing innovations	2.2	3.75
Improving market share of hotel	2.1	3.13
Reduction of resource consumption (electricity. water. etc)	2.1	2.91

Table 4. Constraints on adopting Sustainable Development Practices (SDP) and General Benefits for Business Growth. *Note : Rating Scale : 1 = Totally Disagree and 5 = Totally Agree

As shown in Table 4 there are several differences between Greece and Taiwan on the factors that are the most important for SMEs owners in the adoption and application of Sustainable Development Practices (SDP). In Taiwan untrained staff is the most important reason for not implementing sustainable tourism practices. Other factors are also the difficulties in implementing the changes to the company and the acceptance of changes by the workers. The least important factor for implementing sustainable tourism practices is the return on investment and the fear of losing customers. In contrast the Greek hotel owners believe that high investment costs and return of investment are the most important factors which prevent the adoption of Sustainable Development Practices (SDP) and the least important reason is the fear of reducing occupancy or losing customers.

As far as economic profits are concerned from the application of sustainable tourism development policies overall, we observe that the hoteliers in Taiwan believe that sustainable tourism development primarily affects their comparative advantage, improves the occupancy of the hotel and can reduce the operating costs. To a lesser degree, they believe that it helps find new innovative methods for managing costs, creates better products and services and develops useful innovations. The least important factor for them is the reduction in resource consumption. Hoteliers in Greece however, believe that sustainable tourism development primarily affects the overall growth of the hotel business through the improvement of products and services, the developing of innovations and creation of a distinct competitive advantage for the company. To a lesser extent do they believe it helps in improving sales volumes or finding innovative ways of managing costs. The least important factors are the reduction of resource consumption and actual reduction of costs.

Farther, we tried to discover the level of sustainable tourism development contribution to long-term profits for the enterprise (Table 5). As we can observe sustainable development in the long term, helps the hoteliers in Taiwan by improving staff retention rates and reaction to unexpected events. It can also strengthen employee morale and customer loyalty. According to many hoteliers' responses, there is a belief that sustainable development practices cannot give long-term business benefits to their company, although those in Greece are more optimistic about the impact of sustainable development on their long-term future. According to them, sustainable tourism development will bring lasting benefits to their company.

The adoption of Sustainable Development Practices (SDP) in particular will improve the company's reputation, boost employee morale and improve customer loyalty. It will also provide long-term opportunities for SMEs to react promptly to specific environmental events and gain business benefits by attracting and retaining loyal staff. We haven't found any specific reason why the values are different in tables 4 & 5 in each country. This study can be a good starting point for further investigation. It is believed that probably tourism product and tourism behaviour is different in those countries. More of that there are some demographic differences that might explain this differences

	Taiwan	Greece
Long-term benefits	Mean*	Mean*
Improve staff retention rates	3.1	3.79
Reaction to unexpected events	3.1	3.72
Strengthen employee morale	3.0	3.99
Customer loyalty	3.0	3.88
Attracting and retaining dedicated staff	2.8	3.57
Improved company reputation	2.5	4.09
Long-term business benefits	1.9	3.62
Environmental and social benefits		
Improving the tourist area	3.3	3.72
Utilization of recyclable products	2.6	3.34
Creating healthy relationships with the local community	2.5	3.01
Creating healthy relationships with government agencies	2.3	3.18
Avoiding penalties by environmental authorities	2.2	3.01

Table 5. Factors affecting long-term, environmental and social benefits.

Several factors, according to Taiwanese hoteliers, are prohibiting sustainable tourism development from achieving environmental and social benefits for small and medium enterprises. It helps the environment because of the utilization of recyclable products and social relationships create healthy relationships with the local community and government agencies. Greeks and Taiwanese agree that sustainable development is providing environmental and social benefits mainly by improving the appeal of the tourist area. In general the owners of hotels in the sampled region of Greece give more positive scores to the practice of sustainable tourism development

and also see less constraints and greater benefits than Taiwanese SME hotel owners. The following analysis provides some explanation as to why this is happening.

Analysis of the effect of predictors of sustainability constraints on the dependent variable of nationality with the use of a logit model.

We have used a logit model, to examine the impact of the dichotomous dependent variable of nationality between Taiwanese and Greek SME hoteliers. In the logit model, the log odds of the outcome are modelled as a linear combination of the sustainability constraint predictor variables.

We are interested in the sustainability constraints factors that influence whether a small and medium Taiwanese or Greek hotelier candidate perceived them as equal important factors. The outcome (response) variable is binary (0/1); which expresses whether the nationality of the respondents is either Taiwanese or Greek. The predictor variables of interest relate to their perceived sustainability constraints factors vision, which are categorized in the following detailed descriptive sections.

There are 6 predictor variables with serial numbering coded from V11.1 to V11.6. These variables were "high investment costs"; Code No. V11.1, "Return on investment"; V11.2, "Accept the changes by workers"; V11.3, "Difficulties in implementing the changes to the company" V11.4, "Untrained staff"; V11.5 and "Fear of reducing customer"; V11.6, were all measured on a 5 point Likert type scale from 1="a very important constraint factor" to 5="not at all an important constraint factor".

More specifically the binary outcome, dependent variable called "location", which is equal to 1 if the individual was Taiwanese entrepreneur, and 0 otherwise i.e. being a Greek hotel entrepreneur.

The binary logit model

Binary logit model can be expressed with the following mathematical formula [1],

$$\ln\left(\frac{prob(\text{Taiwanese})}{1 - prob(\text{Taiwanese})}\right) = \beta_0 + \beta_{V11.1} X_{V11.1} + \beta_{V11.2} X_{V11.2} + ... + \beta_{V11.6} X_{V11.6}$$

[1]

The left side of this formula is the log of the odds that an event e.g. Taiwanese case of nationality, occurs. More specifically it's the ratio of the number of people who are Taiwanese to the number of people who aren't Taiwanese with the $\beta_{v11.1},\ldots,\beta_{V11.6}$ coefficients of this formula, explaining how much the logit changes in the nationality type based on the weighted values of the 6 predictor variables.

Parameter estimates and results of the analysis

	Location Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Threshold [Nationality = 1]	60.841	3952.443	.000	1	.988	-7685.8	7807.5
Location [v11.1=1]	4.388	3.138	1.955	1	.162	-1.763	10.538
[v11.1=2]	4.758	2.780	2.928	1	.087	-.692	10.207
[v11.1=3]	3.336	2.488	1.798	1	.180	-1.540	8.211
[v11.1=4]	1.538	2.320	.439	1	.507	-3.010	6.086
[v11.1=5]	0a	.	.	0	.	.	.
[v11.2=1]	15.629	1685.427	.000	1	.993	-3287.747	3319.004
[v11.2=2]	16.050	1685.426	.000	1	.992	-3287.324	3319.423
[v11.2=3]	16.264	1685.426	.000	1	.992	-3287.111	3319.638
[v11.2=4]	19.265	1685.426	.000	1	.991	-3284.110	3322.639
[v11.2=5]	0a	.	.	0	.	.	.
[v11.3=2]	19.687	1957.832	.000	1	.992	-3817.594	3856.967
[v11.3=3]	19.893	1957.832	.000	1	.992	-3817.388	3857.173
[v11.3=4]	22.219	1957.833	.000	1	.991	-3815.062	3859.501
[v11.3=5]	0a	.	.	0	.	.	.
[v11.4=1]	-1.408	2.445	.331	1	.565	-6.201	3.385
[v11.4=2]	-6.724	2.648	6.446	1	.011	-11.914	-1.533
[v11.4=3]	-6.254	2.403	6.774	1	.009	-10.964	-1.544
[v11.4=4]	-6.868	2.521	7.420	1	.006	-11.809	-1.926
[v11.4=5]	0a	.	.	0	.	.	.
[v11.5=1]	39.884	.000	.	1	.	39.884	39.884
[v11.5=2]	24.281	2991.3	.000	1	.994	-5838.6	5887.18
[v11.5=3]	20.733	2991.3	.000	1	.994	-5842.2	5883.6
[v11.5=4]	24.184	2991.3	.000	1	.994	-5838.7	5887.08
[v11.5=5]	0a	.	.	0	.	.	.
[v11.6=1]	2.268	1.967	1.329	1	.249	-1.587	6.124
[v11.6=2]	5.706	2.075	7.561	1	.006	1.639	9.773
[v11.6=3]	5.493	2.014	7.443	1	.006	1.547	9.440
[v11.6=4]	3.003	2.087	2.070	1	.150	-1.088	7.094
[v11.6=5]	0a	.	.	0	.	.	.

Table 6. Parameter analysis estimates of the ordinal binary logit model. Link function: Logit

[a] This parameter is set to zero because it is redundant.

The "Location" estimates of the table are the coefficients of the values of each of the six independent predictor variables i.e. V11.1 until V11.6. The significance level of Wald's statistic gives a small significance level for four value categories of the variables V11.4 and V11.6, that means that we can reject the null hypothesis that the coefficients of those variables are zero (Ho=0). All the other variable categories and variables seem to be not related to the designation of nationality. These results show that there appears to be a relationship between only four sustainable constraints variables and the location of the hotel.

"Difficulties in implementing the changes to the company; V11.4":

- V11.4= "important and not important constraint factor e.g., indifferent" and V11.4= "not important constraint factor"

a. "Fear of reducing customers; V11.6":

- V11.6= "important constraint factor" and V11.6= "important and not important constraint factor e.g., indifferent",

So the constraints variables V11.4=3, V11.4=4, V11.6=2 and V11.6=3 for sustainability issues based on the results of Table 6 are statistical related to the nationality of the respondent.

The coefficients of these two variables are also important to consider. "Difficulties in implementing the changes to the company; V11.4" gives values that are negative i.e., for V11.4=3 the value is -6.254 and for the V11.4=4 it is -6.868. The two "Fear of reducing customers; V11.6" factors the values they are positive i.e. for V11.6=2 it is 5.706 and V11.6=3 it 5.493. Hoteliers that are indifferent to the "difficulties in implementing the changes to the company; V11.4" as an important constraint factor for the sustainable development of their business, tend to be more likely Greek than Taiwanese. Hoteliers that believe that "Fear of reducing customers" is an important constraint and indifferent factor" tend to be Taiwanese.

The strength of the association between the nationality dependent variable and the predictor variables are quite strong based on the Pseudo R-Square analysis results. Cox & Snell Pseudo R-Square value=0.589, Nagelkerke's R-Square value=0.785 and McFadden R-Square value=0.641 all confirm the strength of the relationship. However, the weaknesses in the model fit are due to the number the categorical predictor variables values that have a high number of empty cells. The

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goodness of fit statistics gives a low observed significance level for our model [1] as shown in Table 7.

	Chi-Square	df	Sig.
Pearson	168.436	41	.000
Deviance	67.700	41	.005

Table 7. Goodness of fit measures for the binary logit model. Link function: Logit.

5. CONCLUSIONS

Sustainable tourism development, as reported in the literature review (Ali, Mustafa, Al-Mashaqbah, Mashal and Mohsen 2008; Côté, Booth and Louis 2006; Côté, Lopez, Marche, Perron and Wright 2008; Fotiadis, Vassiliadis and Rekleitis 2013), can result in considerable profits for the small or medium-sized enterprise. Greeks and Taiwanese have remarkable differences on how they perceive sustainable tourism development and what impact that kind of development will have on their enterprises. Greeks seems to be much more optimistic than Taiwanese when it comes to environmental issues. For Greeks high investment costs are the most important reason for not implementing the adoption of sustainable development possibly because of the latest economic crisis affecting their country and Europe in general. The biggest problem for Taiwanese hoteliers is the lack of trained staff.

A recommended solution to this is for the state through its authorities to undertake a more dynamic role where it should provide active assistance to the small or medium-sized hotel enterprises that are not able to obtain the knowledge and the means to promote their product, in order to help them collectively and systematically.

In addition to the theoretical contributions described, this study has provided new insights for practical tourism management since it was conducted from the tourist host's perspective. In addition to contributions to the practice of sustainable development some of the insights provided by this study are related to the whole management of tourism development processes. Its conclusions have illustrated the importance of adopting a broader view of the scope of sustainable development

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in the context of hotel SMEs. This kind of broader view is specifically needed in relation to the kind of managerial challenges faced by a hotel operating in the most competitive tourism environment. Moreover, in this kind of situation, the SME hotels need to understand and try to influence the entire market especially in regard to the nature and progression of the tourism market process where expansion of business remains a prerequisite for success. In addition, the broadening of the scope of sustainable development from hotel internal processes towards the external local and environmental issues is an important managerial challenge for the SME hotel sector.

6. SUGGESTIONS

A range of suggestions and initiatives are essential for the present and the future development of sustainable tourism development by SME hotels.

These include:

• Local authorities and the residents should participate in the management and the control of the new development in order to preserve the local character of a region.

• Hotel enterprises and the local authorities and the local community should cooperate if they want to ensure compliance with the principles of the sustainable tourism development in their area and the realization of the fundamental changes that are presupposed.

• New mechanisms should be developed which can predict or even discourage any uncontrolled tourism development.

• Preservation of the cultural heritage and environmental protection should be measured by the formation of a management framework

• A co-operative network should be created, with a purpose of informing stakeholders about issues which have to do with sustainable tourism development, the expansion of knowledge and the supply of counselors to the hotel enterprises interested.

- Every parameter concerning tourism development should be evaluated and applied in a specific area with representative indexes so that evaluation against best practice activities can be easily assessed.

Future investigations about sustainable tourism development in relation to all stakeholders will improve the quality of the information disseminated to the scientific community and it will be safer to reach results on how to grow and ensure sustainable tourism development.

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