

Efforts by Hotel Owners Aimed at Maintaining Ecological Balance in Lubelskie Voivodship

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Abstract

The aim of the study was to identify the activities of the tourism sector which in the opinion of residents protect the natural environment of Lubelskie Voivodship. Efforts were also made to determine which activities have the greatest impact on the selection of accommodation by respondents and whether hotels fulfill the concept of sustainable social development. The size of the selected sample was 1157 respondents. The method of diagnostic survey was applied, and a direct survey was the technique, both conducted on the basis of an original questionnaire. Statistical calculations were performed using discriminant analysis and the level of education was the criterion for grouping. It has been shown that the following factors were the most important when choosing accommodation: cost-effective energy policy, including good insulation of the hotel building where respondents would stay, and a proper water management policy by the hotel company. Environmental protection was mentioned with activities that have the greatest impact on the natural environment. It has been found that it is necessary to use experiences of other countries in pursuing appropriate policies for sustainable development of a society, to monitor these policies, and to use devices which would limit the destruction of valuable and expensive resources. Both residents and organizations acting over a given area should be involved in the protection of natural resources.

Keywords: hotel industry, eco-friendly hotel, sustainable development

Introduction

The concept of sustainable development in contemporary societies is becoming increasingly important. It is applicable in the strategies of enterprises, consumer activities, education, and research. The increased interest is linked to the threat to the natural environment and the desire, especially of the consumer society, to maintain, and in many cases to restore, the ecological balance (Cherian and Jacob 2012). Not only practitioners, but also scientists dealing every day with promotion and marketing are interested in the problem. These activities, commonly referred to as “green marketing,” are aimed at maintaining the ecological balance in local societies (Bhattacharya 2012; Chamorro, Rubio, and Miranda 2009). A high level of sophistication of these actions is observed especially in the U.S. and Western Europe, where environmental awareness of societies is more developed than in other parts of the world (Lee 2009; Rahbar and Wahid 2011).

The concept of sustainable development also applies to the tourism sector, which provides the European Union around 5% of GDP. Year by year, a steady increase in demand for services related to tourism, including hotels, the number of which reaches nearly 500 thousand in the European Union, can be observed (Tkaczyk 2013). Tourism development, including development of hotel infrastructure, brings considerable profits to the local and national economies, thus a special responsibility for the natural environment (the degradation of which could reduce the quality of social life) is required from the tourist industry.

Modern civilization, defending against the consequences of modernity, proposes a new stage in its development, the characteristic feature of which is sustainable development, aiming at stimulating environmental awareness. It has to impact routine operations carried out in the workplace, including hotels, such as purchasing goods and services, selecting room furnishings, or in the offer leisure activities for guests (Zaręba 2010).

Hotels in a market economy are subject to both traditional and modern ecological determinants. Their operation is based on interactions with the environment at every stage of the local community life, though often their influence is negative (Bohdanowicz 2005; Hunter 1995). Environmental constraints are related to the use of energy, water, and other goods that are characterized by uncommon occurrence in the environment and are necessary for the operation of hotels (Graczyk 2008). It was estimated that hotels in Europe consume 39 TWh per year of energy, and taking into account that 80% of this is derived from fossil sources, it shows a huge negative contribution of this sector to the global environmental problem, including global warming and climate change issues (Bohdanowicz 2005). Water consumption on a global scale is enormous, and wastewaters are released in the form of sewage, unfortunately, often not fully purified (Davies and Cahill 2000). Production of household wastes is another and often very visible impact of the tourism industry on the environment. They cause a huge disturbance in the ecosystem effecting changes in the species composition of flora and fauna, as well as limiting the ability to surface self-clean for waters in the area near hotel businesses (Tischer 2008). Therefore, it is so important to introduce solutions aimed at both reducing operating costs of hotels, as well as directing them to conserve environmental resources (Graczyk 2008).

In the eagerness to meet the environmental expectations, innovations which could provide a high-quality service and competitiveness are the constant trend in the tourism sector. Both the owners and employees at every level of services provided should be aware that hotels have a specific impact on the natural environment. The main mission of this economic sector should be the principle of not harming the local or regional ecosystem (Lysy and Sztorc 2009). To promote the idea of eco-consumption by means of marketing, advertising, and environmental education is the opportunity for creating and developing eco-hotels. Tourists must be aware that staying in eco-friendly hotel helps to protect the environment, they contribute to local welfare and participate in the transfer of a clean earth to future generations (Kurczewski 2012). It is estimated that about 35% of worldwide hotels implement comprehensive programs related to environmental protection. In Poland, this applies to only a few objects. But these are not overall projects, but single implementations (Mitura and Koniuszewska 2009).

The aim of the study was to identify actions that should be made by owners and employees of hotels in Lubelskie Voivodship which would be aimed at protecting the environment. The aim was also to indicate which of these actions have the greatest impact on selecting accommodation by potential visitors. Some efforts were also made to determine whether the concept of sustainable development aimed at maintaining the ecological balance in the local society is carried out by the tourism sector in Lubelskie voivodship and which of these activities have the greatest impact on natural environmental protection.

1 Methodology

The study used an original survey that was carried out among 1157 residents of Lubelskie Voivodship in April 2013. The diagnostic questionnaire contains 8 closed questions, 4 of which were used in the presented analysis. Such a methodological approach was related to a desire to use in statistical calculation a statistical discriminant analysis, through which the most important factors of the issue were sought, which prevented the use of open-ended or half-open questions. To measure attitudes, a five-point Likert scale was used, after applying the construction and validation procedure. The scale reliability index was calculated, where Cronbach's alpha was 0,87. A random selection was applied during the step of the sampling procedure, using the stratified sample. The population was divided with regard to the place of residence, into those living in a rural area, in cities below 20 thousand residents, and people living in large cities over 20 thousand inhabitants

(Markowski 2012). In the next stage of selection, the proportion of men and women was determined. These actions determined the size of the sample, in which the confidence level was set at 0,95, the estimated fraction size at 0,50, and the maximum error at 0,03.¹ In the next step, a non-random selection was used, which consisted in making the poll taking into account the respondent's accessibility, while a certain number of respondents in groups was reached.

Statistica version 8.1 PL software was used for statistical calculations, and the discriminant function analysis, which was to decide which variables are distinguished (i.e., to discriminate against naturally emerging groups). The discriminant analysis was to predict the classification of cases. The study used classification functions in a form of calculation of their coefficients. A given case was classified into the group, to which it had the highest classification value (Stanisz 2007). Prior to analysis, the multidimensional normality was examined by verifying each variable for its distribution normality. It was assumed that the variable variance matrices are homogeneous in groups. Slight deviations were not so important, because of the high frequencies of tested groups (Tabachnick and Fidell 1996).

Of the respondents, 43,6% were residents of a village, 20,2% of small towns, while 36,3% of cities over 20 thousand residents. 29,5% of the respondents had higher education, 59,9% secondary school, and 10,6% were vocationally and primary school-educated. In the age group of up to 30 years, respondents accounted for 53,9% of the surveyed people, from 31 to 45 years—24,6%, from 46 to 60 years—17,0%, and 61 or more years—4,5%. Women accounted for 51,6% of the sample, men 48,5%.

2 Results of studies

Studying the opinion of respondents on the environmental activities of hotel owners and their impact on selecting accommodation by potential visitors showed that the factor of the education of respondents was important when choosing a declared expression, due to the value of Wilks' lambda distribution set at 0,979 and at a significance level of $p = 0,007$. To assess the ecological motivations related to the choice of the accommodation, eight factors were determined, five of which formed a discriminant function model. The model included such factors as: conducting proper water management, at which the average returns between groups showed a significant difference ($p = 0,016$), activities associated with the use of degradable cleaning agents, at $p = 0,04$ between groups, and activities associated with a good heat insulation of the hotel, at which a significant difference between groups was recorded ($p = 0,042$). The model also included factors taking into account: preparing meals from organic products and activities related to cost-effective energy policy. It should be noted that there was a slight discriminatory power (Wilks' lambda value close to 1) for the overall discriminant function, as well as for individual factors, which resulted from the presence of small differences in the average values of the variables between studied groups. Factors that were not included in the discriminant function model were negligible: having solar collectors, rational waste management and, in the smallest degree, being an ISO 14001 certified hotel (tab. 1).

When calculating the classification function that determined the importance of individual factors, similar results in analyzed groups related to the respondent's education were demonstrated. It was found that when selecting accommodation, the good insulation of the hotel had the greatest importance. For respondents with primary education or vocational education an economical energy policy was important, which was also significant for respondents with higher education, as well as the use of bio-degradable cleaning agents—a factor that was also largely mentioned by respondents with secondary education. Among the latter, preparing meals using organic products was of great importance (tab. 2).

When assessing the hotel owners and employees' activities that, in opinion of respondents, have the greatest impact on the environment, it has been demonstrated that the education factor had a significant influence on averaged declared answers at $p = 0,007$ and at 0,979 Wilks' lambda value.

1. [In the journal European practice of number notation is followed—for example, 36 333,33 (European style) = 36 333.33 (Canadian style) = 36,333.33 (US and British style).—Ed.]

Tab. 1. Ecological activities of hotel owners affecting the selection of accommodation by respondents (summary of the discriminant function analysis—variables of the model)

Wilks' lambda: 0,979 approx. $F_{(10,230)} = 2,426$ $p < 0,007^a$						
Activity	Wilks' lambda	Partial Wilks' lambda	F of introduction	p level	Tolerance	1-tolerance (R-squared)
Proper water management	0,986	0,992	4,119	0,016	0,471	0,528
Use of bio-degradable cleaning agents	0,982	0,996	2,627	0,040	0,512	0,487
Having a good heat insulation	0,983	0,995	2,584	0,042	0,747	0,252
Preparing meals from organic products	0,981	0,997	1,537	0,215	0,821	0,178
Cost-effective energy policy	0,981	0,997	1,469	0,230	0,434	0,565

^aThese test results concern the whole table as a discriminant function model

Tab. 2. Factors affecting the choice of accommodation taking into account the level of respondents' education (classification functions for the three groups)

Activity	Respondents' education		
	Primary $p = 0,106$	Secondary $p = 0,599$	Higher $p = 0,295$
Proper water management	0,206	0,488	0,583
Use of bio-degradable cleaning agents	0,759	0,616	0,516
Having a good heat insulation	1,374	1,576	1,569
Preparing meals from organic products	0,515	0,613	0,565
Cost-effective energy policy	0,778	0,571	0,638
Constant	-8,032	-7,073	-7,803

Tab. 3. Factors affecting the environment with respect to respondents' education (summary of the discriminant function analysis—variables of the model)

Wilks' lambda: 0,979 approx. $F_{(10,230)} = 2,426$ $p < 0,007^a$						
Activity	Wilks' lambda	Partial Wilks' lambda	F of introduction	p level	Tolerance	1-tolerance (R-squared)
Caring about environmental protection	0,981	0,997	1,583	0,205	0,511	0,388
Removing the caps of used bottles	0,982	0,996	2,248	0,048*	0,698	0,377
Segregation of household wastes	0,982	0,995	2,597	0,041*	0,739	0,249
Segregation of glass bottles into white and colored	0,981	0,997	1,643	0,193	0,629	0,370

^aThese test results concern the whole table as a discriminant function model

Tab. 4. Classification functions for the three groups related to respondents' education

Activity	Respondents' education		
	Primary $p = 0,106$	Secondary $p = 0,599$	Higher $p = 0,295$
Caring about environmental protection	2,138	2,346	2,373
Removing the caps of used bottles	1,052	1,253	1,192
Segregation of household wastes	1,093	0,950	1,144
Segregation of glass bottles into white and colored	0,781	0,961	0,875
Constant	-11,106	-10,968	-7,803

To create a discriminant analysis model, seven factors were proposed, four of which form the model. Statistically significant differences between the groups were shown in the activities related to the segregation of household wastes ($p = 0,041$) and in activities related to loosening the caps of used plastic bottles ($p = 0,048$). Factors that showed no significant differences between tested groups, although included in the model, were: taking care of the environment by hotel owners and employees and segregation of bottles in terms of the glass color. Activities associated with the possibility of re-using the packaging, removal of labels from bottles, and non-purchase of certain products the manufacture of which polluted the environment, were not included during creation of the model of the discriminant function (tab. 3).

The created classification functions showed no difference with regard to the level of education between tested groups in the importance of the declared factors that respondents took into account when assessing the activity of hotels. According to respondents, the most important actions that should be undertaken by the owners and staff of hotels which have the greatest impact on the environment include: care for environmental protection, activities related to the loosening of caps from used bottles, and segregation of household wastes (tab. 4).

3 Discussion

The aim of the study was to identify the environmental activities which should be done by hotel owners in Lubelskie voivodship, and that to the greatest extent could affect the selection of accommodation by potential hotel guests. Efforts were also made to determine whether the concept of sustainable development focused on ecology and local environmental protection is carried out by the tourism sector of Lubelskie Voivodship, and which of these activities are of utmost importance for the respondents.

There is a general increase in pro-ecology activity in the world. It is pointed out that caring about the environment and social responsibility are becoming more and more the consumer values.² It was demonstrated that there is an occurrence of a relationship between ecological awareness and pro-environmental behavior of consumers (Lee and Moscardo 2005), the number of which gradually is rising (Manaktola and Jauhari 2007). This was also confirmed by studies in which it was shown that the most important problem for Lubelskie voivodship inhabitants is the care for water management and issues related to energy, which according to the respondents, should be used by the tourism sector with greater concern.

It is obvious that the development of tourism is dependent on natural resources; water and earth, as the two basic ones, are most threatened by the tourist industry. Uncontrolled activity poses a potential threat to many natural areas due to: soil erosion, water contamination, and loss of natural habitats. In view of these dangers, local populations are trying to control these resources and not allow their excessive use (Holden 2008). The actions undertaken by the tourism industry, including the hotel industry, must take into account the quality of natural resources, such as landscape, air, sea water, fresh water, plant and animal life, and especially human life (Middleton and Hawkins 1998).

Referring to the care of groundwater purity, respondents underlined the problem of the means used to clean, proposing to use only those that would be degraded after getting into the environment. This was confirmed by earlier studies indicating a trend oriented towards the purchase of organic products (Masau and Prideaux 2003).

According to respondents, activities associated with good thermal insulation of hotel buildings are also important in supporting ecological resources. Given the number of hotels worldwide, as well as the fact that energy still comes mainly from fossil sources, a negative contribution of this sector to the natural environment is observed (Bohdanowicz 2005). Declared energy savings have which not been confirmed by the need to install solar collectors did not have much significance for respondents. It is quite incomprehensible, as Lubelskie voivodship is the sunniest region in Poland.

2. See: Sustainable Consumption Facts and Trends. From a Business Perspective. [a:] <http://www.wbcds.org/Pages/EDocument/EDocumentDetails.aspx?ID=142&NoSearchContextKey=true>.

The annual power density of solar radiation in the region ranges from approximately 1050 to about 1150 kWh/m².⁽³⁾ Also, a potential client in Lubelskie voivodship does not bother to note the possession of the ISO 14001 certification by a hotel. It seems that now society to a small degree understands the importance of and need for certificates, especially those related to environmental protection. Preparing the meals from organic products by hotel restaurants were also an element that distinguished hotels giving it an ecological grade, in the opinion of respondents.

According to respondents, activities aimed at keeping domestic waste segregation and activities related to segregation and concerning particularly loosening the caps of used bottle packaging as well as segregation of bottles because of their color, have also high influence on the environment. Activities associated with the re-use of packaging and removing labels from bottles as well as willingness to quit purchasing products, the manufacturing of which pollutes the environment, were less important.

As indicated by earlier studies, almost half of the world's consumers (46%) are willing to pay more for products and services of companies that are engaged in social responsibility to protect nature (Arias et al. 2003) and women rather than men are apt to do this (Han, Hsu, and Lee 2009). Sixty-two percent of respondents would like to work for such companies and 59% to invest in them.⁴ In addition, consumers in the tourism sector are willing to bear higher costs for the use of travel agencies that encourage and promote centers, including hotels, that care about the natural environment. This phenomenon applies to 38% of Americans opting to travel, of which 61% are willing to pay from 5 to 10% more if using such companies' services.⁵ Two-thirds of American and Australian tourists are eager to use hotels that are active in supporting the local communities in their efforts to protect the environment, while at the same time it should be noted that only 14% of them, at the booking, asked about the policy of environmental protection by their selected hotel.⁶ Eighty-seven percent of British tourists declared that fact that the hotel they use did not negatively affect the environment was important to them, while 66% have paid much attention to their type of travel to cause the least damage to the environment (Goodwin and Francis 2003). Activities of the hotel owners aimed at supporting the local companies investing in the local schools and hospitals is important for respondents. 62% of tourists from Australia, 57% from the UK, and 49% from the USA promoted such actions.⁷ Other studies have shown that almost half (45%) of British tourists have expressed their willingness to pay more for the journey, provided that the money will be spent on activities aimed at preserving the local environment and reversing some of the negative actions (Goodwin and Francis 2003).

As it can be seen, there is a high willingness to support initiatives for sustainable development of society in well-developed countries, which reflects the highly developed awareness that a natural and ecologically clean environment is necessary to carry out the appropriate policy, including in the tourism industry. More interest in environmental protection among younger respondents has been shown, which was confirmed by a negative correlation between the age and perception of environmental qualities (Andreck 2009; Johnson, Bowker, and Cordell 2004).

Tourism, including the hotel industry, is one of the fastest growing industries in the world, and is often perceived as a harbinger of rapid enrichment of the local population, although from an ecological point of view, constituting a huge threat to the environment (Williams and Fennell

3. Zob. Prognoza oddziaływania na Środowisko Projektu Strategii Rozwoju Województwa Lubelskiego na lata 2014–2020 (z perspektywą do 2030 r.). Autor Prognozy: dr Witold Wołoszyn. Urząd Marszałkowski Województwa Lubelskiego w Lublinie, Lublin, czerwiec 2013 r., [a:] http://www.strategia.lubelskie.pl/synteza/Prognoza_SRWL_2014-2020__FIN.pdf.

4. See: A Nielsen Report The Global, Socially-Conscious Consumer. March 2012. [a:] <http://www.nielsen.com/content/dam/corporate/us/en/reports-downloads/2012-Reports/Nielsen-Global-Social-Responsibility-Report-March-2012.pdf>.

5. See: The Geotourism Study: Phase I Executive Summary. Prepared by the Research Department of the Travel Industry Association of America. Washington, D.C. [a:] <http://www.crt.state.la.us/downloads/Atchafalaya/GeoTourismStudy.pdf>.

6. See: Consumer Attitudes Towards the Role of Hotels in Environmental Sustainability/International Hotels Environment Initiative (IHEI) Research. The Survey. [a:] http://www.hotel-online.com/News/PR2002_3rd/Jul02_IHEI.html.

7. Ibid.

2002). However, functioning in harmony with environmental and social responsibility, is in the longer term, profitable for hotel businesses (Martinac, Murman, and af Hageby 2001). Introducing the monitoring as well as use of auxiliary instruments reducing wasting of valuable resources is becoming more and more noticed and appreciated by local communities (Isenmann 2004). It is legitimate to use the earth's resources to meet the needs and aspirations of its inhabitants, without disturbing the expectations of future generations. To achieve the correct and desired harmony between tourism and the natural environment is undoubtedly a big challenge. A poorly managed tourism sector, including the hotel industry, could threaten nature and its integrity, due to which the ecological environment, culture, and lifestyle of the local community may be degraded.

Conclusions

In activities supporting the sustainable development of Lubelskie voivodship in view of the hotel industry, systematic research and learning from other countries' experiences in order to achieve the most practical methods of management, in agreement with the interests of entrepreneurs, and particularly in harmony with nature, are extremely important issues. It has been shown that awareness of the functioning within the ecological environment of Lubelskie Voivodship inhabitants is large; however, there is the need for greater motivation to cultivate and maintain the land used for tourism. There is a need for the involvement and cooperation of local community representatives, conservationists, tour operators, owners of properties used for tourist activities, and politicians, supported by the preparation of plans for the region's development to achieve the sustainable development of a society within frames of natural environmental protection. The hotel industry should establish good sanitation practices, then the hotel location in green and ecological areas will attract new customers and allies in environmental behaviors favorable to the environment. Training hotel guests for the responsibility for the natural environment should be taken into account in the activity of hotel owners. Hotel guests should be an integral part of environmental management by means of providing them with information on the environmental program obligatory in a given hotel and the expectations focused on ecology. Through information, hotel owners as well as Lubelskie voivodship inhabitants should be sensitized towards the ISO 14001 certification, because it is unrecognizable and incomprehensible to them at present.

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