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THE IMPACT OF ECOLOGICAL RESPONSIBILITY ON BUSINESS EXCELLENCE OF MOUNTAIN HOTELS

Uticaj ekološke odgovornosti na poslovnu uspešnost planinskih hotela

Abstract

Sustainable business management of companies aims to, taking into consideration all the goals of sustainable development, monitor and analyze business performance in order to be ready to react at the moment critical to the company's financial position. Risk management in sustainable business management refers to the implementation of ecological, social, and economic factors in a company's business. The focal point of the analysis are hotels from the mountain centers of Serbia, Bosnia and Herzegovina and Montenegro. In this paper, research will be conducted from two aspects: first, we examine and evaluate ecologically responsible business management of hotels; then, we calculate and analyze their business excellence on the basis of data obtained from the official financial reports by applying the BEX model. The aim of this paper is to observe and consider the business results of analyzed hotels to date and give recommendations for the upgrading of business management and better positioning on the regional tourist market.

Keywords: *sustainable tourism, ecological responsibility, hotel business management, business excellence, BEX model.*

Sažetak

Cilj održivog upravljanja poslovanjem kompanija je da se, uzimajući u obzir sve ciljeve održivog razvoja, prate i analiziraju poslovne performanse kako bi se spremno reagovalo u trenutku kritičnom za finansijsku poziciju kompanije. Upravljanje rizikom u održivom poslovanju podrazumeva primenu ekoloških, društvenih i ekonomskih faktora u poslovnim procesima u kompaniji. Fokus analize su hoteli iz planinskih centara Srbije, Bosne i Hercegovine i Crne Gore. U ovom radu istraživanje će se sprovoditi sa dva aspekta: prvo ćemo ispitati, a zatim i oceniti ekološki odgovorno poslovanje hotela, a potom ćemo izračunati i analizirati njihovu poslovnu uspešnost na osnovu podataka iz zvaničnih finansijskih izveštaja primenom BEX modela. Cilj ovog rada je da se uoče i sagledaju dosadašnji rezultati poslovanja analiziranih hotela i daju preporuke za unapređenje upravljanja poslovanjem i bolje pozicioniranje na regionalnom turističkom tržištu.

Ključne reči: *održivi turizam, ekološka odgovornost, hotelsko poslovanje, poslovna uspešnost, BEX model.*

Introduction

Tourism industry, according to the statistical data of the World Tourism Organization (UNWTO), is an industry of great importance for society and economy, third in terms of revenue, accounting for 10.4% of global gross domestic product (GDP), 28% of world services exports and 10% of employment [33]. Also, tourism industry was identified as one of the vital sectors able to make a major contribution to achieving the three pillars of sustainable development (social, economic and environmental), and it has been recognized by the United Nations (UN) as one of the 10 sectors which has the capacity to steer communities towards a green economy [34].

Sustainable tourism emerged at the end of the 20th century and has become firmly established in both tourism policies and strategies and tourism research [25], [6], [15], [26], [14], [30]. In tourism policy terms, according to Hall [15], sustainability is primarily seen as being 'environmental' and development as 'economic' (and to a lesser extent 'social'), and the concept of sustainable tourism or sustainable tourism development aims to mitigate the paradox between them.

Hotel business is the essential part of the tourism industry and encompasses a significant portion in the analysis of sustainable tourism from the aspect of the impact that hotel properties have on destinations. Analyzing the Brundtland definition as a starting point, a sustainable hospitality operation can be defined as 'a hospitality operation that manages its resources in such a way that economic, social and environmental benefits are maximized in order to meet the need of the present generation while protecting and enhancing opportunities for future generations' [26]. Following the developments in the global tourism market and trends in the sustainable business management, hotels are in the process of constant implementation of innovations and activities with the aim of satisfying the expectations of their guests. Risk management in sustainable hotel business is based on a permanent analysis of business processes and activities and their upgrading with regard to the company's impact on the environment from an economic, social and environmental point of view, with the aim of business success.

The subject of research in this paper is to examine and assess the business success of simple hotels in the mountain centers of Serbia (Zlatibor, Kopaonik, Divčibare, Stara planina), Bosnia and Herzegovina (Jahorina) and Montenegro (Žabljak). The research will be conducted from two aspects: first, we will examine and also evaluate ecologically responsible business management of the hotels, and then calculate and analyze their business excellence. The analysis and data processing is based upon collected, compiled and processed values from the financial reports of the analyzed hotel companies for the business years 2016 and 2017. At the same time, this paper includes a correlation analysis of the existence of the impact of the implementation of environmentally responsible hotel business activities and business success calculated according to the BEX model. In this regard, the research question is whether the application of eco-activities in the hotel business affects the rank of business success in accordance with the values of the BEX model.

Literature review

According to Sloan et al. [26], the report *Our Common Future 1987* defines sustainability as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'. In the 1991 publication *Caring for the Earth: A Strategy for Sustainable Living* by the United Nations Environment Programme (UNEP) and the World Wide Fund for Nature (WWF), sustainable development is defined as 'improving the quality of human life while living within the carrying capacity of supporting ecosystems'. According to the World Tourism Organization [34], sustainability principles refer to the environmental, economic and sociocultural aspects of tourism development, and a suitable balance must be established between these three dimensions to guarantee its long-term sustainability.

The traditional approach to sustainability perceived a trade-off between environmental performance and economic performance such that regulation was aimed toward social welfare, and firms were required to pay for negative externalities imposing costs that detracted from financial performance [25]. However, the modern

approach views a dynamic and circular relationship between sustainability, competitive performance and risk management.

Sustainable business management of companies has for a significant amount of time been the subject of research studies [19], [32], [12]. Sustainable business management refers to a business model entailing the harmonization of the company with its entire organic environment without disrupting economic, social, and ecological relations [31]. It is based on the triple bottom line (TBL) which encompasses economic prosperity and potential, social equality and quality of life and preservation of ecological resources [36]. Ecologist and economist John Elkington envisaged this concept in 1997 with the belief that companies should, apart from their already customary financial report, also present facts related to the social and environmental segment of their business [11]. Hume and Gallagher ascertained that eco-friendly companies in the service sector [16], in our case hotels, increase their financial performance on the side of the investors, and that dedication to the initiatives for the protection of the environment is an important signal for the investors' returns and performance. Companies in the sector of accommodation and food services which pay attention to the protection of the environment take into consideration the conflicts of different participants in business activities, including customers, employees, suppliers, government institutions and shareholders as they upgrade the activities of "green" marketing with a view to growing investments [13]. According to Dutescu et al. [10], sustainable business management and sustainable development should become an integral part of the company's business concepts, bearing in mind that this would ensure striking a balance between economic growth and social progress.

According to Vaughan and Vaughan [28], risk management entails a specific business philosophy, culture and business climate, and it represents a central part of strategic management and corporate company management. Risk management enables a systemic approach to managing business performance and realization of activities for the 17 sustainable development goals which companies should certainly strive to honor if they do business in a responsible manner. A key risk to the business of companies is the necessity of keeping the sustainable management standards with the aim of advancing business and creating profits while protecting the social community, the surrounding and the living environment. What is understood as risk is an emergence of unexpected outcomes due to fluctuations of financial variables, which can result in business and financial losses for the company.

The idea of application of business models and correct view of the chain of values in a company enables risk management. In this manner, the company has the ability to control progress and measure its performance. The importance of risk management is reflected in an innovative approach and the advantages that can be observed in the processes of control, loss prevention, analysis of organizational business management, etc. The company's management must keep track of the processes and results of business and activities which impact the segments of sustainable business management. Moreover, development of entrepreneurship in tourism implies creativity, flexibility, proactivity, the ability to find new solutions, recognition of possibilities, creating values, but also taking certain risks [9]. Risk management in sustainable business management entails the application of economic, sociological and environmental factors in the company's business. The strategy of responsible management is directed towards the synergy of the needs of society, individuals (tourists) and business in the function of the financial success of the company.

Sustainability has become an important objective for most hotels, as it is emerging as a competitive necessity [1]. Considering that hotels consume large amounts of energy and water for heating, cooling and lighting and that this has a negative impact on the environment, some hotels have implemented an environmental policy to, in particular, promote the preservation of the environment in the hope of improving the quality of human lives, and introduced sustainable practices to enhance resource efficiency and savings in connection with energy and water consumption, as well as a marketing tool to attract customers interested in sustainability [18].

The environmental responsibility in hotel business management includes the use of renewable energy, man-

aging waste by minimizing and recycling (waste management), energy efficiency (such as efficient use of wind or solar energy with the aim of producing one's own electricity or hot water), prevention of pollution and preserving the ecological environment while simultaneously investing in objects [31]. Social entrepreneurship by hoteliers in "going green" promotes a better future for the environment and arguably also for the human race [35]. Green hotels are becoming increasingly important because their business is based on reduced consumption of natural resources and pollution reduction [9].

Camillari [7] confirmed that a positive correlation was observed in a large number of activity studies and parameters related to socially responsible business and financial performance within the analyzed results of hotel corporation business.

Introduction to the BEX model

Commercial subjects doing business in the area of hotel services are in their activities, depending on the level of capacity utilization [8], exposed to numerous business risks which impact business results, and this is indirectly reflected in business performance [27]. Models for assessing difficulties in a company's business management generate significant information which can be of service to the management in taking appropriate business decisions [21]. With regard to this, several models have been created (Altman model, Kralicek DF indicator, Quick test, Zmijewski model, BEX model, etc.) which enable the analysis and evaluation of the business success of companies, as well as their potential possibility of bankruptcy. The application of some of these methods enables a timely consideration of the situation in which a company finds itself and, with an analysis of the segments of the triple bottom line elements, observes the factors which have a positive or negative impact on the business of the analyzed company.

Several authors have applied in their research the analysis of business excellence of commercial subjects via the BEX model in different areas [21], [23], [17], [2], [5], [4], [3]. In this paper, the BEX model was applied with the aim of evaluating the business excellence of simple mountain hotels in Serbia, Montenegro and Bosnia and Herzegovina, where the companies which were analyzed conduct their business.

Belak and Aljinović Barać [3] stated that, when creating the BEX model, they were guided by logical selection and criteria of sustainability and compatibility in displaying business excellence, based on data from 1600 financial reports of Croatian companies doing business on the Croatian capital market in the period between 2000 and 2008. Out of a substantial number of data and calculated indicators 14 indicators were selected, with 5 indicators from the financial performance group, 5 structural indicators, and 4 indicators of shareholders' investment efficiency on the capital market. The model created is relatively simple to use.

The structure of the BEX model is as follows [3]:

$$BEX = 0,388ex1 + 0,579ex2 + 0,153ex3 + 0,316ex4.$$

According to Belak and Aljinović Barać, the indicators included in the model are the following [3]:

$$ex1: \text{ profitability} = \frac{EBIT}{Total\ Assets}$$

$$ex2: \text{ value creation} = \frac{Net\ Business\ Profit}{Equity} * Price$$

$$ex3: \text{ liquidity} = \frac{Working\ Capital}{Total\ Assets}$$

$$ex4: \text{ financial strenght} = \frac{5 * EBITDA}{Total\ Liabilities}$$

After the calculation, values of the BEX index are scaled and presented in Table 1. The analysis of obtained values determines the assessment of business excellence. Values of the BEX index higher than 1 are considered to mean that the company's business is good. With companies whose BEX index is between 0 and 1, the recommendation is that it is necessary to upgrade the business processes. The companies whose BEX index is below 0 are considered to have their existence threatened.

Table 1: Summary of the BEX index of business excellence values

BEX index	Business excellence BEX ranking
>1.0	Good company
0 – 1	Necessary business upgrades
< 0	Threatened existence

Source: Adapted from Belak and Aljinović Barać, 2008.

After defining the obtained values of the BEX index, what follows is ranking and providing forecasts for the future of the analyzed companies, all according to the defined items given in Table 2.

Research methodology

The aim of this paper is to examine and evaluate the impact of ecological responsibility of simple hotels in mountain centers in Serbia, Bosnia and Herzegovina, and Montenegro on their business excellence. With this in mind, a sample was created encompassing 12 hotels doing business in the mountain centers of Kopaonik (SRB), Zlatibor (SRB), Stara planina (SRB), Divčibare (SRB), Jahorina (BIH) and Žabljak (MN), these being the leaders in mountain tourism in the Western Balkans. It should be noted that certain limitations emerged in the process of forming the sample of hotels for analysis in the sense that several hotels situated in the mountain centers mentioned doing business within holding companies as one of their segments, thus not having independent financial reports, and therefore it is not possible to view their individual business results.

The research methods employed in this paper include analysis of scientific literature and secondary data, research based on a survey, processing statistical data, comparative analysis, and correlational analysis by application of a statistical package.

The research was conducted from two aspects. Namely, with the aim of viewing the ecological responsibility of hotel business on the mentioned sample, research was conducted in the form of an anonymous survey based on relevant questions referring to the implementation of appropriate standards, methods, and procedures utilized by hotels conducting business in the spirit of ecological awareness.

For the needs of calculating business excellence by the application of the BEX model it was necessary to use data from the financial reports for the years 2016 and 2017. Financial reports were taken from official websites of institutions which compile data on business by commercial subjects from the states in which the analyzed companies conduct their business. For companies from Serbia data were taken from the website of the Business Registers Agency (APR) [38], for companies from Bosnia and Herzegovina data were taken from the website of the Agency for Intermediary, IT and Financial Services (APIF) [37], and for companies from Montenegro the website used was that of the Tax Administration of Montenegro [39]. The financial reports taken were used to form a key information/indicator database, based on which a calculation of the BEX model of business excellence was then conducted.

The obtained results were then also processed via a correlational analysis in the statistical package SPSS v.22.0 and an observation of the impact of individual segments

Table 2: Ranking business excellence according to the BEX index and future forecast

BEX index	Business excellence ranking	Future forecast
Higher than 6.01 – 4 years consecutively	World class	Company operates with top results which is also to be expected in the next 4 years, if management continues with upgrades.
Higher than 6.01	World class candidate	Company has excellent operation and this is to be expected over the next three years, if management continues with upgrades.
4.01 – 6.00	Excellent	Company has excellent operation and this is to be expected over the next three years, if management continues with upgrades.
2.01 – 4.00	Very good	Company has very good operation and this is to be expected over the next two years if management continues with upgrades.
1.01 – 2.00	Good	Company has good operation and it can be expected to do so only if upgrades are made.
0.00 – 1.00	Limited area between good and poor	Business excellence is positive, but not satisfactory. It is necessary to make serious upgrades.
Lower than 0 (negative)	Poor	Existence is threatened. Urgent restructuring and upgrading is needed, otherwise poor business operations will continue to threaten the survival (probability is over 90%).

Source: Adapted from Belak and Aljinović Barać, 2008.

of ecological responsibility on the business excellence of hotel companies from the sample was completed.

Results and discussion

Empirical research was organized and conducted by way of a survey which was delivered to a group of 12 hotel companies via electronic mail, in the form of a Google document, as an anonymous questionnaire. The goal of the research was to observe the current state and implementation of the standards of ecologically responsible business management in the hotels in key mountain destinations of Serbia, Bosnia and Herzegovina, and Montenegro.

According to the research conducted, 83% of the survey participants are cognizant of the concept of "green" management, and 17% are not. Based on survey results, in the course of business processes, 58% of hotels implement activities relying on ecological principles, while 42% do not.

The question *Does the hotel practice waste management?* was answered affirmatively by 66% of the hotels. Figure 1 offers the structure according to which they replied to the defined and itemized activities in this domain.

Namely, 17% of the facilities implement the process of wastewater management, 43% apply the standards for safe removal of waste, and 40% apply the activities of collection of waste materials (e.g., waste cooking oil, etc.).

The analysis of the implementation of renewable energy sources, which we know to be significant for the protection of the environment and sustainable development, as well as reducing certain expenses in regular business activities, showed that 50% of the facilities employ the mentioned energy sources. The participants stated that they used several types of renewable energy sources. Solar energy by way of installed solar panels is used by 5 facilities. Geothermal energy is used by 4 hotels, while 2 facilities objects use MHEs.

Figure 1: Which of the activities in the domain of waste management are practiced by your business?
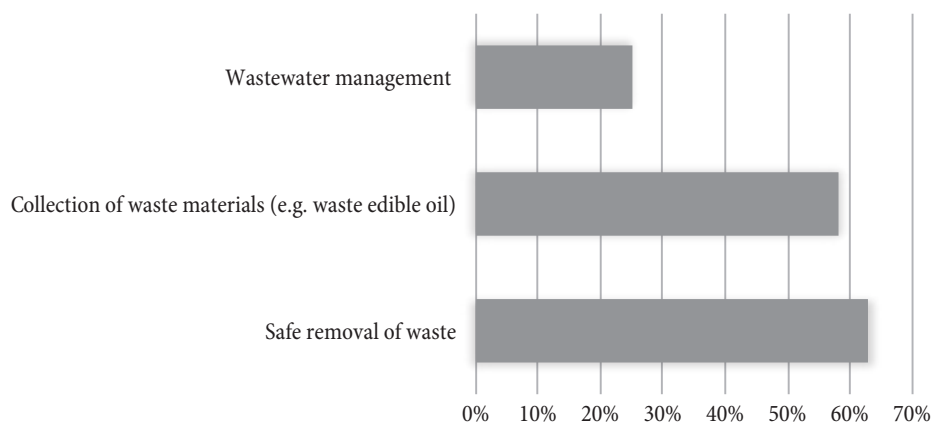
Source: Authors' calculation.

Figure 2: What eco-activities you apply in the service delivery process?
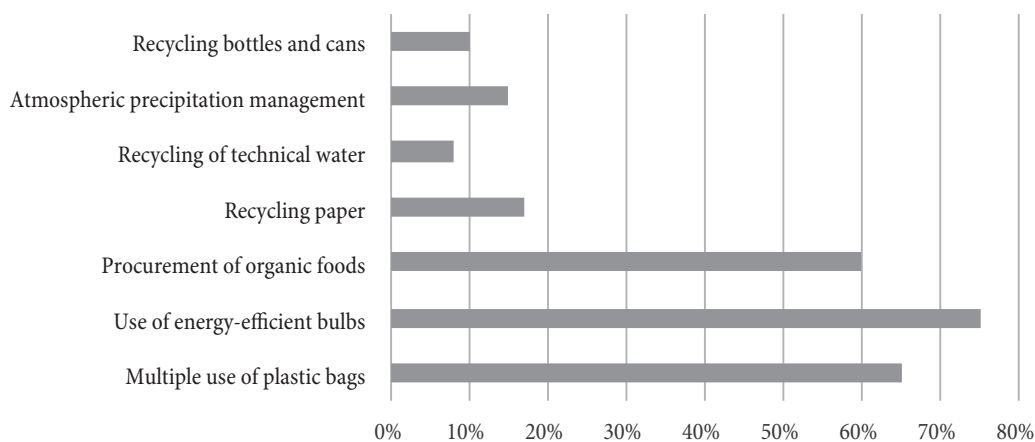
Source: Authors' calculation.

In the course of providing services of accommodation, provisions, and additional activities which hotels offer to their guests, different sectors present in hotels perform various types of ecological activities given in Figure 2.

The types of ecological activities implemented differ, but the sample is dominated by implementation of energy efficient lighting (75%), multiple use of plastic bags (65%) and procuring organic food (60%).

Simultaneously, in the room section, several activities considered to be exceptionally ecologically responsible in this area are present in the course of maintaining hygiene in the rooms and the facility. Figure 3 allows us to observe which of the following activities/elements are practiced/utilized in the process of room maintenance in the surveyed hotels.

The calculation of the BEX model

Based on the obtained data, following the calculation of business excellence by applying the BEX model for the business years 2016 and 2017, Table 3 was created illustrating a summary of values for the BEX index of business excellence for mountain hotels individually for both the years 2016 and 2017.

According to the data obtained, significant changes can be observed over the two analyzed business years in terms of the values in the BEX index. If we observe the rules of ranking in BEX models for the year 2016, the mountain center hotel companies are situated in the category of companies with borderline values between 0 and 1, and the BEX index for 2016 is 0.82152, and therefore, according to

Figure 3: Which of the following ecological activities/elements are practiced/utilized in the process of room maintenance?
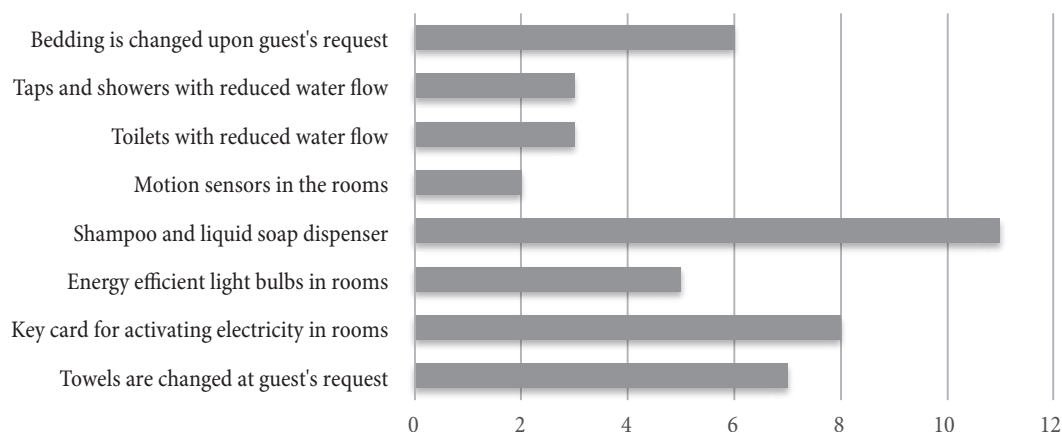
Source: Authors' calculation.

Table 3: Summary of values for the BEX index of business excellence for mountain hotels Individually for the years 2016 and 2017[1]

HOTEL	BEX 2016	BEX16 Ranking	BEX 2017	BEX17 Ranking
1	1.0113	Good	0.7321	Bordering area
2				
3	-0.0154	No rating	-0.0109	No rating
4	1.4543	Good	1.6000	Good
5	-0.5710	No rating	3.0974	Very good
6	0.2623	Bordering area	1.0299	Good
7	0.0346	Bordering area	0.1024	Bordering area
8	0.0196	Bordering area	0.0081	Bordering area
9	0.7676	Bordering area	0.6097	Bordering area
10	3.0449	Very good	3.1655	Very good
11				
12	2.2070	Very good	4.7814	Excellent

Source: Authors' calculation.

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1 Bearing in mind that some hotels from two mountain centers do business within the same company, data on their business and evaluation of their excellence can only be observed through their joint financial report.

the laws of this model, it is necessary to undertake serious upgrades in their business management.

Table 4: Results of the BEX index of business excellence calculated jointly for the sample of mountain hotels

	2016	2017
ex1 profitability	0.03562	0.05790
ex2 creating value	1.46605	1.79852
ex3 liquidity	-0.28805	0.61970
ex4 financial strength	0.61882	1.31009
BEX	**0.82152**	**1.51155**
BEX ranking	Bordering area	Good

Source: Authors' calculation.

When we observe the year 2017, the analyzed hotel companies show a rise in the value of the BEX index, and the indicators are positioned in the group of good values between 1 and 2, while the BEX index for the year 2017 is 1.51155, with a suggestion that upgrades in business are desirable in order to maintain or increase the degree of business excellence.

Analysis of the dataset within the financial reports led to the observation that certain hotel companies had investments which were realized in the form of loaned funds, leading to the rise in long-term commitments and excessive indebtedness of these companies. Simultaneously, these hotels had net business results in the form of loss for the mentioned year. If there is a problem with insufficient usage of accommodation capacity, this leads to the inability to honor business commitments [25], caused by insufficient income from services [20]. One of the reasons for the insufficient percentage of capacity usage is the extremely bad business in the 2016-2017 winter season caused by low snowfall and thin cover of snow in certain mountain centers, leading to an inability to realize winter sports activities, which was further reflected in low numbers of guests arriving at certain destinations.

Correlational analysis of the impact of ecologically responsible business management on the business excellence of hotel companies

Following the analysis of BEX models and obtaining the values for BEX indices of business excellence, along with the processing of data obtained from the conducted survey on ecological responsibility of hotel companies in mountain centers, the gathered results were processed using the statistical package SPSS v.22.0 via a calculation of the correlation coefficient and ANOVA statistical method by way of which the situational analysis of the impact of ecologically responsible business on business excellence of hotel companies in 2016 and 2017 was conducted.

We chose BEX indices as the dependent variable, while practicing ecological activities, waste management and implementation of renewable energy sources were defined as independent variables. The same procedure was applied to all pairs of variables. In order to test the relationship, we chose the Pearson's correlation coefficient (r).

Testing the correlation between practicing ecological activities in hotel business and the impact on business excellence in 2016 yields the results which show that the value is R 0.176, and this means there is no statistically significant relationship. Also, the outcome of the F-test is not significant because Sig. = 0.321 (more than 0.05), which leads to the conclusion that practicing ecological activities does not affect the business excellence of the analyzed hotel companies.

Table 5: Model summary for BEX index 2016 and eco-activities

Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	.176a	.031	-.066	1.2455486

a. Predictors: (Constant), Does the hotel practice ecological activities?
b. Dependent Variable: BEX16
Source: Authors' calculation.

Table 6: ANOVA BEX 2016 and eco-activities of the hotel

	Model	Sum of squares	df	Mean square	F	Sig.
1	Regression	.497	1	.497	.321	.584b
	Residual	15.514	10	1.551		
	Total	16.011	11			

a. Dependent Variable: BEX16
b. Predictors: (Constant), Does the hotel practice ecological activities?
Source: Authors' calculation.

Testing the correlation between practicing ecological activities in hotel business management and impact on business excellence in 2017 yielded results that show that the value is R 0.097, and this means that there is no statistically significant relationship. Also, the outcome of the F-test is not significant because Sig. = 0.764 (more than

0.05), and we conclude that practicing ecological activities does not impact business excellence of the analyzed hotel companies in 2017 either.

Table 7: Model summary for BEX index 2017 and eco-activities

Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	.097a	.009	-.090	1.6488821

a. Predictors: (Constant), Does the hotel practice ecological activities?
b. Dependent Variable: BEX17
Source: Authors' calculation.

Table 8: ANOVA BEX 2017 and eco-activities of the hotel

	Model	Sum of squares	df	Mean square	F	Sig.
1	Regression	.258	1	.258	.095	.764b
	Residual	27.188	10	2.719		
	Total	27.446	11			

a. Dependent Variable: BEX17
b. Predictors: (Constant), Does the hotel practice ecological activities?
Source: Authors' calculation.

What follows is an analysis of the impact of waste management on the business excellence of hotel companies in 2016 and 2017.

Table 9: Model summary for BEX index in 2016 and waste management

Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	.221a	.049	-.046	1.2341021

a. Predictors: (Constant), Does the hotel practice waste management?
b. Dependent Variable: BEX16
Source: Authors' calculation.

Table 10: ANOVA BEX 2016 and waste management

	Model	Sum of squares	df	Mean square	F	Sig.
1	Regression	.781	1	.781	.513	.490b
	Residual	15.230	10	1.523		
	Total	16.011	11			

a. Dependent Variable: BEX16
b. Predictors: (Constant), Does the hotel practice waste management?
Source: Authors' calculation.

Table 11: Model summary for BEX index in 2017 and waste management

Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	.309a	.096	.005	1.5753829

a. Predictors: (Constant), Does the hotel practice waste management?
b. Dependent Variable: BEX17
Source: Authors' calculation.

Table 12: ANOVA BEX 2017 and waste management

	Model	Sum of squares	df	Mean square	F	Sig.
1	Regression	2.628	1	2.628	1.059	.328b
	Residual	24.818	10	2.482		
	Total	27.446	11			

a. Dependent Variable: BEX17
b. Predictors: (Constant), Does the hotel practice waste management?
Source: Authors' calculation.

Analysis shows that there was no statistically significant relationship between the stated variables, as is given in the tables. Namely, the R values in the mentioned calculations show that there is no statistically significant relationship. Also, the outcome of the F-test is not significant because the values are Sig. 0.490 and 0.328, i.e., higher than 0.05, and we therefore conclude that waste management does not impact the business excellence of the analyzed hotel companies.

When we observe the correlation between the implementation of renewable energy sources and the impact on business excellence rankings in 2016 and 2017, the R indices in the mentioned calculations indicate that there is no statistically significant relationship. Also, the outcome of the F-test is not significant because the values Sig. 0.403 and 0.973 are higher than 0.05, leading us to the conclusion that in business years 2016 and 2017, implementing renewable energy sources did not impact the ranking of companies according to business excellence.

Table 13: Model summary for BEX index in 2016 and implementing renewable energy sources

Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	.266a	.071	-.022	1.5969316

a. Predictors: (Constant), Does the hotel use renewable energy sources?
b. Dependent Variable: BEX16
Source: Authors' calculation.

Table 14: ANOVA BEX 2016 and implementing renewable energy sources

	Model	Sum of squares	df	Mean square	F	Sig.
1	Regression	1.944	1	1.944	.762	.403b
	Residual	25.502	10	2.550		
	Total	27.446	11			

a. Dependent Variable: BEX16
b. Predictors: (Constant), Does the hotel use renewable energy sources?
Source: Authors' calculation.

Table 15: Model summary for BEX index in 2017 and implementing renewable energy sources

Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	.011a	.000	-.100	1.2652805

a. Predictors: (Constant), Does the hotel use renewable energy sources?
b. Dependent Variable: BEX17
Source: Authors' calculation.

Table 16: ANOVA BEX 2017 and implementing renewable energy sources

	Model	Sum of squares	df	Mean square	F	Sig.
1	Regression	.002	1	.002	.001	.973b
	Residual	16.009	10	1.601		
	Total	16.011	11			

a. Dependent Variable: BEX17
b. Predictors: (Constant), Does the hotel use renewable energy sources?
Source: Authors' calculation.

Conclusion

The strategy of responsible business is directed towards a synergy of the needs of society and business and contributes to the financial success of companies. Following the analysis of obtained data, the statistical analysis showed that the correlation coefficient is very low and that the presumed impact is not significant. Although this analysis resulted in the conclusion that the analyzed segments of ecologically responsible business do not affect the ranking of business excellence of the analyzed companies, this perspective should be viewed with reservations for reasons such as the fact that 50% of surveyed hotels responded that they do not use renewable energy sources. Namely, awareness of implementing renewable energy sources and waste management is at a low level when implementation within the framework of the analyzed geographical area is evaluated.

Bearing in mind that the analysis confirmed that none of the ecologically significant activities, such as waste management and implementing renewable energy sources, have an effect on the business excellence of the analyzed hotel companies, and that according to the business reports they do not operate with a negative annual result, it could be said that business excellence is impacted by the market trends. With regard to this, the amount of realized business income which the analyzed

companies receive from providing services, depending on tourist interest in the products on offer at the analyzed destinations and which the companies realize is, in this case, a more significant factor.

Simultaneously, BEX indices for hotel companies for 2017 are rising and are evaluated with a suggestion that a continuing trend of upgrades is desirable in the goal of maintaining and advancing business results and consequently business excellence. The result for 2017 is actually an indicator of the necessity of investments into innovations in hotel business management in order to upgrade business and realize better business results with significant economizing, by reducing certain expenses in business, leading to a more financially efficient and profitable business model.

The future of hotel industry lies in the implementation of sustainable business. The recommendation is therefore to consider the good examples of sustainable hotel management practice, along with the goal of promoting quality at each moment, in order to achieve a positive effect on the company business results, including the impact on the living environment, economic and social factors in the community, i.e., the space of their business (Serbia, Bosnia and Herzegovina, Montenegro).

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