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## MOTIVATIONS FOR HOTELS TO UNDERTAKE PRO-ECOLOGICAL ACTIVITIES – OPINIONS OF HOTEL GUESTS

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**ABSTRACT:** The cognitive objective of this paper is to assess the motives driving hotel owners and managers to implement environmentally friendly actions from the perspective of hotel guests. The empirical aim of the study materialises through investigations conducted on a sample of 1317 hotel guests in four provincial cities in Poland: Warsaw, Cracow, Wrocław, and Opole. The study encompassed guests of six hotels classified as three-star establishments. The research methodology employed herein is a diagnostic survey using a questionnaire designed by the authors of this study. The survey was conducted between June and September 2021. In the concluding section of the paper, the analysis of the research allows for the formulation of conclusions. Among these conclusions, a notable observation is the assertion that guests have a remarkably low awareness regarding the impact of hotels on the natural environment. This finding contradicts the more optimistic assessments of such awareness that are found in various works within the field of hospitality. According to the authors, this conclusion could form the basis for educational initiatives and the initiation of mechanisms, including economic ones, aimed at elevating the knowledge level in this domain, not solely among hotel guests but also, perhaps predominantly, among hotel proprietors and managers. Nevertheless, the authors of this paper are cognizant of the exploratory nature of the conducted study, which may serve as a convenient foundation for subsequent, more in-depth investigations, particularly focusing on expanding the array of applied methodologies, significantly increasing the research sample size, and considering a broader range of respondent characteristics in the research.

**KEYWORDS:** environmental actions, hotels, hotel guests, motivations

## Introduction

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Touristic activities yield numerous adverse consequences for the natural environment, often contributing to air and water pollution, excessive exploitation of natural resources, and detrimental impacts on biodiversity, cultural and historical heritage, as well as the quality of life for inhabitants of receiving areas (Azam et al., 2018). Reports from the World Tourism Organization indicate that the hospitality sector alone accounts for 5% of global water consumption and generates 1% of worldwide carbon dioxide emissions (UNWTO, 2018). It is worth noting, however, that the tourism sector is increasingly assuming a pivotal role in the global economy and within numerous national economies, which implies that the highlighted environmental issues are likely to exacerbate further (Lew, 2011).

Driven by the aforementioned phenomena, an increasing number of hotel owners and managers are now striving to incorporate the concept of sustainable development into their establishments, positioning the hotel as an organisation committed to sustainability. Measures are being undertaken to mitigate the negative impacts of hotel facilities on the natural environment, as well as to reduce resource consumption and enhance their utilisation. A pivotal objective of these endeavours is to shape pro-environmental behaviours among hotel guests, yet the effectiveness of such efforts often hinges on guests' perceptions of the motives driving owners and managers in the implementation of environmental actions. Research findings indicate that this effectiveness is heightened when these motives are associated with genuine environmental concern rather than solely driven by the desire to improve the hotel's image and financial performance (Buffa et al., 2018; Miller et al., 2015).

It is imperative to direct attention, as underscored and further expounded upon in the subsequent sections of this paper, to the prevailing approach within the hotel industry toward a novel developmental paradigm commonly referred to in Poland as "balanced development", less frequently as "durable development", and on an international scale, as "sustainable development". This paradigm emerged in the latter half of the preceding century as a form of opposition and an alternative to traditional development concepts, along with often dehumanised cultures and visions of quality of life predominantly grounded in ego-centric value systems. It also stands in contrast to modes of economic stewardship and management solely driven by profit maximisation. Currently, this transition is accompanied by the rapid evolution of corporate social responsibility, which is increasingly integrated with financial, legal, and environmental responsibilities (Chung et al., 2023).

However, a comprehensive approach to development, integrating economic equilibrium with social equilibrium, institutional (managerial) equilibrium, and environmental equilibrium, is not universally embraced within sectoral or industry contexts. The hotel industry serves as an illustration of this phenomenon. At

its current stage of development – which, of course, is also a favourable occurrence – it aligns itself closer to a narrow interpretation of this paradigm. In essence, it leans more towards “ecodevelopment”, favouring environmentally conscious actions within the hotel industry rather than adopting a comprehensive approach grounded in integrated equilibrium and responsibility. Such an approach undoubtedly poses a challenge to the hotel industry in the forthcoming years<sup>1</sup>. It is worth noting that even this narrower perspective prioritises adherence to the principle of intergenerational justice (sustaining generational equity) in environmental access. In its current iteration, this principle encompasses both intragenerational and intergenerational equity variants (Borys, 2011).

Considering the aforementioned introductory remarks, the cognitive objective of this paper is to assess the motivations that guide hotel owners and managers in their implementation of environmentally friendly actions, as viewed from the perspective of hotel guests. The research issues of this study are illustrated by the following questions:

1. What are the opinions of hotel guests regarding the utility of environmentally friendly actions undertaken in hotels?
2. What is the perspective of the surveyed individuals concerning the motivations behind environmentally friendly actions undertaken in hotels?

## An overview of the literature

### Pro-ecological activities undertaken in hotels

In the chapter, the author should present the results of the literature review indicating the academic achievements in the field of research and research gaps, pointing to the author’s motivation for undertaking the research.

As organisations, hotels strive to alleviate their adverse impact on the natural environment for diverse reasons. Consequently, they adopt a spectrum of environmentally friendly measures, encompassing water conservation achieved through the incorporation of low-flow faucets and showers (e.g., aerators) or programs promoting the reuse of towels and hotel linens; energy conservation – via the installation of light sensors or transitioning from central air conditioning to individual units; the implementation of eco-friendly procurement practices (e.g., sourcing from local farmers and producers); and waste reduction –

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<sup>1</sup> Such a comprehensive perspective is encapsulated in the definition provided in Article 3 point 50 of the Law on Environmental Protection dated April 27, 2001. According to this provision, the term signifies “a socio-economic development process that involves the integration of political, economic, and social activities while maintaining ecological balance and the sustainability of fundamental natural processes. This is aimed at ensuring the capacity to satisfy the basic needs of individual communities or citizens, encompassing both the present generation and the future generations” (Act, 2001).

employing measures such as soap dispensers, recycling bins, or waste compactors (Alonso-Almeida et al., 2017).

Furthermore, hotels undertake various proactive measures to enhance the state of the natural environment. These include:

- Implementing and refining environmental management systems and concepts (Bonilla-Priego et al., 2011).
- Conducting numerous audits, including air quality audits (Asadi et al., 2011).
- Incorporating green infrastructure (Wu et al., 2016).
- Adopting technologies that mitigate CO<sub>2</sub> emissions (e.g., low-emission furnaces, energy-efficient kitchen equipment) (Sun et al., 2022).
- Practising green human resource management (Yong et al., 2019).
- Cultivating pro-environmental behaviours among employees (Bugdol et al., 2019; Luoh et al., 2014; Puciato et al., 2023).
- Managing green processes, such as food production and delivery (Juvan et al., 2018).

Environmental management systems in hotels are often part of broader social responsibility programs (Yousaf et al., 2021). Their task is to improve environmental performance.

Some specialists dealing with sustainable tourism claim that effective, sustainable practices must be based on three axes: (a) effective energy solutions in the hotel industry (e.g., energy certification, priority use of renewable energy), (b) participation in a network grouping various stakeholders – in order to exchange knowledge and search for best practices, (c) expansion of green infrastructure for tourists (Lopes et al., 2022). Green infrastructure is supposed to contribute to shaping a positive image of the hotel, but its role is undoubtedly much greater – both devices for optimising water and energy consumption and all green areas can make guests feel better and more pleasant, and they will perceive the hotel not only as a place accommodation but also as a place of recreation (Wu et al., 2016).

People management processes (green human resource management) increase employee commitment, their pro-ecological behaviour and the environmental efficiency of hotels (Yong et al., 2019). Therefore, effectively motivating employees to pro-environmental behaviour is an important task that hotel managers must do. Research conducted in luxury hotels in China showed that employees' work ethic, sharing the hotel's environmental benefits, and employees' ecological embeddedness are significantly and positively related to employees' pro-environmental behaviour (Peng & Lee, 2019). Zientara and Zamojska (2018) observed the relationship between organisational climate and pro-environmental behaviour among employees of four- and five-star hotels in Poland. When considering programs aimed at raising employees' ecological awareness and their actual engagement, it becomes evident that employees' ecological creativity can become a crucial aspect of achieving low-emission goals (Liu et al., 2022). Consequently, various hotels, especially larger corporate ones, implement prac-

tices to motivate hotel employees toward environmentally friendly actions and behaviours. Those practices may include initiatives such as green rewards and performance management (Bugdol et al., 2019; Pham et al., 2023).

Another problem is food waste. Hotels make an effort to determine how much food is wasted in individual sub-processes of food preparation and consumption. Environmental aspects are released at the stages of receiving raw materials, storing them, preparing them, cooking, cleaning kitchen equipment, washing raw materials, and determining the content of the menu. Some authors recommend mapping the process, similar to the lean manufacturing concept (see Subramanian et al., 2021). In hotels, food waste is not only caused by poor management procedures but also results from the behaviour of the customers themselves. The problem is visible when serving breakfast. This is usually the only meal that guests eat in a hotel, which can affect the amount of food consumed and wasted, as well as the amount of plates used (Juvan et al., 2018).

### Motives for implementing environmentally friendly solutions by hotels

The main reasons why hotels are interested in strong practices are competition, savings, growth and the environment (Rahmat et al., 2022). Relatively often, research points to economic motives, such as cost reduction in operational activities, increased revenue from environmentally conscious guest segments, participation in bidding processes, and enhanced profitability (Luo & Fan, 2019). In many cases, the implementation of optimal pricing strategies based on sustainable development is one of the most effective ways for hotels to maximise profits (Xu et al., 2017). In a study conducted in Egypt, it was demonstrated that alongside hotel size, number of accommodations, standards, type, and managerial experience, factors of sustainable development are key determinants of profitability (Zaki & Qoura, 2019). However, other research conducted in Spain suggested that there is no clear relationship between sustainable development and improved financial performance (Aznar et al., 2016). In a hotel, guests want to relax, and sometimes they use the hotel for entertainment. Therefore, they do not pay attention to the consumption of water or electricity in the hotel, although they reduce the consumption in their own homes due to costs and the environment (Oryncz & Tucki, 2021). Therefore, taking into account the needs related to environmental protection and the increasing costs of maintaining hotel facilities, managers strive to increase energy efficiency (Cingoski & Petrevska, 2018). Additionally, social motivations come into play, including the establishment of an environmentally friendly hotel image (Assaker et al., 2020). Undoubtedly, there is a growing interest among guests in “green” hotels, as they are increasingly aware of the environmental damage and the excessive consumption of goods, energy, and water (Mbasera et al., 2016). More and more hotels are adopting green for the practice environment and implementing innovative technologies to reduce their carbon footprint and improve their green image. Many hotel guests

value hotels that offer cutting-edge technology and demonstrate sustainability efforts (Chen, 2015).

The benefits hotels gain from adopting “green” strategies, programs, or management methods vary and depend on the type of hotels (Xu et al., 2017) as well as the scope of implementing green practices (Aznar et al., 2016). Research findings indicate that customers’ willingness to pay a premium for green practices is a key determinant of the level of sustainable development actions, while price sensitivity of target markets and actions related to the costs of sustainable development are two main inhibiting factors for sustainable development practices in hotels (Puciato et al., 2023; Xu et al., 2017).

There are also differences among different types of hotels. For example, luxury hotels may be hesitant to adopt more environmentally friendly practices due to concerns that such practices could negatively impact their financial results (Peng & Chen, 2019).

In one study, it was found that while guest cooperation with non-luxury hotels becomes less favourable when guests perceive sustainable development programs as profit-driven, cooperation with luxury hotels remains high even when they view the hotel’s sustainable development programs as profit-oriented (Chen & Petersen, 2022). The allocation of financial resources also presents an issue. The problem of money leakage is well known. Tourism revenues do not provide an accurate indicator of the economic impact of the industry, as in some cases, a portion of the profits leave the host country, resulting in the so-called leakage. High-class and chain hotels exhibit more sustainable development practices and experience greater financial leakage than low-class and independent hotels (Alzboun et al., 2016).

## Research methods

A microeconomic research narrative – the consumer perspective – was used, with the following research approaches dominating: reporting, descriptive and statistical. The following research methods were used: literature review, methods of analysis and logical construction, documentary method, case study and diagnostic survey. The data obtained were organised and subjected to statistical analysis in the direction of achieving the objectives of the article. Structure analysis was carried out, and basic statistical characteristics were calculated.

The survey was conducted on a sample of 1317 hotel guests in four provincial cities in Poland: Warsaw, Cracow, Wroclaw, and Opole. The participants were guests of six hotels categorised as three-star establishments. The study employed a diagnostic survey method using a questionnaire designed by the authors, with data collection taking place from June to September 2021.

In the data analysis, statistical methods of one-dimensional analysis were utilised, focusing primarily on structural indicators and the key descriptive

parameters characterising the four most significant properties of the dataset: the mean level using both classical and positional measures, variability, the skewness (asymmetry) of the distribution, and the most significant measure of the distribution's peakedness – kurtosis. Given that the fundamental portion of the issues addressed in the survey pertained to responses ranked on an ordinal or interval scale, it was possible to utilise ranking methods.

Considering the total sample size (N=1317), it was possible to adopt a significance level of 0.05 and a maximum sampling error of  $\pm 2.7\%$ . The quality of the research instrument was assessed using a measure of questionnaire reliability, which confirmed the instrument's reliability. The Cronbach's alpha coefficient for the three-part research instrument reached a value of 0.77.

The statistical population consisted of guests staying in hotels. All the hotels included in the study constituted a relatively homogenous group of establishments in terms of location (situated in large cities), the standard of services provided (characterised by an average three-star standard), and the segmentation of hotel guests (main guest segments being business travelers and tourists). Among the surveyed guests, women accounted for the majority (63.4%). The age structure of the respondents indicates a predominance of young individuals, as 35.5% were between 18-25 years old, 23.2% between 26-35 years old, 25.1% between 36-45 years old, 12.7% between 46-55 years old, and 3% between 56-65 years old, with only 0.4% above 65 years old. Among women, the most numerous group was individuals aged 18-25 years – every other surveyed person fell within the age range. Among men, the majority of guests were aged between 36-45 years old (37.6%).

The educational background of the respondents indicated a clear majority with higher education (60.2%) and, in second place, individuals with secondary education (37.1%). The majority of guests (65.2%) were residents of large cities (33.6%) and medium-sized cities (31.6%). Among hotel guests, those engaged in intellectual work were predominant (42.7%), followed by students and pupils (27.3%). Every third respondent stayed in the hotel due to professional reasons (33.3%), while for the rest of the guests, the purpose of their stay was leisure and recreation (66.7%).

The overall level of affluence among hotel guests is most commonly self-assessed as moderate (70.8%). Data analysis shows that this level is independent of the age of the respondents, as within each age group, individuals with a moderate affluence level comprised the majority. A comprehensive socio-economic characterisation of the surveyed hotel guests is presented in Table 1.

The analysis of the surveyed hotels indicated that the majority of respondents stayed in hotels where the predominant guest segment was the business environment (88.5%), with a relatively low share of the tourist segment (11.5%). Interestingly, despite the respondents' earlier declaration that their motive for staying in the hotel was leisure, they stayed in hotels with offerings mainly tailored to the business environment.

**Table 1.** Socio-Economic Characteristics of Surveyed Hotel Guests

Characteristic	Category	Number	Percentage [%]
Gender	Female	835	63.4
	Male	482	36.6
Age	18-25 years old	468	35.5
	26-35 years old	306	23.2
	36-45 years old	331	25.1
	46-55 years old	167	12.7
	56-65 years old	40	3.0
	Above 65 years old	5	0.4
Place of residence	Rural area	179	13.6
	Small town (below 20,000 inhabitants)	280	21.3
	Medium-sized city (20,000 – 100,000 inhabitants)	416	31.6
	Large city (above 100,000 inhabitants)	442	33.6
Education	Primary education	11	0.8
	Vocational education	24	1.8
	Secondary education	489	37.1
	Higher education	793	60.2
Occupational status	Student of pupil	360	27.3
	Intellectual worker	563	42.7
	Manual worker	108	8.2
	Entrepreneur	239	18.1
	Unemployed	36	2.7
	Retired or pensioner	11	0.8
Assessment of material status	Very low	8	0.6
	Low	65	4.9
	Average	932	70.8
	High	289	21.9
	Very high	23	1.7
Reason for staying at the hotel	Leisure	879	66.7
	Business/professional	438	33.3



Two out of three respondents stayed in network-integrated hotels (66.6%), with the majority in horizontally integrated hotels (63.2%). Only one-third of the guests stayed in independent hotels (33.3%). The same number of guests were accommodated in hotels financed by domestic capital (33.4%). Foreign capital was invested in hotels where 18.6% of hotel guests were accommodated. The largest group of guests stayed in hotels with mixed capital (48%).

Table 2 presents the results of a statistical analysis utilising four groups of parameters describing the mean level of data, their variability, skewness (asymmetry), and the distribution's peakedness measured by the kurtosis parameter. This analysis pertains to three characteristics of hotels: the number of rooms, the number of accommodation units, and the number of employees, considering the structure of respondents participating in the study. The findings indicate that respondents generally (based on the mode values) stayed in hotels with an average of 170 rooms and 340 accommodation units and employed 49 staff members. However, it is important to note that these values represent the maxima of these features, signifying that the study was dominated by guests of the largest hotels, and they exert the greatest influence on the formulated opinions.

**Table 2.** Descriptive Parameters of Hotels Accommodating the Surveyed Guests

Descriptive Measure	Number of Rooms	Number of Accomodation Places	Number of Employees
Mean Parameters – Classical and Positional			
Arithmetic Mean	105 (105.23)	207 (207.23)	37 (37.47)
Mode	170	340	49
Median	133	264	45
Lower quartile	30	63	20
Upper quartile	170	340	49
Parameters (measures) – classical and positional			
Standard deviation	61.24	124.05	14.61
Coefficient of variation	58.2%	59.9%	39.0%
Range of variation			
Minimum	24	42	15
Maximum	170	340	49
Parameter (measure) of skewness (asymmetry)			
Skewness	-0.27	-0.22	-0.69
Parameter (measure) of kurtosis			
Kurtosis	-1.62	-1.65	-1.43

The distribution of the examined features exhibits a platykurtic nature, as indicated by the negative value of kurtosis. Consequently, the intensity of extreme values is lower than in the case of a normal distribution, which has a kurtosis measure of 3. This applies to both the number of rooms and accommodation units, as well as the employment figures in the surveyed hotels. In other words, the concentration of values around the arithmetic mean is lower than in a normal distribution. The data distribution is left-skewed, albeit to a moderate extent in the case of the number of rooms (-0.27) and accommodation units (-0.22), and strongly skewed in the distribution of the number of employees (-0.69).

## Results of the research

Hotel guests were asked about how environmentally friendly practices implemented at the hotel impact the quality of services provided. Nearly every other respondent (48.9%) stated that such actions enhance the quality of services, while one in ten (12.5%) believed they significantly enhance it. One-third of the respondents (32.5%) considered those actions to be insignificant, with only 6% of individuals perceiving them as a factor that somewhat lowers the quality of services provided.

A very similar response structure was obtained when asking how these environmentally friendly practices at the hotel affect the price of the services provided. The bulk of respondents (66.2%) regarded them as factors that increase or significantly increase the price; one in four (25.5%) saw them as neutral, and 8.4% of the participants stated that such actions decrease the price of services (see Table 3).

**Table 3.** Assessment of the Impact of Environmental Behaviors on the Quality and Price of Hotel Services

How do the environmentally friendly practices implemented at the hotel affect the quality of services provided, according to you?	Percentage (%)	How do the environmentally friendly practices implemented at the hotel affect the price of services provided, according to you?	Percentage (%)
Significantly decrease it	0.2%	Significantly decrease it	0.1%
Decrease it	5.8%	Decrease it	8.3%
Have no significant impact	32.6%	Have no significant impact	25.5%
Increase it	48.9%	Increase it	56.0%
Significantly increase it	12.5%	Significantly increase it	10.2%
Not applicable/missing data	0.0%	Not applicable/missing data	0.0%

The participants also ranked the hierarchy of environmentally friendly actions implemented at the hotel in terms of their significance for the natural environment. As a result, it is evident that, according to hotel guests, the most significant actions for the environment include installing devices for energy and water consumption (88.8%), reducing food waste (87.8%), and obtaining electrical energy from renewable sources (87.3%). On the other hand, actions of the least significance included offering a wide range of vegetarian and vegan cuisine (68.2%), providing discounts and gifts for guests engaging in environmentally friendly behaviours (68.2%), and conducting social campaigns for the natural environment (67.3%). However, it should be noted that no activity was assessed as neutral or insignificant, as the obtained ratings significantly exceeded the value of 50.0% (see Table 4).

**Table 4.** Assessment of the Impact of Hotel's Environmental Actions on the Natural Environment

Assessment of the impact of actions that can be implemented in hotels on the natural environment	Percentage [%]
Installation of devices for energy and water conservation	88.8%
Reduction of food waste	87.8%
Obtaining electrical energy from renewable sources	87.3%
Reducing the use of plastics	86.7%
Eco-friendly heating of the building	86.2%
Use of energy-efficient light bulbs and appliances (including appliances and electronics)	84.7%
Waste separation by employees and hotel guests	84.6%
Compliance with environmental protection laws	83.1%
Planting greenery around the hotel's exterior, interior, and premises	79.0%
Use of recycled materials (e.g., office and promotional materials)	78.8%
Use of biodegradable cleaning products and cosmetics	78.1%
Owning a sewage treatment plant	77.1%
Purchasing food from local producers	76.5%
Use of environmentally friendly building materials	76.3%
Seeking locations with minimal environmental impact	75.5%
Having and adhering to environmental management system requirements	75.4%
Towel and bedding exchange, and room cleaning only upon guest's request	74.8%
Implementation and adherence to environmental policies or practices	74.8%
Eco-awareness training for employees	72.7%
Operation of bicycle and scooter rental services	72.7%

Assessment of the impact of actions that can be implemented in hotels on the natural environment	Percentage [%]
Discounts and gifts for guests engaging in environmentally friendly behaviors	68.2%
Conducting social campaigns for the natural environment	67.3%
Wide offering of vegetarian and vegan cuisine	64.8%

The opinion of hotel guests regarding the hotel's impact on the natural environment was also investigated. Most of the participants in the survey perceived it as neutral (34.8%) or even somewhat positive (28.2%). One in five indicated that the hotel's impact on the natural environment is rather negative, while one in ten believed it to be significantly positive (12.6%). Only 24.4% of the guests recognised a negative or significantly negative impact from the hotel, which accounts for about one in four respondents.

The questionnaire also included a question about the significance of information on environmentally friendly behaviours among hotel guests. Most of the surveyed individuals stated that the influence of hotel information depends on the specific situation (46.2%). However, among the remaining responses, a preference for recognising its impact can be observed. One-third of respondents (33.7%) indicated that hotel information affects the environmentally friendly behaviours of guests, and 3.3% of respondents were even more convinced of this. Only 16.9% of individuals expressed a differing opinion (see Table 5).

**Table 5.** Impact of the Hotel and Hotel Information on the Natural Environment

Impact of the hotel on the natural environment	Percentage [%]	Impact of hotel information on environmentally friendly behaviors of guests	Percentage [%]
Definitely negative	1.5%	Definitely not	1.6%
Rather negative	22.9%	No	15.3%
Neutral	34.8%	It depends on the specific situation	46.2%
Rather positive	28.2%	Yes	33.7%
Definitely positive	12.6%	Definitely yes	3.3%

The participants were also asked about their opinions regarding the motivations of hotels to undertake environmentally friendly actions while also indicating their awareness of any associated limitations (see Table 6). They were able to select three motivations for such actions. The majority (51.7%) of respondents utilised this opportunity, while others either provided only one answer or stopped at two. It can be observed that respondents generally indicated concern for the natural environment (47.7%) or legal requirements (19.6%) as motivations. An alternative choice for motivation was building an ecological brand

(17.1%) or improving the image (12.2%), and the third most common choice was increasing interest from potential customers (16.9%) or, again, building an ecological brand (11.5%).

**Table 6.** Motivations for Undertaking Environmental Actions by Hotels (Up to 3 Choices)

Choice 1	Percentage [%]	Choice 2	Percentage [%]	Choice 3	Percentage [%]
Concern for the natural environment	47.7%	Building an ecological brand	17.1%	Increasing interest from potential customers	16.9%
Legal requirements	19.6%	Improving the image	12.2%	Building an ecological brand	11.5%
Reducing environmental fees and penalties	8.7%	Acquiring additional funding, e.g., from EU sources	11.8%	Following trends	7.6%
Cost reduction	8.2%	Cost reduction	10.9%	Meeting customer demands	5.8%
Improving the image	7.9%	Reducing environmental fees and penalties	4.5%	Acquiring additional funding, e.g., from EU sources	4.4%
Increasing profit for owners	3.8%	Following trends	3.3%	Improving the image	2.8%
Acquiring additional funding, e.g., from EU sources	2.4%	Increasing profit for owners	3.3%	Limited access to resources	1.2%
Building an ecological brand	1.0%	Legal requirements	2.7%	Reducing environmental fees and penalties	0.4%
Following trends	0.6%	Increasing interest from potential customers	1.6%	Increasing profit for owners	0.3%
Increasing interest from potential customers	0.1%	Meeting customer demands	1.2%	Cost reduction	0.3%
Meeting customer demands	0.1%	Limited access to resources	0.2%	Legal requirements	0.1%
Not applicable/missing data	0.0%	Not applicable/missing data	31.1%	Not applicable/missing data	48.7%

When analysing the popularity of motivations for environmentally friendly actions undertaken by hotels in a combined manner, it's worth noting that the following motivations are dominant: concern for the natural environment (15.9%), building an ecological brand (9.9%), improving the image (7.6%), and adhering to legal requirements (7.5%). What's also notable is the least frequently mentioned motivations for such actions. The least popular motivations included

limited access to resources (0.5%) and meeting customer demands (2.4%) (see Table 7).

**Table 7.** Motivations for Undertaking Environmental Actions by Hotels (Combined)

Motivations for environmentally friendly actions by hotels according to guests (up to 3 choices combined)	Percentage [%]
Concern for the natural environment	15.9%
Building an ecological brand	9.9%
Improving the image	7.6%
Legal requirements	7.5%
Cost reduction	6.5%
Increasing interest from potential customers	6.2%
Acquiring additional funding, e.g., from EU sources	6.2%
Reducing environmental fees and penalties	4.5%
Following trends	3.8%
Increasing profit for owners	2.5%
Meeting customer demands	2.4%
Limited access to resources	0.5%
Not applicable/missing data	26.6%

## Discussion/Limitations and Future Research

The analysis of the research results indicates that according to the largest group of surveyed guests, environmentally friendly actions undertaken by hotels enhance both the quality and price of the offered services.

Previous studies also demonstrate that, on the one hand, quality is improved through environmentally friendly actions, while on the other hand, since these actions are cost-generating, they may contribute to an increase in prices for hotel services (Bugdol, 2011). Therefore, a significant factor will be the willingness to pay more for environmentally friendly actions undertaken by hotels. Hotel guests declare a greater readiness to pay more for environmentally friendly hotels, and in practice, their behaviours may be influenced by the values promoted by such hotels (Rahman & Reynolds, 2019). Socio-demographic factors are also significant, as some studies indicate that individuals who are more inclined to pay for sustainable hotel services are primarily young people with higher education and higher incomes (Puciato et al., 2023).

According to surveyed guests, the most significant actions for the natural environment by hotels include the installation of energy and water-saving devices, the reduction of food waste, and the use of energy from renewable sources. These are essential guidelines for individuals responsible for sustainability. Managerial factors are important, but in many cases, positive results can be achieved through the implementation of appropriate technical infrastructure. With the right infrastructure, electricity consumption can be reduced by up to 40% (Asyera et al., 2020). Such results are challenging to achieve solely by shaping environmentally friendly behaviours aimed at energy conservation by guests or other hotel stakeholders.

Greater influence of environmentally friendly guest behaviours is observed in attempts to reduce food waste. This issue is evident during breakfast service. Typically, it's the only meal that hotel guests consume, which can impact the amount of food consumed, taken away, wasted, as well as the number of utensils used (Juvan et al., 2018). In this case, alongside guest behaviours, managerial factors also play a significant role, which the hotel management has control over. It's crucial to establish how much food is wasted in individual sub-processes of meal preparation and consumption. Food waste occurs at various stages: raw material reception, storage, preparation, cooking, kitchen equipment cleaning, raw material washing, and menu planning. Certain authors suggest delineating this procedure akin to the principle of lean manufacturing (Subramanian et al., 2021).

Furthermore, one-third of the surveyed hotel guests indicated that the hotel's impact on the natural environment is neutral or even somewhat positive. However, these opinions lack empirical support, as the tourism industry, including the hotel sector, is remarkably resource-intensive in terms of energy, water, and non-durable goods consumption. There is a risk of releasing toxic emissions into the air, soil, and water (Shashi et al., 2020). Hotel operations also generate greenhouse gas emissions, primarily CO<sub>2</sub> and chlorofluorocarbons, released into the atmosphere. Among all commercial properties, hotels exert the greatest negative impact on the environment. According to estimates, an average hotel releases 160 to 200 kg of CO<sub>2</sub> per square meter of room space annually and consumes 170-440 litres of water (Mbasera et al., 2016). Therefore, the obtained research results unequivocally indicate the significant role that awareness-raising actions by hotel stakeholders, including guests, play. However, hotels and the entire hospitality industry haven't always been motivated to acknowledge their negative environmental impact.

The most significant motivation for hotels to undertake environmental actions, as identified by the respondents, is a concern for the natural environment. In contrast, a notably smaller percentage of participants pointed to other motivations, such as legal requirements or the desire to increase profits by owners. This is intriguing, as previous research on barriers to environmentally friendly behaviours by guests highlighted suspicious attitudes towards green

practices (Holmes et al., 2021). A fundamental problem seems to be that the economic benefits derived from implementing green practices are primarily discounted by owners, overlooking other stakeholder groups. This viewpoint implies a superficial awareness among hotel guests regarding the motivations that drive hotel managers to undertake environmentally friendly actions. While the main motivation for such actions, environmental concern, is comprehensible, the other motivations appear either as obligatory actions (legal requirements) or actions taken in the interest of the hotel (profit, image, and brand building). However, the respondents did not associate the concept of environmental actions with limited access to resources, nor did they link these actions to their own attitudes and views on the natural environment.

The authors of this paper acknowledge the pilot nature of the conducted study, which could serve as a suitable foundation for more in-depth investigations. It is evident that the statistical research method employed – a diagnostic survey (questionnaire) – predominantly gathers opinions and declarations from hotel guests rather than their actual environmental behaviours. Future studies should expand on this aspect. The current research did not encompass the entire spectrum of hotels but rather a specific segment – urban hotels with medium standards, primarily catering to business and cognitive tourism. The characteristics of the participants also focused narrowly on socio-economic variables.

In addressing the identified limitations, future research should employ a broader range of research methodologies, supplementing surveys with experiments, observations, and in-depth interviews. The sample selection for research should encompass all types of hotels, considering their location, standards, and offered products. Moreover, future studies should incorporate guests' prior hotel experiences, their daily environmentally friendly behaviours, professed values, and ecological awareness.

## Conclusions

The analysis of research results allows for the formulation of the following conclusions:

- Most survey participants assessed the environmental impact of hotels as either neutral or positive.
- According to surveyed hotel guests, the most significant environmental actions taken by hotels included the installation of energy and water-saving devices, the reduction of food waste, and the use of renewable energy sources.
- When assessing the motivations behind the actions taken by hotels, respondents most frequently pointed to environmental concerns, building an ecological brand, improving image, and legal requirements.



Recommendations for the hotel industry include:

1. Increasing environmental awareness within the industry regarding the actual impact of hotels on the neutral environment.
2. Informing guests about the environmental activities of the hotel, including efforts to enhance power sources and energy efficiency and broader infrastructure improvements.
3. Providing information about the green practices undertaken by hotels for the benefit of other stakeholders. Environmental appeals to guests are more effective when linked to specific environmental actions taken by the hotel.
4. Encouraging hotels to contribute donations for environmental purposes on behalf of guests and encouraging their participation in such programs.

### The contribution of the authors

Tadeusz Borys – 25% (conception, interpretation, writing and correction, literature review).

Marek Bugdol – 20% (conception, methodology, interpretation, writing and correction literature review).

Daniel Puciato – 20% (conception, methodology, interpretation, writing and correction, text edition).

Adam Szromek – 20% (methodology, data analysis, interpretation, writing and correction).

Marcin Geryk – 15% (interpretation, writing and correction, text edition).

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## MOTYWACJE DO PODEJMOWANIA DZIAŁAŃ PROEKOLOGICZNYCH PRZEZ HOTELE-OPINIE GOŚCI HOTELOWYCH

**STRESZCZENIE:** Celem poznawczym artykułu jest ocena motywów, którymi kierują się właściciele i menedżerowie hoteli w realizacji działań proekologicznych z perspektywy gości hotelowych. Cel empiryczny badania materializuje się poprzez badania przeprowadzone na próbie 1317 gości hotelowych w czterech miastach wojewódzkich Polski: Warszawie, Krakowie, Wrocławiu i Opolu. Badaniem objęto gości sześciu hoteli sklasyfikowanych jako obiekty trzygwiazdkowe. Zastosowaną metodą badawczą jest sondaż diagnostyczny z wykorzystaniem kwestionariusza opracowanego przez autorów niniejszego badania. Badanie przeprowadzono w okresie od czerwca do września 2021 r. Wśród wniosków z badań na szczególną uwagę zasługuje wyjątkowo niską świadomość dotyczącą wpływu hoteli na środowisko naturalne wśród gości. Odkrycie to stoi w sprzeczności z bardziej optymistycznymi ocenami tej świadomości, jakie można znaleźć w różnych pracach z zakresu hotelarstwa. Zdaniem autorów wniosek ten mógłby stać się podstawą inicjatyw edukacyjnych i uruchomienia mechanizmów, w tym ekonomicznych, mających na celu podniesienie poziomu wiedzy w tym zakresie nie tylko wśród gości hotelowych, ale także, a może przede wszystkim, wśród właścicieli i menedżerów hoteli. Autorzy niniejszego artykułu mają jednak świadomość eksploracyjnego charakteru przeprowadzonych badań, co może stanowić dogodną podstawę do dalszych, bardziej pogłębionych badań, ze szczególnym uwzględnieniem poszerzenia zakresu stosowanych metod, znacząco zwiększając wielkość próby badawczej oraz uwzględnienie w badaniu szerszego zakresu cech respondentów.

**SŁOWA KLUCZOWE:** działania środowiskowe, hotele, goście hotelowi, motyw