

## Article

# Research of the nature of implementation of environmental innovations as a factor of ensuring competitiveness of hotel hospitality business

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**Abstract:** In many countries of the world, sustainable tourism is developing rapidly, and therefore the application of innovative environmental technologies is becoming an integral part of the development strategies of hospitality industry enterprises, especially hotel business. This trend promotes the introduction of new management systems based on the principles of sustainable development, including resource-saving technologies. In the work, the existing environmental management tools are analyzed and comparative studies of the essence of the application of “green” innovations are conducted using the example of the hotel business enterprises of the Republic of Azerbaijan and the Russian Federation. Studies have shown that the implementation of such innovations and eco-technologies in hotels demonstrates their commitment to environmental responsibility, improves the guest experience, helps save resources and acts as an additional advertising tool. Technological re-equipment and the use of modern materials aimed at reducing the burden on the environment ensure the economic efficiency of hotel business enterprises and increase their competitiveness.

**Keywords:** sustainable tourism development; ecological innovation; eco-label; eco-technologies; hotel business

## 1. Introduction

Around the world, tourism is one of the growing areas of the economy. An important indicator of industry development is the dynamics of hotel business indicators. According to the World Tourism Organization (UNWTO), the number of collective accommodation places in Azerbaijan has increased by 21.9% over 7 years [1].

In the Russian Federation, the number of hotels and similar accommodation facilities over the same period increased almost 3 times: from 7898 units in 2014 to 21575 in 2021 [2]. The income of hotels and hotel-type establishments in Azerbaijan in 2023 amounted to 488.8 million AZN (\$287.5 million), which is 37.6% more than in 2022. In 2023, tourists in Azerbaijan made 3 million 422.3 thousand overnight stays in hotels (an increase of 29.3%). According to statistics, the number of overnight stays by foreigners and stateless persons in hotels increased by 33.7% compared to 2022 and amounted to 1 million 864 thousand (54.5% of the total number of overnight stays).

And the total number of foreign tourists 15.2% were citizens of Russia, 10.3% of India, 9.7% of Saudi Arabia, 7.8% of Turkey, 7.3% of Kuwait, 3.6% of Israel, 2.9%—USA, 2.9%—Kazakhstan, 2.9%—Great Britain, 2.2%—Uzbekistan, 2%—Pakistan. (Interfax—Azerbaijan).

The growth of hotel business enterprises is explained by the growth of tourist

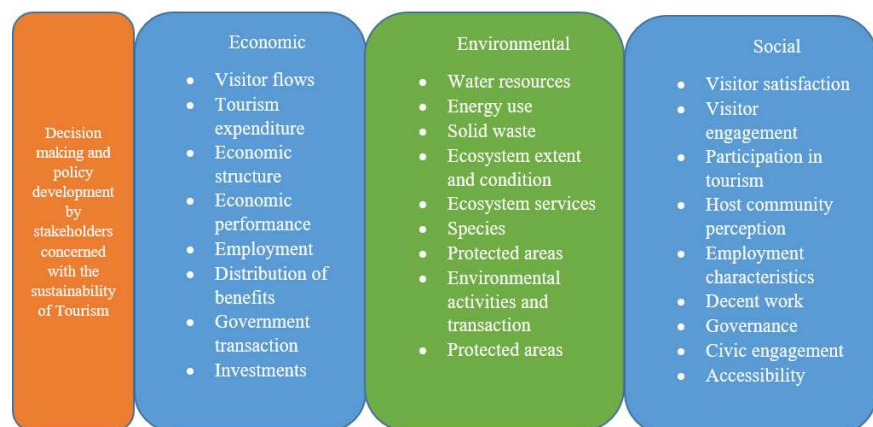
flows and the availability of government support instruments. The growing number of arrivals increases the burden on hotel businesses, geographic locations, and, as a result, increases the burden on the environment. In this regard, an urgent task is the development and implementation of systems for eco-monitoring and rational use of resources at accommodation facilities [3].

World leaders in the tourism industry pay great attention to this issue. UNWTO created a special committee on sustainable tourism development (Committee on Tourism and Sustainability) and developed a series of recommendations and programs. UNWTO defines sustainable tourism as “tourism that takes full account of its current and future economic, social and environmental impacts, while meeting the needs of visitors, industry, the environment and host communities” [3].

The principles of sustainable development relate to the environmental, economic and socio-cultural aspects of tourism development, and a proper balance must be struck between these three aspects to ensure its long-term sustainability. According to UNWTO principles, sustainable tourism should:

- Make optimal use of environmental resources, which are a key element of tourism development, supporting basic ecological processes and helping to preserve natural heritage and biodiversity;
- Respect the sociocultural identity of host communities, preserve their cultural heritage and traditional values;
- Ensure viable, long-term economic activity, providing socio-economic benefits to all stakeholders.

To integrate statistics on the economic, environmental and social aspects of sustainable tourism, the Statistical System for Measuring Sustainable Tourism (SF-MST) was created, which is an organizational framework involving multiple experts, sectors and stakeholders [4]. We can go ahead and get more details on **Figure 1**.



**Figure 1.** The coverage and role of SF-MST.

## 2. Measuring the sustainability of tourism

### Linking data and decision

Why? Who? What? Standard concepts, definitions, classifications, and organizing structure for data. How?

The purpose of this study is to study the main directions of implementation of

“green” innovations and principles of sustainable tourism using the example of hotel business enterprises in the Republic of Azerbaijan and the Russian Federation.

Research methodology part. The following methods were used to conduct the research: comprehensive analysis of cases, statistical data, publications and websites dedicated to the transformation of the hospitality industry based on the principles of sustainable development. The empirical part of the research included conducting and analyzing interviews with management representatives of large hotel business enterprises and specialized organizations.

Research analysis part. In the course of this research work, an analysis was carried out of the process of introducing environmental innovations in large hotels located in the Russian Federation and the Republic of Azerbaijan. The studies have shown that in both countries the introduction of the principles of sustainable tourism is one of the priorities for the development of the hotel business. Ecological innovations are a new, but already pronounced trend in hotel modernization. A series of case studies and targeted interviews with representatives of large chain hotels allowed us to obtain up-to-date information about the innovations being introduced and their impact on the competitiveness of hotels.

In the course of this scientific work, it was established that the hotel business sector of Azerbaijan is aimed at international certification of accommodation facilities and entry into the global ecotourism system. The most effective methods of ensuring control and increasing the motivation of hotels to comply with the principles of respect for the environment are international eco-labeling systems, which allow monitoring the consumption of resources, their use and disposal. Until now, there were no hotels in the country certified by international eco-labels. To globally promote the potential and capabilities of Azerbaijan in the field of ecotourism and assist hotels in passing such a rather complex certification, the Azerbaijan Ecotourism Association AzETA was created in the country. At the country level, the process of developing the most effective strategy for the development of this area is underway, and ways of introducing environmental management and monitoring at enterprises in the industry are being determined. One of the effective environmental management systems in the field of tourism and hospitality is the Green Key eco-label, developed in Denmark [5]. This is an international system aimed at:

- Increasing the use of environmentally friendly and sustainable practices and technologies in tourism and hospitality businesses;
- Raising awareness among tourism guests, staff and suppliers;
- Increasing the use of environmentally friendly and sustainable practices in the hospitality and tourism industry as a whole.

This organization has awarded eco-labels to 5000 hotels in 60 countries, which has had a positive impact on reducing the negative impact on the environment [6].

The Green Key environmental management system is currently beginning to be implemented in leading hotels located in the territory of the Republic of Azerbaijan. The first hotel in Azerbaijan to implement this system is the JW Marriott Absheron in Baku [7]. During an interview with the manager of the hotel’s PR and marketing department, it was found out that the hotel is working on implementing Green Key eco-label standards, rebuilding the management system at all levels. Since it is essential to adhere to the strict criteria set by the Foundation for Environmental

Education (FEE) to obtain this certificate, the hotel works through all functional processes in detail to ensure they comply with international standards and requirements. Since this experience is the first in the Republic of Azerbaijan, a joint working group has been created at the JW Marriott Absheron hotel with the Ecotourism Association AzETA. The group's tasks include a detailed analysis of successful existing international practices for introducing eco-innovations, studying the criteria for compliance with the label and developing a scenario for implementing the Green Key environmental program [5]. During the work on the project, negotiations and consultations are regularly held with the Green Key head office. It is important to note that after the hotel receives a certificate of conformity, strict reporting is carried out and inspections are carried out regularly to monitor the quality of the services provided and their compliance with the stated standards. Since the system is constantly being updated, eco-technological innovations are being introduced, and new sustainable working methods are being applied, constant interaction with the Green Key organization is necessary.

During the interview, the manager of the PR and marketing department of the JW Marriott Absheron hotel emphasized that he considers the introduction of environmental innovations in the hotel an important area of development, since this will not only benefit society, the environment, reduce the environmental load, but will also act as an effective marketing tool that will attract new potential consumers and increase the loyalty of existing ones. The presence of the Green Key eco-label at the hotel symbolizes its commitment to the principles of sustainable development and care for the environment and, therefore, contributes to the emergence of an additional target audience [5].

In addition to undergoing Green Key certification, accommodation establishments that are part of international hotel chains (Accor, Bass Hotels & Resorts Worldwide, Forte Hotels, Hilton International, Mandarin Oriental Hotel Group, Marco Polo Hotels, Marriott International Inc., Radisson SAS Hotels Worldwide, Scandic Hotels AB, Starwood Hotels & Resorts Worldwide and a number of others) take an active part in the International Hotels Environment Initiative (IHEI) project [8]. The project is aimed at increasing the efficiency of the hotel industry through the introduction of green technologies. The project, initiated in 1993, continues to expand, and today more than 8000 hotels in 111 countries participate in it. By reducing water consumption and introducing a comprehensive waste recycling system, enterprises not only demonstrate high social responsibility, but also optimize the use of resources and increase competitiveness. As part of this project, specific products and hotel development programs are developed and implemented, taking into account environmental aspects.

Along with global eco-label systems that accommodation properties can receive if certain conditions are met, hotel chains have their own environmental programs. The revenue management manager at the Holiday Inn Baku hotel spoke about such a program in an interview. The hotel belongs to the InterContinental Hotels Group chain. This chain has created the IHG Green Engage system, which has 4 levels of certification for its hotels depending on their compliance with certain criteria [9,10]. The first level, which includes requirements such as tracking data on resource consumption, creating an environmental department and installing energy-efficient

lighting in guest rooms, is required by all hotels of the chain.

Tier 2 hotels demonstrate the cost-effectiveness of implementing sustainable development principles through the introduction of such solutions into the procurement and management system of the property as a whole.

The third level involves the implementation of large projects aimed at introducing energy-efficient installations and management systems based on the principles of sustainable development.

Tier 4 hotels are leading hotels in environmental sustainability. They demonstrate advanced and innovative approaches to sustainable development [10].

All these measures are included in international environmental protection programs and are therefore mandatory for all hotels in the chain.

Unification of requirements for all hotels of the chain, including in the field of ecology, makes it possible to create a structured system, thanks to which it is possible to track the activities and compliance of hotels with the uniform standards laid down in the regulations. Thanks to generally accepted standards, hotel visitors expect to receive the same service and services in all hotels of the chain.

Another example of an effective environmental program is the (PLANET) PLANET 21 project of the Accor hotel chain, the name of which reflects the need to protect ecosystems in the 21st century to preserve our planet. This program allows you not only to pay attention to sustainable development and environmental management, but also to attract loyal consumers [11].

This theory was confirmed in an interview by Denis Hennequin, CEO of the Accor network. He notes that by participating in the PLANET 21 program, the company is placing sustainability at the center of its business strategy and social responsibility at the center of its development and innovation, thereby influencing two important components of the business: employees and customers.

The important objectives of this program are to reduce energy consumption and reduce water consumption, which requires the hotel to introduce technological innovations. The set of measures also includes the use of eco-labeled products, promotion of healthier diets on the menu, and others. The CEO is convinced that the PLANET 21 program is an effective driver of competitiveness for hotels, by increasing the attractiveness of the chain's enterprises for consumers and partners. Thus, it acts as an additional marketing tool for the company.

In the Russian Federation, sustainable development of tourism today is the focus of attention of the Committee on Tourism and Tourism Infrastructure Development of the State Duma. In 2022, the Tourism.RF Corporation, together with the Federal Agency for Tourism, launched a large-scale investment program in the field of tourism in the country [12]. In connection with this, the relevant committee of the State Duma of the Russian Federation considers it extremely important to lay down standards and principles for the sustainable development of tourism and the hospitality industry, which will preserve nature for future generations.

For the coming period, comprehensive work is planned in the Russian Federation to introduce sustainable development mechanisms in the tourism and hospitality industries [13]. It is planned to include the terms "sustainable tourism" and "sustainable tourism development" in the draft new tourism law; prepare proposals for the inclusion of provisions on sustainable development of tourism as a strategic

priority in the Strategy for the Development of Tourism in Russia until 2035. Currently, the issue of including criteria for sustainable tourism in the procedures for providing subsidies and other government support measures is being considered.

Studies have shown that in the Russian Federation, green innovations, along with digitalization, occupy a leading position among all technological innovations in the hospitality industry. The most common types of green innovations used by hotels are:

- 1) Energy efficiency: Hotels are implementing energy efficient technologies such as LED lighting, smart thermostats and occupancy sensors to reduce energy consumption. A number of progressive hotels are implementing a comprehensive energy management system to monitor and optimize energy consumption throughout the property [1].
- 2) Water conservation: water saving technologies used in hotels, such as installing low-flow showerheads. They can also use rainwater harvesting systems for irrigation and wastewater recycling systems for non-potable uses, but such technologies are still rarely used in Russia [2].
- 3) Waste Management: Separate waste from rooms and public areas and collaborate with local waste management facilities to ensure proper waste management and recycling [4].
- 4) Green materials: Hotel construction and renovations include the use of recycled or locally sourced green materials, energy-efficient insulation, and green building certifications such as LEED (Leadership in Energy and Environmental Design) [3].
- 5) Green purchasing: purchasing environmentally friendly products, supporting local suppliers; world leaders in the hotel business are introducing organic products to their menus, but in Russia products bearing the “organic” label is not widely used due to the complexity of their certification [1].
- 6) Minimizing environmental pollution: These innovations are clearly visible at the Equator Hotel in Vladivostok. The hotel has its own environmental policy aimed at reducing the environmental footprint of the enterprise. For example, all plastic and paper waste is centrally transferred to the appropriate organizations for recycling. In the food service, there is an emphasis on reducing the use of disposable plastic utensils and plastic bags (e.g. plastic drinking straws and skewers have been eliminated). In addition, the hotel has containers for used batteries, which can be used by both staff and hotel guests. During construction and renovation work, preference is given to environmentally friendly materials that are certified as safe for the environment [1].

Another example of an integrated approach to the introduction of “green” innovations is the Teplitsa hotel in the Yasno Pole ecopark. The concept of the hotel and its development strategy are focused on the principles of sustainable development. One of the key technological eco-innovations is the use of a geothermal pump, thanks to which the complex is heated. In addition, the water is heated by the sun through a system of solar collectors, and in winter it is heated by a wood-burning stove. The hotel uses products produced by a farm located on the territory of the eco-park. An important part of the system is the separate collection of waste: on the territory there are waste collection points by category (3 types of plastic, glass, iron and metal). In this case, the hotel’s environmental concept is the most important competitive

advantage, allowing it to attract the target audience of consumers and at the same time ensure the rational use of resources [14–16].

### 3. Conclusion

Thus, the conducted research showed a growing trend in introducing the principles of sustainable development in the hospitality industry of the Republic of Azerbaijan and the Russian Federation. The introduction of green innovations and eco-technologies in hotels demonstrates a commitment to environmental responsibility, improves the guest experience and helps save resources. By implementing sustainable practices and using eco-technologies, hotels gain a competitive advantage: by positioning themselves as leaders in the field of green hospitality and emphasizing the hotel's eco-hotel status in advertising campaigns, accommodation businesses gain a pool of loyal consumers. Technological re-equipment and the use of modern materials, aimed at reducing the burden on the environment, ensures economic efficiency in the long term. By applying the principles of sustainable tourism, hospitality businesses are contributing to a responsible attitude towards building the future.

### 4. Summary

In many countries of the world, sustainable tourism is developing rapidly, and therefore the application of innovative environmental technologies is becoming an integral part of the development strategies of hospitality industry enterprises, especially hotel business. This trend promotes the introduction of new management systems based on the principles of sustainable development, including resource-saving technologies. In the work, the existing environmental management tools are analyzed and comparative studies of the essence of the application of “green” innovations are carried out using the example of the hotel business enterprises of the Republic of Azerbaijan and the Russian Federation.

Studies have shown that the implementation of such innovations and eco-technologies in hotels demonstrates their commitment to environmental responsibility, improves the guest experience, helps save resources and acts as an additional advertising tool. Technological re-equipment and the use of modern materials aimed at reducing the burden on the environment ensure the economic efficiency of hotel business enterprises and increase their competitiveness.

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